Curriculum Vitae

MANSOOR M. AMIJI, *PhD*

CONTACT INFORMATION

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ResearchGate: https://www.researchgate.net/profile/Mansoor-Amiji
Google Scholar: https://scholar.google.com/citations?user=0BKYPYMAAAAJ&hl=en

EDUCATION AND TRAINING

September, 1984 - June, 1988: Undergraduate Student in the College of Pharmacy and Allied Health Professions, Northeastern University, Boston, Massachusetts.

September, 1986 - May, 1988: Undergraduate Honors Student Research Project Entitled *"Preparation and Characterization of Doxorubicin-Dextran Conjugates"* – Major Advisor: Professor Mehdi Boroujerdi.

June, 1988: Bachelor of Science Degree in Pharmacy (*magna cum laude*).

July, 1988: Registered Pharmacist – Licensed to practice in Massachusetts (license # 20415).

August, 1988 - July, 1992: Doctoral Student in the Department of Industrial and Physical Pharmacy, College of Pharmacy, Purdue University, West Lafayette, Indiana.

August, 1988 - June, 1989: Teaching Assistant in the Department of Industrial and Physical Pharmacy.

July, 1989 - June, 1992: Research Assistant in the Department of Industrial and Physical Pharmacy.

July, 1989 - June, 1992: Doctoral Dissertation Research Entitled *"Surface Modification of Biomaterials with Water-Soluble Polymers: A Steric Repulsion Approach"* - Major Advisor: Showalter Distinguished Professor Kinam Park.

July, 1992: Doctor of Philosophy Degree in Pharmaceutics and Pharmaceutical Sciences.

PROFESSIONAL AND ACADEMIC POSITIONS

August, 1992 – December, 1992: Senior Research Scientist, Columbia Research Laboratories, Madison, Wisconsin.

January, 1993 – June, 1999: Assistant Professor, Department of Pharmaceutical Sciences, School of Pharmacy, Northeastern University, Bouve College of Health Sciences, Boston, Massachusetts.

July, 1999 – April, 2006: Associate Professor (with tenure), Department of Pharmaceutical Sciences, School of Pharmacy, Bouve College of Health Sciences, Northeastern University, Boston, Massachusetts.

January, 2000 – December, 2000: Visiting Research Scholar. Department of Chemical Engineering, Massachusetts Institute of Technology, Cambridge, Massachusetts. Sabbatical leave appointment in David H. Koch Institute Professor Robert S. Langer's laboratory.

May, 2006 – Present: Full Professor (primary), Department of Pharmaceutical Sciences, School of Pharmacy and Pharmaceutical Sciences, Bouve College of Health Sciences, Northeastern University, Boston, Massachusetts.

February, 2010 – April, 2016: Bouve College Distinguished Professor, Department of Pharmaceutical Sciences, School of Pharmacy, Bouve College of Health Sciences, Northeastern University, Boston, Massachusetts.

September, 2012 – July, 2018: Affiliate Faculty Member, Department of Chemical Engineering, College of Engineering, Northeastern University, Boston, Massachusetts.

September, 2013 – Present: Affiliate Faculty Member, Department of Bioengineering, College of Engineering, Northeastern University, Boston, Massachusetts.

January, 2014 – September, 2017: Distinguished Adjunct Professor, Faculty of Pharmacy, King Abdulaziz University, Jeddah, Saudi Arabia.

April, 2016 – Present: University Distinguished Professor, Department of Pharmaceutical Sciences, School of Pharmacy and Pharmaceutical Sciences, Bouve College of Health Sciences, Northeastern University, Boston, Massachusetts.

March, 2017 – August, 2018: Distinguished Adjunct Professor, Institute for Research and Medical Consultation (IRMC), Imam Abdulrahman bin Faisal University, Dammam, Saudi Arabia.

August, 2018 – Present: Full Professor (secondary). Department of Chemical Engineering, College of Engineering, Northeastern University, Boston, Massachusetts.

ADMINISTRATIVE AND LEADERSHIP POSITIONS

July, 1995 – June 2000: Pharmaceutics Group Leader, Department of Pharmaceutical Sciences, School of Pharmacy, Bouve College of Health Sciences, Northeastern University, Boston, Massachusetts.

September, 2002 – June, 2004: Education and Outreach Coordinator, Molecular Biotechnology Initiative at Northeastern University, Boston, Massachusetts.

July, 2002 – September 2022: Director, Laboratory of Biomaterials and Advanced Nano-Delivery Systems (BANDS) at Northeastern University, Boston, Massachusetts.

July, 2003 – December, 2016: Co-Director, Nanomedicine Education and Research Consortium (NERC) at Northeastern University, Boston, Massachusetts.

July, 2005 – December, 2008: Associate Chairman, Department of Pharmaceutical Sciences, School of Pharmacy, Bouve College of Health Sciences, Northeastern University, Boston, Massachusetts.

January, 2009 – January, 2010: Interim Chairman, Department of Pharmaceutical Sciences, School of Pharmacy. Bouve College of Health Sciences, Northeastern University, Boston, Massachusetts.

February, 2010 – April, 2017: Chairman, Department of Pharmaceutical Sciences, School of Pharmacy, Bouve College of Health Sciences, Northeastern University, Boston, Massachusetts.

September, 2022 – Present: Director, Translational Therapeutic Delivery Initiative (TTD-I), Northeastern University, Boston, Massachusetts.

RESEARCH INTERESTS

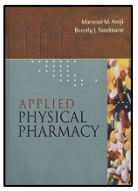
The primary focus of research in my laboratory is on the development of biocompatible materials from natural and synthetic polymers, target-specific drug and gene delivery systems for cancer and infectious diseases, and nanotechnology applications for medical diagnosis, imaging, and therapy. Specific projects that we are currently pursuing include:

- Preparation and characterization of polymeric membranes and microcapsules with controlled permeability properties for medical and pharmaceutical applications.
- Role of hypoxia, mitochondrial dysfunction, extracellular vesicles, and immunity in the tumor microenvironment in development of therapeutic resistance, angiogenesis, and metastasis.
- Intracellular and sub-cellular delivery systems for drugs and genes using target-specific, long-circulating, biodegradable polymeric nanoparticles.
- Localized delivery of cytotoxic and anti-angiogenic drugs, siRNA, and genes for solid tumors in novel biodegradable polymeric nanoparticles.
- Local administration of drugs and nucleic acid-containing nano-vectors immobilized on stents for the treatment of arterial diseases (e.g., coronary restenosis).
- Target-specific drug, gene, and vaccine delivery systems for diseases of the gastro-intestinal tract.
- Systemic and local delivery of DNA, mRNA, siRNA, microRNA, and CRISPR-Cas9 constructs for genetic engineering and therapeutic applications.
- Novel oil-in-water nanoemulsion formulations for drug delivery through the gastrointestinal tract and across the blood-brain barrier.
- Systemic and mucosal vaccination using novel immune-modulatory strategies and delivery systems.
- Intranasal and trans-nasal administration of biodegradable formulations, including sustained release implants, to enhance brain delivery of small molecules, peptides, proteins, siRNA, mRNA, and genes for treatment of chronic neurodegenerative diseases and brain tumors.
- Functionalized inorganic nanoparticles - including gold, silver, iron oxide, metal alloys, and core-shell nanostructures - for biosensing, imaging, and targeted therapeutic applications.

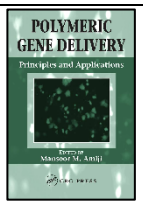
PUBLICATIONS [Google Scholar Hirsch "h" index = 108] – Clarivate Analytics/Web of Science Highly Cited Researcher (Top 1%) in Pharmacology & Toxicology in 2014 & 2018.

Book Editorship

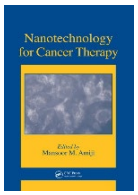
Amiji, M.M. and Sandmann, B.J. (eds.). *Applied Physical Pharmacy.* Published by McGraw-Hill Medical Publishing Division. New York, New York. 2002.



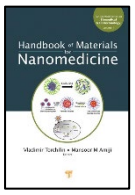
Amiji, M.M. (ed.) *Polymeric Gene Delivery: Principles and Applications.* Published by CRC Press, LLC (a subsidiary of Taylor and Francis). Boca Raton, Florida. 2004.



Amiji, M.M. (ed.). *Nanotechnology for Cancer Therapy.* Published by CRC Press, LLC (a subsidiary of Taylor and Francis). Boca Raton, Florida. 2007.

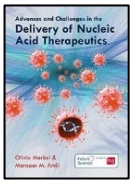


Torchilin, V.P. and **Amiji, M.M.** (eds.). *Handbook of Materials for Nanomedicine.* Publication of the *Biomedical Nanotechnology Series,* (10 Volumes Book Series edited by Torchilin, V.P. and **Amiji, M.M.).** Volume 1, Pan Published by Stanford Publishing, Singapore, 2010.

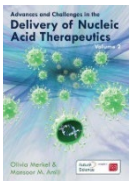


Amiji, M.M., Cook, T., and Mobley, W.C. (eds.). *Applied Physical Pharmacy – Second Edition.* Published by McGraw-Hill Medical Publishing Division. New York, New York, 2014.

Merkel, O.M. and **Amiji, M.M.** (eds). *Advances and Challenges in the Delivery of Nucleic Acid Therapeutics – Volumes 1.* E-Books Published by Future Science, LTD, London, The United Kingdom. 2015. https://www.futuremedicine.com/doi/book/10.4155/9781910419922.



Merkel, O.M. and **Amiji, M.M.** (eds). *Advances and Challenges in the Delivery of Nucleic Acid Therapeutics – Volumes 2.* E-Books Published by Future Science, LTD, London, The United Kingdom. 2015. https://www.futuremedicine.com/doi/book/10.4155/9781910419953.



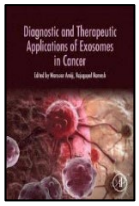
Milane, L.S. and **Amiji, M.M.** (eds). *Nanomedicine for Inflammatory Diseases.* Published by CRC Press, LLC (a subsidiary of Taylor and Francis). Boca Raton, Florida. 2017.

Singh, A and **Amiji, M.M.** (eds). *Stimuli-Responsive Drug Delivery Systems.* Royal Society of Chemistry Biomaterial Series Publication. Royal Society of Chemistry, London, The United Kingdom. 2018.

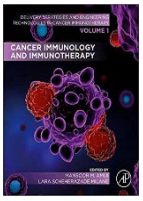
Amiji, M.M. and Ramesh, R. (eds). *Diagnostic and Therapeutic Applications of Exosomes in Cancer*. Elsevier Publishing Company. San Diego, California. 2018.

Mobley, W.C., **Amiji, M.M.,** and Cook, T., (eds.). *Applied Physical Pharmacy – Third Edition.* Published by McGraw-Hill Medical Publishing Division. New York, New York, 2019.

Amiji, M.M. and Milane, L.S. (eds). *Cancer Immunology and Immunotherapy. Volume One in Delivery Strategies and Engineering Technologies in Cancer Immunotherapy Series.* Academic Press/Elsevier Publishing Company. Oxford, The United Kingdom, 2021.



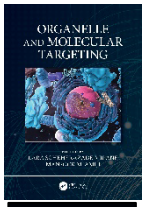
Amiji, M.M. and Milane, L.S. (eds). *Systemic Drug Delivery Strategies. Volume Two in Delivery Strategies and Engineering Technologies in Cancer Immunotherapy Series.* Academic Press/Elsevier Publishing Company. Oxford, The United Kingdom, 2021.



Amiji, M.M. and Milane, L.S. (eds). *Engineering Technologies and Clinical Transition. Volume Three in Delivery Strategies and Engineering Technologies in Cancer Immunotherapy Series.* Academic Press/Elsevier Publishing Company. Oxford, The United Kingdom, 2021.

Milane, L.S. and **Amiji, M.M.** (eds). *Organelle and Molecular Targeting, First Edition.* Routledge, Taylor & Francis Group, Boca Raton, Florida. 2021.

D'Souza, A.A., Milane, L.S., and **Amiji, M.M.** (eds). *Harnessing Endogenous Mechanisms for Targeted Drug Delivery.* Elsevier Publishing Press, Cambridge, Massachusetts (In press).



Milane, L.S. and **Amiji, M.M.** (eds.). *Targeting Intercellular Communication with Nanomedicine and Advanced Therapeutics,* Elsevier Publishing Press, Cambridge, Massachusetts (In press).

Suri, K., Singh, A and **Amiji, M.M.** (eds). *Stimuli-Responsive Drug Delivery Systems – Second Edition.* Royal Society of Chemistry Biomaterial Series Publication. Royal Society of Chemistry, London, The United Kingdom. (In preparation).

Book Chapters

Amiji, M. and Park, K. Surface modification of polymeric biomaterials with poly(ethylene oxide): a steric repulsion approach. In S.W. Shalaby, Y. Ikada, R. Langer, and J. Williams. (eds.) *Polymers of Biological and Biomedical Significance.* American Chemical Society Symposium Series Publication, Volume 540. Published by the American Chemical Society, Washington, District of Columbia. 1994, pp 135-146.

Amiji, M. and Park, K. Surface modification of polymeric biomaterials with poly(ethylene oxide), albumin, and heparin for reduced thrombogenicity. In S.L. Cooper, C.H. Bamford, and T. Tsuruta. (eds.) *Polymer Biomaterials: In Solution, as Interfaces, and as Solids.* Published by VSP, The Netherlands. 1995, pp 535-552.

Amiji, M., Kamath, K., and Park, K. Albumin-modified biomaterial surfaces for reduced thrombogenicity. In D.L. Wise, D.E. Altobelli, J.D. Grasser, E.R. Shwartz, D.J. Trantolo, and M. Yaszemski. (eds.) *Encyclopedic Handbook of Biomaterials and Bioengineering - Part B Applications. Volume II.* Published by Marcel Dekker, Inc., New York, New York. 1995, pp 1057-1070.

Amiji, M.M. Surface modification of chitosan to improve blood compatibility. In S.G. Pandalai. (ed.). *Recent Research Developments in Polymer Science, Volume III.* Published by Transworld Research Network, Trivandrum, India. 1999, pp 31-39.

Hejazi, R. and **Amiji, M.** Chitosan-based delivery systems: physicochemical properties and pharmaceutical applications. In S. Dumitriu. (ed.). *Polymeric Biomaterials. Second Edition, Revised and Expanded*. Published by Marcel Dekker, Inc., New York, New York. 2001, Chapter 10, pp 213-238.

Kaul, G. and **Amiji, M.** Polymeric gene delivery systems. In. D.L. Wise, V. Hasirci, K.U. Lewandrowski, M.J. Yaszemski, D.W. Altobelli, and D.J. Trantolo. (eds.). *Tissue Engineering and Novel Delivery Systems.* Published by Marcel Dekker, Inc., New York, New York. 2004, Chapter 16, pp 333-367.

Kommareddy, S. and **Amiji, M.** Targeted drug delivery to tumor cells using colloidal carriers. In D.R. Lu, and S. Oie. (eds.). *Cellular Drug Delivery: Principles and Practice.* Published by Humana Press, Inc., Totowa, New Jersey. 2004, Chapter 10, pp 181-215.

Kaul, G. and **Amiji, M.M.** Protein nanospheres for gene delivery. In M.M. Amiji, (ed.) *Polymeric Gene Delivery: Principles and Applications.* Published by CRC Press, LLC. Boca Raton, FL. 2004, Chapter 27, pp. 429-447.

Kommareddy, S., Shenoy, D.B., and **Amiji, M.M.** Gelatin nanoparticles and their biofunctionalization. In C. Kumar. (ed.). *Nanotechnologies for the Life Sciences, Volume 2: Biological and Pharmaceutical Nanomaterials.* Published by Wiley-VCH, Berlin, Germany. 2005, Chapter 11, pp. 330-353.

Bhavsar, M.D., Shenoy, D.B., and **Amiji, M.M.** Nanoparticles for delivery in the gastrointestinal tract. In V.P. Torchilin, (ed.). *Nanoparticulates as Drug Carriers.* Published by Imperial College Press, London, The United Kingdom, 2006, Chapter 26, pp 609-648.

Shenoy, D.B. and **Amiji, M.M.** An overview of condensing and non-condensing polymeric systems for gene delivery. In T. Friedmann, and J. Rossi, (eds.). *Gene Transfer: Delivery and Expression of DNA and RNA – A Laboratory Manual.* Published by Cold Spring Harbor Laboratory Press, Cold Spring Harbor, New York. 2007, Chapter 34, pp 395-403.

Kommareddy, S. and **Amiji, M.M.** Protein nanospheres for gene delivery: preparation and *in vitro* transfection studies with gelatin nanoparticles. In T. Friedmann, and J. Rossi, (ed.). *Gene Transfer: Delivery and Expression of DNA and RNA – A Laboratory Manual.* Published by Cold Spring Harbor Laboratory Press, Cold Spring Harbor, New York. 2007, Chapter 52, pp 527-540.

Kommareddy, S., Shenoy, D.B., and **Amiji, M.M.** Long-circulating polymeric nanocarriers for drug and gene delivery in cancer. In M.M. Amiji, (ed.). *Nanotechnology for Cancer Therapy.* Published by CRC Press, Boca Raton, Florida. 2007, Chapter 13, pp 231-242.

Tiwari, S.B. and **Amiji, M.M.** Nanoemulsions for tumor targeted drug delivery. In M.M. Amiji, (ed.). *Nanotechnology for Cancer Therapy.* Published by CRC Press, Boca Raton, Florida. 2007, Chapter 35, pp 723-739.

Iftemia, N., **Amiji, M.M.,** and Iftemia, I. Nanotechnology applications in cancer diagnosis and therapy. In T.C. Yih and I. Talpasanu, (ed.). *Micro and Nano Manipulations for Biomedical Applications.* Published by Springer Publishing, New York, New York. 2008, Chapter 2, pp 13-41.

Magadala, P., van Vlerken, L.E. Shahiwala, A., and **Amiji, M.M.** Multifunctional polymeric nanosystems for tumor-targeted delivery. In V.P. Torchilin, (ed.). *Multifunctional Pharmaceutical Nanocarriers.* Published by Springer Publishing, New York, New York. 2008, Chapter 2, pp 33-64.

Nagesha, D., Devalapally H.K., Sridhar, S., and **Amiji, M.** Multifunctional magnetic nanosystems for tumor imaging, targeted delivery, and thermal therapy. In V.P. Torchilin, (ed.). *Multifunctional Pharmaceutical Nanocarriers.* Published by Springer Publishing, New York, New York. 2008, Chapter 14, pp 381-408.

Bhavsar, M.B., Jain, S., and **Amiji, M.M.** Nanotechnology in oral drug delivery. In J.J. Xu, and S. Ekins, (eds.). *Drug Efficacy, Safety, and Biologics Discovery: Emerging Technologies and Tools.* Published by Wiley Publishing, New York, New York. 2009, Chapter 10, pp. 231-275.

Brito, L., Chadwick, S., and **Amiji, M.M.** Gelatin-based gene delivery systems. In M. Morishita and K. Park, (eds.). *Biodrug Delivery Systems: Fundamentals, Applications, and Clinical Developments".* Published by Informa Healthcare Group, New York, New York. 2009, Chapter 20, pp 323-341.

Ganta, S., Iyer, A.K., and **Amiji, M.M.** Multifunctional stimuli-responsive nanoparticles for delivery of small and macromolecular therapeutics. In R.I. Mahato and A.S. Narang, (eds.). *Targeted Delivery of Small and Macromolecular Drugs.* Published by CRC Press, Inc., Boca Raton, Florida. 2010 Chapter 20, pp 555-586.

Iyer, A.K., Ganta, S., and **Amiji, M.M.** Polymeric nanoparticles as target-specific delivery systems. In V.P. Torchilin and M.M. Amiji, (eds.). *Handbook of Materials for Nanomedicine: Volume 1.* Published by Pan Stanford Publishing, Singapore, 2010, Chapter 2, pp 81-130.

Matthäus, C., Chernenko, T., Miljković, M., Quintero, L., Miljkovic, M., Milane, L., Kale, A., **Amiji, M.,** Torchilin, V., and Diem, M. Raman microspectral imaging of cells and intracellular drug delivery using nanocarrier systems. In T. Dieing, O.

Hollricher, and J. Toporski, (eds.). *Confocal Raman Microscopy,* Springer Series in Optical Science, Volume 158. Published by Springer Verlag, Heidelberg, Germany. 2010, pp. 137-163.

Iftimia, N., **Amiji, M.,** Milane, L., and Oldenburg, A. Nanotechnology approaches for contrast enhancement in optical imaging and disease targeted therapy. In N. Iftimia, W. Brugge, and D.X. Hammer, (eds.). *Advances in Optical Imaging for Clinical Medicine*, Chapter 16. Published by Wiley Publishing, New York, New York. 2011. Chapter 16, pp 455-504.

Shahiwala, A., Vyas, T.K., and **Amiji, M.M.** Nanotechnology for targeted delivery of drugs and genes. In H.S. Nalwa, (ed.). *Encyclopedia of Nanoscience and Nanotechnology*, *2nd Edition,* Published by American Scientific Publishers, New York, New York. 2011. Volume 19, pp 265-295.

Kalariya, M., Ganta, S., Attarwala, H., and **Amiji, M.** Multifunctional lipid nano-systems for cancer prevention and therapy. In E. Souto, (ed.). *Advanced Anticancer Approaches with Multifunctional Lipid Nanocarriers.* Published by iSmithers Rapra Publishing, Inc., Billingham, The United Kingdom. 2011. Chapter 3, pp 29-54.

Amiji, M.M. Hornicek, F., and Duan, Z.-F. Gene silencing with nanoparticle-encapsulated siRNA to overcome tumor multidrug resistance. In R. Srirajaskanthan and V.R. Preedy, (eds.). Published by *Nanomedicine and Cancer.* Science Publishers-CRC Press, Enfield, New Hampshire. 2012. Chapter 15, pp 290-306.

Jain, S. and **Amiji, M.** Macrophage-targeted nanoparticle delivery systems. In R.K. Pru'dhomme and S. Svenson, (eds.). *Multifunctional Nanoparticles for Drug Delivery Applications: Imaging, Targeting, and Delivery*. Published by Springer Publishing, New York, New York. 2012 Chapter 4, pp 47-84.

Jain, S. and **Amiji, M.** Target-specific chitosan-based nanoparticle systems for nucleic acid delivery. In B. Sarmento, and J. das Neves, (eds.) *Chitosan-Based Systems for Biopharmaceuticals: Delivery, Targeting, and Polymer Therapeutics.* Published by John Wiley & Sons Publishing, Chichester, West Sussex, The United Kingdom. 2012 Chapter 15, pp 277-300.

Singh, A., Chernenko, T., and **Amiji. M.** Theranostic applications of plasmonic nanosystems. In M. Hepel and C.J. Zhong, (eds.). *Functional Nanoparticles for Bioanalysis, Nanomedicine and Bioelectronic Devices. Volume 2.* Published by American Chemical Society Publications, Washington, District of Columbia. 2012 Chapter 15, pp 383-413.

Iyer, A., Ganesh, S., Zhou, Q.L., and **Amiji, M.** Multifunctional polymeric nano-systems for RNA interference therapy. In W. Wang and M. Singh, (eds.) *Biological Drug Products: Development and Strategies.* Published by John Wiley Publishers, Nutley, New Jersey. 2013 Chapter 18, pp 569-600.

Singh, A., Iyer, A., Ganta, S., and **Amiji, M.** Multifunctional nanosystems for cancer therapy. In K. Park, (ed.). *Biomaterials for Cancer Therapeutics: Diagnosis, Prevention and Therapy.* Published by Woodhead Publishing, Inc., Cambridge, The United Kingdom. 2013 Chapter 14, pp 387-414.

Chernenko, T., Milane, L., Matthäus, C., Diem, M., and **Amiji, M.** Raman microspectral imaging for label-free detection of nanoparticle-mediated cellular and sub-cellular drug delivery. In C. Li and M. Tian, (eds.). *Drug Delivery Applications of Non-Invasive Imaging: Validation from Biodistribution to Sites of Action.* Published by John Wiley & Sons Publishing, Hoboken, New Jersey. 2013 Chapter 4, pp 70-90.

Jain, S., and **Amiji, M.** Nanoparticles-in-microsphere oral systems (NiMOS) for nucleic acid therapy in the gastrointestinal tract. In B. Sarmento. and J. das Neves, (eds.) *Mucosal Delivery of Biopharmaceuticals: Biology, Challenges and Strategies.* Published by Springer Science Publishing, New York, New York. 2014 Chapter 11, pp 283-312.

Deshpande, D., Jamal-Allial, A., Sankhe, K., and **Amiji, M.** Nanotechnology applications in local arterial drug delivery. In A. Domb and W. Khan, (eds). *Advances in Delivery Science and Technology - Focal Controlled Drug Therapy.* Published by the Controlled Release Society - Springer Science Publishing, New York, New York. 2014 Chapter 17, pp 359-385.

Ganesh, S., Iyer, A.K., and **Amiji, M.M.** Combinatorial-designed hyaluronic acid nanoparticles for tumor targeted drug and small interfering RNA delivery. In M. Collins, (ed.). *Hyaluronic Acid for Biomedical and Pharmaceutical Applications.* Published by Smithers Rapra, Shrewsbury, The United Kingdom. 2014 Chapter 3, pp 57-88.

Iyer, A.K., Ganesh, S., and **Amiji, M.M.** Nano-platforms for tumor-targeted delivery of nucleic acid therapies. In M.J. Alonso and M.G. Fuentes, (eds). *Nano-Oncologicals: New Targeting and Delivery Approaches.* Published by the Controlled Release Society - Springer Publishing, New York, New York. 2014 Chapter 10, pp 269-291.

Singh, A., Oka, A.J., Pandya, P., and **Amiji, M.M.** Multimodal nano-systems for cancer diagnosis, imaging, and therapy. In M.J. Alonso and M.G. Fuentes, (eds). (eds). *Nano-Oncologicals: New Targeting and Delivery Approaches.* Published by the Controlled Release Society - Springer Publishing, New York, New York. 2014 Chapter 13, pp 351-388.

Singh, A., Iyer, A., and **Amiji, M.** Polymeric nano-systems for integrated image-guided cancer therapy. In V.P. Torchilin (ed.). *Handbook of Nano-Biomedical Research: Fundamentals, Applications, and Recent Developments. Volume 1: Materials for Nanomedicine.* Published by World Scientific Publishing, Singapore. 2014 Chapter 6, pp 199-233.

Ganta, S., Singh, A., Coleman, T.P., Williams, D., and **Amiji, M.** Pharmaceutical nanotechnology: overcoming drug delivery challenges in contemporary medicine. In Y. Ge, S. Li, S. Wang, and R. Moore, (eds.). *Nanomedicine: Principles and Perspectives - Volumes 1 & 2*. Published by Springer Publishing, New York, New York. 2014 Chapter 10, pp 191-236.

Shah, R., Brito, L., Singh, M., O'Hagan, D., and **Amiji, M.** Emulsions as vaccine adjuvants. In C. Foged, T. Rades, Y. Perrie, and S. Hook, (eds). *Subunit Vaccine Delivery.* Published by the Controlled Release Society - Springer Publishing, New York, New York. 2014 Chapter 4, pp 59-76.

Shah, L., Iyer, A., Talekar, M., and **Amiji, M.** Image-guided delivery of therapeutics to the brain. In P. Devarajan and S. Jain, (eds.). *Targeted Drug Delivery – Concepts and Design.* Published by the Controlled Release Society - Springer Publishing, New York, New York. 2015, Chapter 4, pp 151-178.

Attarwala, H. and **Amiji, M.** Multi-compartmental oral delivery systems for oligonucleotide therapeutics. In O.M. Merkel and M.M. Amiji, (eds). *Advances and Challenges in the Delivery of Nucleic Acid Therapeutics – Volume 2.* E-Book Published by Future Science, LTD, London, The United Kingdom. 2015, Chapter 14, pp 71-86.

Attarwala, H. and **Amiji, M.** Biodegradable polyester-based multi-compartmental delivery systems for oral nucleic acid therapy. In M.N.V. Ravikumar (ed.). *Handbook of Polyester Drug Delivery Systems.* Pan Stanford Publishing, Singapore. 2016, Chapter 13, pp 417-443.

Singh, A., Tran, T.H., and **Amiji, M.** Redox-responsive nano-delivery systems for cancer therapy. In V. Weissig and A. Prokop (eds.). Fundamentals of Biomedical Technologies Series. *Intracellular Delivery, Volume 3 – Market Entry Barriers of Nanomedicines.* Published by Springer Publishing, New York, New York. 2016, Chapter 10, pp 255-272.

Parayath, N., Pawar, G., Avachat, C., Miyake, M.M., Bleier, B.S., and **Amiji, M.M.** The biology and clinical treatment of neurodegenerative diseases. In L.S. Milane and M.M. Amiji, (eds.). *Nanomedicine for Inflammatory Diseases.* Published by CRC Press, LLC (a subsidiary of Taylor and Francis). Boca Raton, Florida. 2017, Chapter 8, pp 289-318.

Singh, A. and **Amiji, M.M.** Combinatorial approach in rationale design of polymeric nanomedicines for cancer. In B. Sarmento and J. das Neves, (eds.). *Biomedical Applications of Functionalized Nanomaterials.* Published by Elsevier Press, Amsterdam, The Netherlands. 2018, Chapter 13, pp 371-398.

Su, M.J., Parayath, N., and **Amiji, M.M.** Exosome-mediated communication in the tumor microenvironment. In M.M. Amiji and R. Ramesh, (eds.). *Diagnostic and Therapeutic Applications of Exosomes in Cancer.* Published by Elsevier Publishing Company. San Diego, California. 2018, Chapter 11, pp 187-218.

Singh, A. and **Amiji, M.M.** Regulatory and commercialization challenges with smart materials. In A. Singh and M.M. Amiji, (eds.). *Stimuli-Responsive Drug Delivery Systems.* Royal Society of Chemistry Biomaterial Series Publication. Royal Society of Chemistry, London, The United Kingdom. 2018, Chapter 14, pp 335-354.

Singh A. and **Amiji, M.M.** The future of nano-biomaterials for drug delivery in cancer. In K. Park, (ed.). *Biomaterials for Cancer Therapy: Evolution and Innovation, 2nd Edition.* Elsevier Press, LTD, Kidlington, The United Kingdom, 2020, Chapter 21, pp 569-598.

Parayath, N.N. and **Amiji, M.M.** Preparation of hyaluronic acid-based nanoparticles for macrophage-targeted microRNA delivery and transfection. In M. Soloviev, (ed.). *Nanoparticles in Biology and Medicine: Methods and Protocols,* Second Edition. Springer Publishing Company, Totowa, New Jersey. 2020, Chapter 7, pp 98-110.

Singh, A., Rawal, M., and **Amiji, M.M.** Combinatorial approach to polymer design for nanomedicines. In V.P. Torchilin, (ed.). *Handbook of Materials for Nanomedicine – Polymeric Nanomaterials.* Pan Stanford Publishing, Singapore. 2020, Chapter 1, pp 8-22.

Ahmad, G. and **Amiji, M.M.** Cellular therapeutics in immuno-oncology. In M.M. Amiji and L.S. Milane, (eds.). *Cancer Immunology and Immunotherapy. Volume 1. Delivery Strategies and Engineering Technologies in Cancer Immunotherapy.* Academic Press/Elsevier Publishing Company. Oxford, The United Kingdom. 2021, Chapter 8, pp 197-236.

Padmakumar, S., Huang, D., Parayath, N., Milane, L., and **Amiji, M.M.** Local and systemic delivery strategies for glioma immunotherapy. In In M.M. Amiji and L.S. Milane (eds.). *Systemic Drug Delivery Strategies. Volume 2. Delivery Strategies and Engineering Technologies in Cancer Immunotherapy.* Academic Press/Elsevier Publishing Company. Oxford, The United Kingdom. 2021, Chapter 12, pp 295-332.

Lodaya, R.N., Gregory, S., **Amiji, M.M.** and O'Hagan, D.T. Overview of vaccine adjuvants. In P. Kolhe and S. Ohtake, (eds.). *Practical Aspects of Vaccine Development – First Edition,* Elsevier Publishing Company, Inc., San Diego, California. 2021, Chapter 3, pp 9-26.

Oza, D. and **Amiji, M.** Delivery of oligonucleotide therapeutics for macrophage reprogramming in inflammatory diseases. In S. Gupta and Y. Pathak, (eds.). *Macrophage Targeted Delivery Systems: Basic Concepts and Therapeutic Application.* Springer Nature Publishing Company, New York, New York. 2022, pp 357-378.

Bhangde, S., Lodaya, R., and **Amiji, M.M.** Nanoscale vaccines for influenza. In V.B. Patravale, A. Date, and A.B. Jindal, (eds,). *Nanomedicines for the Prevention and Treatment of Infectious Diseases.* AAPS Introductions in the Pharmaceutical Sciences Book Series. Volume 56. Springer Publishing, New York, New York. 2023, pp 331-347.

Iqbal, J.M., Attarwala, A.Z., and **Amiji, M.M.** Nanoscale vaccines for the prevention of COVID-19. In V.B. Patravale, A. Date, and A.B. Jindal, (eds.). *Nanomedicines for the Prevention and Treatment of Infectious Diseases.* AAPS Introductions in the Pharmaceutical Sciences Book Series. Volume 56. Springer Publishing, New York, New York. 2023, pp 367-402.

Padmakumar, S., and **Amiji, M.M.** The blood-brain barrier. In D'Souza, A.A., Milane, L.S., and Amiji, M.M. (eds). *Harnessing Endogenous Mechanisms for Targeted Drug Delivery.* Elsevier Publishing Press, Cambridge, Massachusetts (In press).

Peer-Reviewed Articles

Amiji, M., Park, H., and Park, K. Study on the prevention of surface-induced platelet activation by albumin coating. *Journal of Biomaterials Science, Polymer Edition,* **3:** 375-388 (1992).

Amiji, M. and Park, K. Prevention of protein adsorption and platelet adhesion on surfaces by PEO/PPO/PEO triblock copolymers. *Biomaterials,* **13:** 682-692 (1992).

Amiji, M. and Park, K. Surface modification by radiation-induced grafting of PEO/PPO/PEO triblock copolymers. *Journal of Colloid and Interface Science,* **155:** 251-255 (1993).

Amiji, M. and Park, K. Surface modification of polymeric biomaterials with poly(ethylene oxide), albumin, and heparin for reduced thrombogenicity. *Journal of Biomaterials Science, Polymer Edition,* **4:** 217-234 (1993).

Knuth, K., **Amiji, M.,** and Robinson, J.R. Hydrogel delivery system for vaginal and oral applications: formulation and biological considerations. *Advances in Drug Delivery Reviews,* **11:** 137-167 (1993).

Amiji, M. and K. Park. Analysis on the surface adsorption of PEO/PPO/PEO triblock copolymers by radiolabeling and fluorescence techniques. *Journal of Applied Polymer Science,* **52:** 539-544 (1994).

Amiji, M.M. Permeability and blood compatibility properties of chitosan-poly(ethylene oxide) blend membranes for hemodialysis. *Biomaterials,* **16:** 593-599 (1995).

Amiji, M.M. Pyrene fluorescence study of chitosan self-association in aqueous solution. *Carbohydrate Polymers* **26:** 211-213 (1995).

Amiji, M., Shah, E., and Boroujerdi, M. Photophysical characterization of insulin denaturation and aggregation at hydrophobic interfaces. *Drug Development and Industrial Pharmacy,* **21:** 1661-1669 (1995).

Patel, V.R. and **Amiji, M.M.** pH-sensitive swelling and drug release properties of chitosan-poly(ethylene oxide) semi-interpenetrating polymer network. In R. Ottenbrite, S. Huang, and K. Park (eds.) *Hydrogels and Biodegradable Polymers for Bioapplications.* American Chemical Society Symposium Series Publication. Volume 627. American Chemical Society, Washington, DC. 1996, pp 209-220.

Patel, V.R. and **Amiji, M.M**. Preparation and characterization of freeze-dried chitosan-poly(ethylene oxide) hydrogels for site-specific antibiotic delivery in the stomach. *Pharmaceutical Research* **13:** 588-593 (1996).

Amiji, M.M. Surface modification of chitosan membranes by complexation-interpenetration of anionic polysaccharides for improved blood compatibility in hemodialysis. *Journal of Biomaterials Science, Polymer Edition,* **8:** 281-298 (1996).

Amiji, M., Tailor, R., Ly, M., and Goreham, J. Gelatin-poly(ethylene oxide) semi-interpenetrating polymer network with pH-sensitive swelling and enzyme-degradable properties for oral drug delivery. *Drug Development and Industrial Pharmacy,* **23:** 575-582 (1997).

Amiji, M.M. Synthesis of anionic poly(ethylene glycol) derivative for chitosan surface modification in blood-contacting applications. *Carbohydrate Polymers,* **32:** 193-199 (1997).

Amiji, M.M. Platelet adhesion and activation on an amphoteric chitosan derivative bearing sulfonate groups. *Colloids and Surfaces. Part B: Biointerfaces,* **10:** 263-271 (1998).

Qaqish, R.B. and **Amiji, M.M.** Synthesis of fluorescent chitosan derivative and its application for the study of chitosan-mucin interactions. *Carbohydrate Polymers,* **38:** 99-107 (1999).

Shah, S., Qaqish, R., Patel, V., and **Amiji. M.** Evaluation of the factors influencing stomach-specific delivery of antibacterial agents for *Helicobacter pylori* infection. *Journal of Pharmacy and Pharmacology,* **51:** 667-672 (1999).

Anderson, D., Nguyen, T., and **Amiji, M.** Chitosan-Pluronic® physical interpenetrating network: membrane fabrication and protein permeability studies. In M. El-Nokaly and H. Soini (eds.). *Polysaccharides in Pharmaceutical and Cosmetic Applications.* American Chemical Society Symposium Series Publication, Volume 737. American Chemical Society, Washington, DC 1999, pp 178-186.

McQueen, C., Silvia, A., Lai, P.K., and **Amiji, M.** Surface and blood interaction properties of poly(ethylene oxide)-modified chitosan microspheres. *S.T.P Pharma Sciences,* **10:** 95-100 (2000). [Year 2000 **thematic issue** on *"Chitosan in Drug Delivery Systems"*].

Anderson, D., Nguyen, T., Lai, P.K., and **Amiji, M.** Evaluation of the permeability and blood-compatibility properties of membranes formed by physical interpenetration of chitosan with PEO/PPO/PEO triblock copolymers. *Journal of Applied Polymer Science,* **80:** 1274-1284 (2001).

Anderson, D. and **Amiji, M.** Preparation and evaluation of sustained drug release from Pluronic® polyol rectal suppositories. *International Journal of Pharmaceutical Compounding,* **5:** 234-237 (2001).

Lynn, D.M., **Amiji, M.M.,** and Langer, R. pH-responsive biodegradable polymer microspheres: rapid release of encapsulated material within the range of intracellular pH*. Angewandte Chemie, International Edition,* **40(9):** 1707-1710 (2001).

Amiji, M.M., Lai, P.-K., Shenoy, D.B., and Rao, M. Intratumoral administration of paclitaxel in an *in situ* gelling poloxamer 407 formulation. *Pharmaceutical Development and Technology,* **7(2):** 195-202 (2002).

Hejazi, R. and **Amiji, M.** Stomach-specific anti-*H. pylori* therapy. I: Preparation and characterization of tetracycline-loaded chitosan microspheres. *International Journal of Pharmaceutics,* **235(1-2):** 87-94 (2002).

Nsereko, S. and **Amiji, M.** Localized delivery of paclitaxel in solid tumors from biodegradable chitin microparticle formulations. *Biomaterials,* **23(13):** 2723-2731 (2002).

Kaul, G. and **Amiji, M.** Long-circulating poly(ethylene glycol)-modified gelatin nanoparticles for intracellular delivery. *Pharmaceutical Research,* **19 (7):** 1062-1068 (2002).

Kaul, G., Potineni, A., Lynn, D.M., Langer, R., and **Amiji, M.M.** Surface-modified polymeric nanoparticles for tumor-targeted delivery. *surFACTS – Official Newsletter of Surfaces in Biomaterials Foundation*, **7(2):** 1-6 (2002).

Chawla, J.S. and **Amiji, M.M.** Biodegradable poly(epsilon-caprolactone) nanoparticles for tumor-targeted delivery of tamoxifen. *International Journal of Pharmaceutics,* **249 (1-2):** 127-138 (2002).

Taqieddin, E., Lee, C., and **Amiji, M.** Perm-selective chitosan-alginate hybrid microcapsules for enzyme immobilization technology. *Pharmaceutical Engineers – Journal of the International Society of Pharmaceutical Engineers.* **22 (6):** 112-114 (2002).

Potineni, A., Lynn, D.M., Langer, R., and **Amiji, M.M.** Poly(ethylene oxide)-modified poly(beta-amino ester) nanoparticles as pH-sensitive biodegradable system for paclitaxel delivery. *Journal of Controlled Release,* **86:** 223-234 (2003).

Chawla, J.S. and **Amiji, M.M.** Cellular uptake and concentrations of tamoxifen upon administration in poly(epsilon-caprolactone) nanoparticles. *The AAPS PharmSci,* **5 (1):** Article E3 (2003).

Hejazi, R. and **Amiji, M.** Chitosan-based gastrointestinal delivery systems. *Journal of Controlled Release,* **89:** 151-165 (2003). – **Invited review.**

Hejazi, R. and **Amiji, M.** Stomach-specific anti-*H. pylori* therapy. II: Gastric residence studies of tetracycline-loaded chitosan microspheres in gerbils. *Pharmaceutical Development and Technology*, **8:** 253-262 (2003).

Kaul, G., Lee-Parsons, C., and **Amiji, M.** Poly(ethylene glycol)-modified gelatin nanoparticles for intracellular delivery. *Pharmaceutical Engineers – Journal of the International Society of Pharmaceutical Engineers.* **23 (5):** 108-114 (2003).

Taqieddin, E. and **Amiji, M.** Enzyme immobilization in novel alginate-chitosan core-shell microcapsules. *Biomaterials,* **25 (10):** 1937-1945 (2004).

Hejazi, R. and **Amiji, M.** Stomach-specific anti-*H. pylori* therapy. III: Effect of chitosan microsphere crosslinking on the gastric residence and local tetracycline concentrations in fasted gerbils. *International Journal of Pharmaceutics,* **272 (1-2):** 99-108 (2004).

Thatte, H.S., Zagarins, S.E., **Amiji, M.M.,** and Khuri, S.F. Poly(N-acetyl-glucosamine)-mediated red blood cell interactions. *Journal of Trauma – Injury Infection and Critical Care,* **57(1):** Supplement: S7-S12 (2004).

Kaul, G. and **Amiji, M.** Biodistribution and targeting potential of poly(ethylene glycol) modified gelatin nanoparticles in subcutaneous murine tumor model. *Journal of Drug Targeting,* **12(9-10):** 585-591 (2004).

Kaul, G. and **Amiji, M.** Cellular interactions and *in vitro* DNA transfection studies with poly(ethylene glycol)-modified gelatin nanoparticles. *Journal of Pharmaceutical Sciences,* **94 (1):** 184-198 (2005).

Shenoy, D.B. and **Amiji, M.M.** Poly(ethylene oxide)-modified poly(epsilon-caprolactone) nanoparticles for targeted tamoxifen delivery in breast cancer. *International Journal of Pharmaceutics,* **293:** 261-270 (2005). [This publication was recognized with a **Certificate of Most Cited Publication** by the International Journal of Pharmaceutics, Elsevier publishing team].

Kaul, G. and **Amiji, M.** Tumor-targeted delivery of plasmid DNA using poly(ethylene glycol)-modified gelatin nanoparticles: *In vitro* and *in vivo* studies. *Pharmaceutical Research,* **22(6):** 951-961 (2005). [This publication was recognized for the **2007 Meritorious Manuscript Award** from the American Association of Pharmaceutical Scientists].

Shenoy, D., Little, S., Langer, R., and **Amiji, M.** Poly(ethylene oxide)-modified poly(beta-amino ester) nanoparticles as a pH-sensitive system for tumor-targeted delivery of hydrophobic drugs: Part I. *In vitro* evaluations. *Molecular Pharmaceutics,* **2(5):** 357-366 (2005).

Kommareddy, S. and **Amiji. M.** Preparation and evaluation of thiol-modified gelatin nanoparticles for intracellular DNA delivery in response to glutathione. *Bioconjugate Chemistry,* **16 (6):**1423-1432 (2005).

Shenoy, D., Little, S., Langer, R., and **Amiji, M.** Poly(ethylene oxide)-modified poly(beta-amino ester) nanoparticles as a pH-sensitive system for tumor-targeted delivery of hydrophobic drugs: Part II. *In vivo* biodistribution and tumor localization studies. *Pharmaceutical Research,* **22(12):** 2107-2114 (2005).

Kommareddy, S., Tiwari, S., and **Amiji, M.M.** Long-circulating nano-vectors for tumor-specific gene delivery. *Technology in Cancer Research and Treatment,* **4(6):** 615-625 (2005). [**Invited review** in the special issue on *"Nanotechnology in Cancer Detection and Treatment"*].

Li, J., Crasto, C.F., Weinberg, J.S., **Amiji, M.,** Shenoy, D., Sridhar, S., Bubbley, G.J., and Jones, G.B. An approach to heterobifunctional poly(ethylene glycol) bioconjugates. *Bioorganic and Medicinal Chemistry Letters,* **15:** 5558-5561 (2005).

Bhavsar, M.D., Tiwari, S.B., and **Amiji, M.M.** Formulation optimization for the nanoparticles-in-microsphere hybrid oral delivery system using factorial design. *Journal of Controlled Release,* **110(2):** 422-430 (2006). [This publication was recognized as **One of 25 Most Cited Publications** by the *Journal of Controlled Release*].

Shenoy, D., Fu, W., Li, J., Crasto, C., Jones, G., Dimarzio, C., Sridhar, S., and **Amiji, M.** Surface functionalization of gold nanoparticles using hetero-bifunctional poly(ethylene glycol) spacer for intracellular tracking and delivery. *International Journal of Nanomedicine,* **1(1):** 51-57 (2006).

van Vlerken, L.E. and **Amiji, M.M.** Multifunctional polymeric nanoparticles for tumor-targeted drug delivery. *Expert Opinion on Drug Delivery,* **3(2):** 205-216 (2006).

Tiwari, S.B. and **Amiji, M.M.** A review of nanocarrier-based CNS delivery systems. *Current Drug Delivery,* **3:** 219-232 (2006). [**Invited review].**

Tiwari, S.B. and **Amiji, M.M.** Improved oral delivery of paclitaxel following administration in nanoemulsion formulations. *Journal of Nanoscience and Nanotechnology,* **6(9-10):** 3215-3221 (2006). [**Invited publication** for the special thematic issue on *"Nanotechnology in Advanced Drug Delivery"* edited by Professor M.N.V. Ravi Kumar].

Amiji, M.M. Engineered nanosystems for targeted delivery of drugs and genes – *Future Drug Delivery 2006,* Touch Briefings (2006). **[Invited review].**

Vyas, T., Shah, L., and **Amiji, M.** Nanoparticulate drug carriers for delivery of HIV/AIDS therapy to viral reservoir sites. *Expert Opinion on Drug Delivery,* **3(5):** 613-628 (2006).

Shah, L.K. and **Amiji, M.M.** Intracellular delivery of saquinavir in biodegradable polymeric nanoparticles for HIV/AIDS. *Pharmaceutical Research,* **23(11):** 2638-2645 (2006).

Tiwari, S.B., Tan, Y.-M., and **Amiji, M.M.** Preparation and *in vitro* characterization of multifunctional nanoemulsions for simultaneous MR imaging and targeted drug delivery. *Journal of Biomedical Nanotechnology,* **2(3-4):** 217–224 (2006).

Vyas, T., Tiwari, S, and **Amiji, M.** Formulation and physiological factors influencing CNS delivery upon intranasal administration. *Critical Reviews in Therapeutic Drug Carrier Systems,* **23(4): 3**19-347 (2006).

Amiji, M., Vyas, T., and Shah, L. Role of nanotechnology in the treatment of HIV/AIDS: potential to overcome viral reservoir challenge. *Discovery Medicine,* **6(34):** 157-162 (2006). **[Invited review].**

Devalapally, H., Shenoy, D., Little, S., Langer, R., and **Amiji, M.** Poly(ethylene oxide)-modified poly(beta-amino ester) nanoparticles as a pH-sensitive system for tumor-targeted delivery of hydrophobic drugs: Part III. Therapeutic efficacy and safety studies in ovarian cancer xenograft model. *Cancer Chemotherapy and Pharmacology,* **59 (4):** 477-484 (2007).

Amiji, M.M. Tetracycline-containing chitosan microspheres for localized treatment of *Helicobacter pylori* infection. *Cellulose,* **14:** 3-14 (2007). [**Invited review** for a special Issue on *"Polysaccharides in Drug Delivery"* edited by Dr. K.J. Edgar].

Kommareddy, S. and **Amiji, M.** Biodistribution and pharmacokinetic analysis of long-circulating thiolated gelatin nanoparticles following systemic administration in breast cancer-bearing mice. *Journal of Pharmaceutical Sciences,* **96(2):** 397-407 (2007).

Shahiwala, A., Vyas, T.K., and **Amiji, M.M.** Nanocarriers for systemic and mucosal vaccine delivery. *Recent Patents on Drug Delivery and Formulation,* **1(1):** 1-9 (2007*)*. **[Invited review].**

Kommareddy, S. and **Amiji, M.** Poly(ethylene glycol)-modified thiolated gelatin nanoparticles for glutathione-responsive intracellular DNA delivery. *Nanomedicine: Nanotechnology, Biology and Medicine,* **3(1):** 32-42 (2007).

Kommareddy, S. and **Amiji, M.** Anti-angiogenic gene therapy with systemically administered *sFlt-1* plasmid DNA in engineered gelatin-based nanovectors. *Cancer Gene Therapy,* **14(5):** 488-498 (2007).

Shahiwala, A. and **Amiji, M.M.** Nanotechnology-based delivery systems in HIV/AIDS therapy. *Future Medicine – Future HIV Therapy*, **1(1):** 49-59 (2007). **[Invited review].**

Bhavsar, M.D. and **Amiji, M.M.** Polymeric nano- and microparticle technologies for oral gene therapy. *Expert Opinion on Drug Delivery,* **4(3):** 197-213 (2007).

van Vlerken, L., Duan, Z., Seiden, M., and **Amiji, M.** Modulation of intracellular ceramide with polymeric nanoparticles to overcome multi-drug resistance in cancer. *Cancer Research,* **67(10):** 4843-4850 (2007).

Bhavsar, M.D. and **Amiji, M.M.** Gastrointestinal distribution and *in vivo* gene transfection studies with nanoparticles-in-microsphere oral system (NiMOS). *Journal of Controlled Release*, **119(3):** 339-348 (2007).

van Vlerken, L.E. and **Amiji, M.M.** A multifunctional polymeric nanoparticle strategy for modulation of drug resistance in cancer. *Pharmaceutical Engineers – Journal of the International Society of Pharmaceutical Engineers.* **27(3):** 1-7 (2007).

van Vlerken, L., Vyas, T., and **Amiji, M.M.** Poly(ethylene glycol)-modified polymeric nanocarriers for tumor-targeted and intracellular delivery. *Pharmaceutical Research,* **24(8):** 1407-1414 (2007). [**Invited expert review].**

Ye, G., Nam, N-H., Kumar, A., Saleh, A., Shenoy, D.B., **Amiji, M.M.,** Lin, X., Sun, G., and Parang, K. Synthesis and evaluations of tripodal peptide analogues for cellular delivery of phosphopeptides. *Journal of Medicinal Chemistry*, **50:** 3604-3617 (2007).

Brito, L. and **Amiji, M.** A review of nanoparticulate carriers for the treatment of coronary restenosis. *International Journal of Nanomedicine,* **2(2):** 1-19 (2007).

Devalapally, H., Chakilam, A., and **Amiji, M.** The role of nanotechnology in pharmaceutical product development. *Journal of Pharmaceutical Sciences,* **96(10):** 2547 – 2565 (2007). [This **invited submission** publication was **One of the Most Cited Papers in 2008** according to the journal publisher].

Devalapally, H., Duan, Z., Seiden, M., and **Amiji, M.** Paclitaxel and ceramide co-administration in biodegradable polymeric nanoparticulate delivery system to overcome multidrug resistance in ovarian cancer. *International Journal of Cancer,* **121(8):** 1830-1838 (2007).

Amiji, M.M. Nanotechnology: Improving targeted delivery – *Touch Briefing's Future Drug Delivery 2007.* **[Invited review].**

Vyas, T.K., Shahiwala, A., and **Amiji, M.M.,** Improved oral bioavailability and brain transport of saquinavir upon administration in nanoemulsion formulations. *International Journal of Pharmaceutics*, **347:** 93–101 (2008).

Ganta, S., Devalapally, H.K., Shahiwala, A., and **Amiji, M**. A review of stimuli-responsive nanocarriers for drug and gene delivery. *Journal of Controlled Release,* **126(3):** 187-204 (2008). [This publication was recognized with a **Certificate of Top Cited Article** by the *Journal of Controlled Release/Elsevier* publishing team].

Bhavsar, M.D. and **Amiji, M.M.** Development of novel biodegradable polymeric nanoparticles-in-microsphere formulation for local plasmid DNA delivery in the gastrointestinal tract. *AAPS PharmSciTech,* **9(1):** 288-294 (2008).

Shahiwala, A. and **Amiji, M.M.** Enhanced mucosal and systemic immune responses with squalane oil containing multiple emulsions upon intranasal and oral administration in mice. *Journal of Drug Targeting,* **16(4):** 302-310 (2008).

Devalapally, H., Duan, Z., Seiden, M., and **Amiji, M.** Modulation of drug resistance in ovarian adenocarcinoma by enhancing intracellular ceramide using tamoxifen-loaded biodegradable polymeric nanoparticles. *Clinical Cancer Research* **14(10):** 3193-3203 (2008).

Amiji, M., van Vlerken, L., Devalapally, H., Shenoy, D., Kommareddy, S., and Bhavsar, M. Polymeric nanosystems for site-specific drug and gene delivery. *European Journal of Nanomedicine,* **1(1):** 6-14 (2008). [**Invited submission** for the inaugural journal issue based on *"2008 European Conference on Clinical Nanomedicine, Basel Switzerland"*].

Ganta, S., Devalapally, H.K., Baguley, B.C., Garg, S., and **Amiji, M.** Microfluidic preparation of chlorambucil nanoemulsion formulations and evaluation of cytotoxicity and pro-apoptotic activity in cancer cells. *Journal of Biomedical Nanotechnology,* **4:** 165–173 (2008).

Desai, A., Vyas, T., and **Amiji, M.** Cytotoxicity and apoptosis enhancement in brain tumor cells upon co-administration of paclitaxel and ceramide in nanoemulsion formulations. *Journal of Pharmaceutical Sciences*, **97(7):** 2745-2756 (2008).

Brito, L, Little, S., Langer, R., and **Amiji, M.** Poly(beta-amino ester) and cationic phospholipid-based lipopolyplexes for gene delivery and transfection in human aortic endothelial and smooth muscle cells. *Biomacromolecules,* **9(4):** 1179-1187 (2008).

Deshpande, D., Devalapally, H., and **Amiji, M.** Enhancement in anti-proliferative effects of paclitaxel in aortic smooth muscle cells upon co-administration with ceramide using biodegradable polymeric nanoparticles. *Pharmaceutical Research,* **25(8):** 1936-1947 (2008).

Bhavsar, M.D. and **Amiji, M.M.** Oral IL-10 gene delivery in a microsphere-based formulation for local transfection and therapeutic efficacy in inflammatory bowel disease. *Gene Therapy,* **15(17):** 1200-1209 (2008).

van Vlerken, L.E., Duan, Z., Little, S.R., Seiden, M., and **Amiji, M.M.** Biodistribution and pharmacokinetic analysis of paclitaxel and ceramide administered in multi-functional polymer blend nanoparticles in drug resistant breast cancer model. *Molecular Pharmaceutics,* **5(4):** 516-526 (2008). [**Invited research** publication in the special thematic issue of the journal on *"Biodistribution of Nanomedicines"* edited by Drs. A. Patri and E.E. Simanek].

Jabr-Milane, L., van Vlerken, L., Devalapally, H., Shenoy, D., Kommareddy, S., Bhavsar, M., and **Amiji, M.** Multi-functional nanocarriers for targeted delivery of drugs and genes. *Journal of Controlled Release,* **130(2):** 121-128 (2008). [**Invited submission** publication in the special issue on *"2007 Nano-Drug Delivery Systems Conference"*].

Gamsiz, E.D., Shah, L., Devalapally, H., **Amiji, M.,** and Carrier, R.L. A model predicting delivery of saquinavir in nanoparticles to human monocytes/macrophage (Mo/Mac) cells. *Biotechnology and Bioengineering,* **101(5):** 1072-1082 (2008).

Jabr-Milane, L., van Vlerken, L., Yadav, S., and **Amiji, M.** Multi-functional nanocarriers to overcome tumor drug resistance. *Cancer Treatment Reviews,* **34(7):** 592-602 (2008).

Magadala, P. and **Amiji, M.M.** Epidermal growth factor receptor-targeted gelatin-based engineered nanocarrier systems for DNA delivery and transfection in human pancreatic cancer cells. *The AAPS Journal,* **10(4):** 565-576 (2008).

Yadav, S., van Vlerken, L.E., Little, S.R., and **Amiji, M.M.** Evaluations of combination *mdr-1* gene silencing and paclitaxel administration in biodegradable polymeric nanoparticle formulations to overcome multidrug resistance in cancer cells. *Cancer Chemotherapy and Pharmacology,* **63(4):** 711-722 (2009). [The *Cancer Chemotherapy and Pharmacology*, Springer publishing team recognized this publication with a **Certificate of Most Cited Publication**].

Barchet, T.B. and **Amiji, M.M.** Challenges and opportunities in CNS delivery of therapeutics for neurodegenerative diseases. *Expert Opinion on Drug Delivery,* **6(3):** 211-225 (2009).

Chadwick, S., Kriegel, C., and **Amiji, M.** Delivery strategies to enhance mucosal vaccination. *Expert Opinion on Biological Therapy***, 9(4):** 427-440 (2009).

Ganta S. and **Amiji, M.M.** Co-administration of paclitaxel and curcumin in nanoemulsion formulations to overcome multidrug resistance in tumor cells. *Molecular Pharmaceutics,* **6(3):** 928-939 (2009).

Ganta, S., Chadwick, S., Deshpande, D., and **Amiji, M.** Role of eco-friendly strategies in the development of biomedical nanotechnology. *International Journal of Green Nanotechnology: Biomedicine,* **1(1):** B9-B23 (2009). [**Invited submission** for the inaugural issue of the journal].

Chernenko, T., Matthäus, M., Milane, L., Quintero, L., **Amiji, M.,** and Diem, M. Label-free Raman spectral imaging of intracellular delivery and degradation of polymeric nanoparticle systems. *ACS Nano,* **3(11):** 3552-3559 (2009). DOI: 10.1021/nn9010973.

Susa, M., Iyer, A.K., Ryu, K., Hornicek, F.J., Mankin, H., **Amiji, M.M.,** and Duan, Z. Doxorubicin loaded polymeric nanoparticulate delivery system to overcome drug resistance in osteosarcoma. *BMC Cancer,* **9**: 399 (2009). DOI: 10.1186/1471-2407-9-399.

Gultepe, E., Nagesha, D., Sridhar, S., and **Amiji, M.** Nanoporous inorganic membranes or coatings for sustained drug delivery from implantable devices. *Advanced Drug Delivery Reviews,* **62(3):** 305-315 (2010). DOI: 10.1002/jps.21939. [**Invited submission** for the special thematic issue on *"Targeted Delivery Using Inorganic Nanosystems"* edited by Dr. P. Mukherjee].

Sosnik, A. and **Amiji, M.** Nanotechnology solutions for infectious diseases in developing nations: preface. *Advanced Drug Delivery Reviews*, **62(4-5):** 375-357 (2010). DOI: 10.1016/j.addr.2009.11.010. [Special thematic issue on *"Nanotechnology Solutions for Infectious Diseases in Developing Nations"* edited by Professors A. Sosnick and **M.M. Amiji]**.

Chadwick, S., Kriegel, C., and **Amiji, M.** Nanotechnology solutions for mucosal immunization. *Advanced Drug Delivery Reviews*, **62(4-5):** 394-407 (2010). DOI: 10.1016/j.addr.2009.11.012. [Special thematic issue on *"Nanotechnology Solutions for Infectious Diseases in Developing Nations"* edited by Professors A. Sosnick and **M.M. Amiji]**.

das Neves, J., **Amiji, M.M.,** Bahia, M.F., and Sarmento, B. Nanotechnology-based systems for the treatment and prevention of HIV/AIDS. *Advanced Drug Delivery Reviews*, **62(4-5):** 458-477 (2010). DOI: 10.1016/j.addr.2009.11.017. [Special thematic issue on *"Nanotechnology Solutions for Infectious Diseases in Developing Nations"* edited by Professors A. Sosnick and **M.M. Amiji]**.

Brito, L., Chadrasekhar, S., Little, S.R., and **Amiji, M.M.** *In vitro* and *in vivo* studies of local arterial gene delivery and transfection using lipopolyplexes-embedded stents. *Journal of Biomedical Materials Research, Part A.,* **93(1):** 325-336 (2010). DOI: 10.1002/jbm.a.32488.

Migliore, M.M., Vyas, T.K., Campbell, R.C., **Amiji, M.M.,** and Waszczak, B.L. Brain delivery of proteins by the intranasal route of administration: A comparison of cationic liposomes versus aqueous solution formulations. *Journal of Pharmaceutical Sciences,* **99(4):** 1745-1761 (2010). DOI: 10.1002/jps.21939.

Gultepe, E., Nagesha, N., Casse, B.D.F., Banyal, R., Menon, L., Karma, A., **Amiji, M.,** and Sridhar, S. Sustained drug release from non-eroding nanoporous templates. *Small,* **6(2):** 213-216 (2010). DOI: 10.1002/smll.200901736.

Pagonis, T.C., Chen, J., Fontana, C.R., Devalapally, H., Ruggiero, K., Song, X. Foschi, F., Dunham, J., Skobe, Z., Yamazake, H., Tanner, A.C.R., Kent, R., **Amiji, M.M.,** and Soukos, N.S. Nanoparticle-based endodontic antimicrobial photodynamic therapy. *Journal of Endodontics,* **36(2):** 322-328 (2010). DOI: 10.1016/j.joen.2009.10.011.

das Neves, J., Sarmento, B., **Amiji, M.M.,** and Bahia, M.F. Development and validation of a rapid reversed-phase HPLC method for the determination of the non-nucleoside reverse transcriptase inhibitor dapivirine from polymeric nanoparticles. *Journal of Pharmaceutical and Biomedical Analysis,* **52(2):** 167-172. (2010). DOI: 10.1002/smll.200901736.

van Vlerken, L.E., Duan, Z., Little, S.R., Seiden, M., and **Amiji, M.M.** Augmentation of therapeutic efficacy in drug resistant tumor models using ceramide co-administration in temporal-controlled polymer-blend nanoparticle delivery systems. *The AAPS Journal,* **12(2):** 171-180 (2010). DOI: 10.1208/s12248-010-9174-4.

Chorny, M., Fishbein, I., Yellen, B.B., Alferiev, I.S., Bakay, M., Ganta, S., **Amiji, M.,** Friedman, G., and Levy, R.J. Targeting stents with local delivery of paclitaxel-loaded magnetic nanoparticles using uniform fields. *Proceedings of the National Academy of Sciences, USA.* **107(18):** 8346-8351 (2010). DOI: 10.1073/pnas.0909506107.

Susa, M., Iyer, A.K., Ryu, K., Choy, E., Hornicek, F.J., Mankin, H., Milane, L., **Amiji, M.M.,** and Duan, Z. Inhibition of ABCB1 (MDR-1) expression by siRNA nanoparticulate delivery system to overcome drug resistance in osteosarcoma. *PLoS ONE* **5(5):** e10764 (2010). DOI:10.1371/journal.pone.0010764.

Ganta, S., Devalapally, H., and **Amiji, M.** Curcumin enhances oral bioavailability and anti-tumor therapeutic efficacy of paclitaxel upon administration in nanoemulsion formulations. *Journal of Pharmaceutical Sciences,* **99(11):**4630-4641 (2010). DOI: 10.1002/jps.22157.

Brito, L., Chadrasekhar, S., Little, S.R., and **Amiji, M.M.** Non-viral eNOS gene delivery and transfection with stents for the treatment of coronary restenosis. *BioMedical Engineering OnLine,* **9:**56 (2010). DOI: 10.1186/1475-925X-9-56.

Amiji, M.M. Nanomedicine for cancer therapy. *Pharmaceutical Research,* **28(2):** 181-186. (2011). [Introduction in the special thematic issue on *"Nanomedicine for Cancer"* edited by **Professor M.M. Amiji**]. DOI: 10.1007/S11095-010-0261-0.

Susa, M., Milane, L., **Amiji, M.M.,** Hornicek, F.J., and Duan, Z. Nanomedicine: A promising modality for the treatment of sarcomas. *Pharmaceutical Research.* **28(2):** 260-272 (2011). DOI: 10.1007/s11095-010-0173-z (2010). [**Invited submission** in the special thematic issue on *"Nanomedicine for Cancer"* edited by **Professor M.M. Amiji**].

Ganta, S., Deshpande, D., Korde, A., and **Amiji, M.** A review of multifunctional nanoemulsion systems to overcome oral and CNS drug delivery barriers. *Molecular Membrane Biology,* **27(7):** 260-273 (2010). DOI: 10.3109/09687688.2010.497971. [**Invited submission** in the special thematic issue on *"Nanoparticles: Crossing Barriers and Membrane Interactions"* edited by Dr. A. Puri].

Lue, N., Ganta, S., Hammer, D.X., Mujat, M., Stevens, A.E., Ferguson, R.D., Rosen, D., **Amiji, M.,** and Iftemia, N. Preliminary evaluations of a nanotechnology-based approach for the more effective diagnosis of colon cancers. *Nanomedicine (London),* **5(9):** 1467-1479 (2010).

Milane, L., Duan, Z., and **Amiji, M.M.** Development of EGFR-targeted polymer blend nanocarriers for paclitaxel/lonidamine delivery to treat multi-drug resistance in human breast and ovarian tumor cells. *Molecular Pharmaceutics,* **8(1):** 185-203 (2011). DOI: 10.1021/mp1002653.

Kriegel, C. and **Amiji, M.** Oral TNFα gene silencing using a polymeric microsphere-based delivery system for the treatment of inflammatory bowel disease. *Journal of Controlled Release,* **150(1):** 77-86 (2011). DOI: 10.1016/j.jconrel.2010.10.002.

Dehelean, C.A., Feflea, S., Ganta, S., and **Amiji, M.M.** Anti-angiogenic effects of betulinic acid administered in nanoemulsion formulations using chorioallantoic membrane assay. *Journal of Biomedical Nanotechnology,* **7(2):** 317-324 (2011).

Milane, L., Duan, Z., and **Amiji, M.M.** Role of hypoxia and glycolysis in the development of multi-drug resistance in human tumor cells and the establishment of an orthotopic multi-drug resistant tumor model in nude mice using hypoxic pre-conditioning *Cancer Cell International,* **11:3** (2011). DOI: 10.1186/1475-2867-11-3.

Milane, L., Duan, Z., and **Amiji, M.M.** Pharmacokinetic and biodistribution analysis of combination paclitaxel and lonidamine delivery in an orthotopic animal model of multi-drug resistant breast cancer using EGFR-targeted polymeric nanoparticles. *Nanomedicine: Nanotechnology, Biology and Medicine,* **7(4):** 435-444 (2011). DOI: 10.1016/j.nano.2010.12.009.

Kriegel, C. and **Amiji, M**. Dual *TNF-α/Cyclin D1* gene silencing using an oral microparticle system as a novel strategy for the treatment of inflammatory bowel disease. *Clinical and Translational Gastroenterology,* **2:** e2 (2011). DOI:10.1038/ctg.2011.1.

Milane, L., Ganesh, S., Shah, S., Duan, Z., and **Amiji, M.** Multi-modal strategies for overcoming tumor drug resistance: hypoxia, Warburg's effect, stem cells, and multifunctional nanotechnology. *Journal of Controlled Release,* **155(2):** 237-247 (2011). DOI:10.1016/j.jconrel.2011.03.032.

das Neves, J., **Amiji, M.,** and Sarmento, B. Mucoadhesive nanosystems for vaginal microbicide development: friend or foe? *Wiley Interdisciplinary Reviews in Nanomedicine and Nanobiotechnology,* **3(4):** 389-399 (2011). DOI:10.1002/wnan.144.

das Neves, J., Bahia, M.F., **Amiji, M.,** and Sarmento, B. Mucoadhesive nanomedicines: measurement and modulation of mucoadhesion at the nanoscale. *Expert Opinion on Drug Delivery*, **8(8):** 1085-1104 (2011). DOI: 10.1517/17425247.2011.586334.

Abeylath, S.C., Ganta, S., Iyer, A., and **Amiji, M.** Combinatorial-designed multifunctional polymeric nanosystems for tumor-targeted therapeutic delivery. *Accounts of Chemical Research,* **44(10):** 1009-1017 (2011). DOI: 10.1021/ar2000106.

Milane, L., Duan, Z., and **Amiji, M.M.** Therapeutic efficacy and safety of combination paclitaxel/ lonidamine loaded EGFR-targeted nanoparticles for the treatment of multi-drug resistant breast cancer. *PLOS One,* **6(9):** e24075 (2011). DOI:10.1371/journal.pone.0024075.

Klepac-Ceraj, V., Patel, N., Song, X., Holewa, C., Patel, C., Kent, R., **Amiji, M.M.,** and Soukos, N.S. Photodynamic effects of methylene blue-loaded polymeric nanoparticles on dental plaque bacteria. *Lasers in Surgery and Medicine,* **43(7):** 600–606 (2011). DOI: 10.1002/LSM.21069.

Deshpande, D.D., Janero, D.R., and **Amiji, M.M.** Therapeutic strategies for endothelial dysfunction. *Expert Opinion on Biological Therapy***, 11(12):** 1637-1654 (2011). DOI: 10.1517/14712598.2011.625007.

Abeylath, S.C. and **Amiji, M.M.** *"Click"* synthesis of dextran macrostructures for combinatorial-designed self-assembled nanoparticles encapsulating diverse anticancer therapeutics. *Bioorganic and Medicinal Chemistry,* **19(21):** 6167-6173 (2011). DOI: doi:10.1016/j.bmc.2011.09.024.

Xu, J., Ganesh, S., and **Amiji, M.** Non-condensing polymeric nanoparticles for targeted gene and siRNA delivery. *International Journal of Pharmaceutics,* **427(1):** 21-34 (2012). DOI: 10.1016/j.ijpharm.2011.05.036. [**Invited submission** in the special thematic issue on *"Non-Viral Gene Delivery"* edited by Professors A. Salem and D. Burgess].

das Neves, J., Michiels, J., Ariën, K.K., Vanham, G., **Amiji, M.M.,** Bahia, M.F., and Sarmento, B. Polymeric nanoparticles improve the intracellular delivery, antiretroviral activity and safety of the microbicide drug candidate dapivirine. *Pharmaceutical Research,* **29(6):** 1468-1484 (2012). DOI: 10.1007/s11095-011-0622-3.

Xu, J. and **Amiji, M.** Gene delivery and transfection in human pancreatic cancer cells using epidermal growth factor receptor-targeted gelatin-based engineered nano-vectors. *Journal of Visualized Experiments (JoVE),* **(59):** e3612, (2012) DOI : 10.3791/3612.

Iftemia, N., Iyer, A., Hammer, D.X., Lue, N., Mujat, M., Pitman, M., and **Amiji, M.** Fluorescence-guided optical coherence tomography for colon cancer screening: a preliminary mouse study. *Biomedical Optics Express,* **3(1):** 178-191 (2012). DOI: 10.1364/BOE.3.000178.

Attarwala, H. and **Amiji, M.M.** Multi-compartmental nanoparticles-in-emulsion formulation for macrophage-specific anti-inflammatory gene delivery. *Pharmaceutical Research,* **29(6):** 1637-1649 (2012). DOI: 10.1007/s11095-012-0677-9.

Jain, S., Attarwala, H., and **Amiji, M.** Non-condensing polymeric gene delivery systems: principles and application. *Nano LIFE,* **1(3-4):** 219-237 (2012). DOI: 10.1142/S1793984410000249. [**Invited submission** in the special thematic issue on *"Nanomedicine: Therapeutics, Diagnostics, and Imaging"* edited by Professors S. Sofou and K. Rege].

Jain, S. and **Amiji, M.** Tuftsin-modified alginate nanoparticles as a non-condensing macrophage-targeted DNA delivery system. *Biomacromolecules,* **13(4):** 1074-1085 (2012). DOI: 10.1021/bm2017993.

Iyer, A., He, J., and **Amiji, M.** Image-guided nanosystems for targeted delivery in cancer therapy. *Current Medicinal Chemistry,* **19(19):** 3230-3240 (2012). DOI: 10.1007/s10103-012-1091-6. [**Invited review** for a special theme edition

on *"Chemical Engineering of Nanocarrier Surfaces for Efficient Drug Delivery to Severe Diseases"* edited by Professor J.L. Arias].

Talekar, M., Ganta, S., Singh, A., **Amiji, M.,** Kendall, J., Denny, W., and Garg, S. Phosphatidylinositol 3-kinase inhibitor (PIK75) containing surface functionalized nanoemulsion for enhanced drug delivery, cytotoxicity and pro-apoptotic activity in ovarian cancer cells. *Pharmaceutical Research,* **29(10):** 2874-2886 (2012). DOI: 10.1007/s11095-012-0793-6.

Min, C., Ohta K., Kajiya, M., Zhu, T., Shawama, K., Mawardi, H., Howait, M., Hirschfeld, J., Bahammam, L., Ichimonji, I., Ganta, S., **Amiji, M.,** and Kawai, T., The appetite peptide hormone ghrelin mediates antimicrobial activities. *Peptides,* **36(2):** 151-156 (2012). DOI: 10.1016/j.peptides.2012.05.006.

Borcan, F., Soica, C.M., Ganta, S., **Amiji, M.M.,** and Dehelean, C.A. Synthesis and preliminary *in vivo* evaluations of polyurethane nanostructures for transdermal drug delivery. *Chemistry Central Journal,* **6(1):** 87 (2012). DOI: 10.1186/1752-153X-6-87.

Kalariya, M., Ganta, S., and **Amiji, M.** Multi-compartmental vaccine delivery system for enhanced immune response to gp-100 peptide antigen in melanoma immunotherapy. *Pharmaceutical Research.* **29(12):** 3393-3403 (2012). DOI: 10.1007/s11095-012-0834-1.

das Neves, J., Rocha, C., Gonçalves, M.P., Carrier, R.L., **Amiji, M.,** Bahia, M.F., Sarmento, B. Interactions of microbicide nanoparticles with a simulated vaginal fluid. *Molecular Pharmaceutics,* **9(11):** 3347-3356 (2012). DOI: 10.1021/mp300408m.

Jain, S. and **Amiji, M.** Calcium alginate microparticles as a non-condensing DNA delivery and transfection system for macrophages. *Pharmaceutical Engineering – Journal of the International Society of Pharmaceutical Engineers,* **32(5):** 42-49, (2012).

das Neves, J., Bahia, M.F., **Amiji, M.,** Sarmento, B, and Bahia, F. Development and validation of an HPLC method for the assay of dapivirine in cell-based and tissue permeability experiments. *Journal of Chromatography, B.* **911:** 76-83 (2012). DOI: 10.1016/j.jchromb.2012.10.034.

Elangovan, S., Jain, S., Tsai, P.C., Margolis, H., and **Amiji, M.** Nano-sized calcium phosphate particles for periodontal gene therapy. *Journal of Periodontology,* **84(1):** 117-125 (2013). DOI: 1902/jop.2012.120012.

Fontana, C.R., Lerman, M.A., Patel, N., Grecco, C., Costa, C.A., **Amiji, M.M.,** Bagnato, V.S., and Soukos, N.S. Safety assessment of oral photodynamic therapy in rats. *Lasers in Medicine and Surgery,* **(2):** 479-486 (2013). DOI: 10.1007/s10103-012-1091-6.

Kobayashi, E., Iyer, A.K., Hornicek, F.J., **Amiji, M.M.,** and Duan, Z. Lipid-functionalized dextran nanosystems to overcome multidrug resistance in cancer: a pilot study. *Clinical Orthopaedics and Related Research,* **471(3):** 915-925 (2013). DOI: 10.1007/s11999-012-2610-2.

Kriegel, C., Attarwala, H., and **Amiji, M.** Multi-compartmental oral delivery systems for nucleic acid therapy in the gastrointestinal tract. *Advanced Drug Delivery Reviews,* **65:** 891–901 (2013). DOI: 10.1016/j.addr.2012.11.003. [**Invited review** for a special theme edition on *"Nanoparticles- and Biomaterials-Mediated Oral Delivery of Drug, Gene, and Immunotherapy"* edited by Professors K. Leong and H.W. Sung].

Ganesh, S., Iyer, A., Morrissey, D., and **Amiji, M.** Hyaluronic acid-based self-assembling nanosystems for CD44 target mediated siRNA delivery to solid tumors. *Biomaterials,* **34(13):** 3489-3502 (2013). DOI: 10.1016/j.biomaterials.2013.01.077.

Dehelean, C.A., Feflea, S, Gheorgheosu, D., Ganta, S., Cimpean, A.M. Muntean, D., and **Amiji, M.M.** Anti-angiogenic and anti-cancer evaluation of betulin nanoemulsion in chicken chorioallantoic membrane and skin carcinoma in Balb/c mice. *Journal of Biomedical Nanotechnology,* **9(4):** 577-589 (2013). DOI: 10.1166/jbn.2013.1563.

Xu, J., Gattacceca, F., and **Amiji, M.** Biodistribution and pharmacokinetics of EGFR-targeted thiolated gelatin nanoparticles following systemic administration in pancreatic tumor-bearing mice. *Molecular Pharmaceutics,* **10(5):** 2031-2044 (2013). DOI: 10.1021/mp400054e.

Shah, L., Yadav, S., and **Amiji, M.** Nanotechnology for CNS delivery of bio-therapeutic agents. *Drug Delivery and Translational Research,* **3:** 336–351 (2013). DOI: 10.1007/s13346-013-0133-3. [**Invited submission** for a special thematic edition on *"NanoBio Interface: From Lab to Clinic"* edited by Professors S. Mohapatra and S. Mohapatra].

Deshpande, D., Janero, D.R., and **Amiji. M.** Engineering of an ω-3 polyunsaturated fatty acid-containing nanoemulsion system for combination C6-ceramide and 17β-estradiol delivery and bioactivity in human vascular endothelial and smooth muscle cells. *Nanomedicine: Nanotechnology, Biology, and Medicine,* **9(7):** 885-894 (2013). DOI: 10.1016/j.nano.2013.02.007.

Talekar, M., Ganta, S., Singh, A., **Amiji, M.,** and Garg, S. Development of PIK-75 nano-suspension formulation with enhanced delivery efficiency and cytotoxicity for targeted anti-cancer therapy. *International Journal of Pharmaceutics,* **450(1-2):** 278-89 (2013). DOI: 10.1016/j.ijpharm.2013.04.057.

Kalariya, M. and **Amiji, M.** Systemic administration of gp-100 encoding DNA vaccine for melanoma using squalane oil-containing water-in-oil-in-water multiple emulsion system. *International Journal of Pharmaceutics,* **453(2):** 400-407 (2013). DOI: 10.1016/j.ijpharm.2013.05.028.

das Neves, J., Araújo, F., Andrade, F., Michiels, J., Ariën, K.K., Vanham, G., **Amiji, M.,** Bahia, M.F., and Sarmento, B. *In vitro* and *ex vivo* evaluation of polymeric nanoparticles for vaginal and rectal delivery of the anti-HIV drug dapivirine. *Molecular Pharmaceutics,* **10(7):** 2793–2807 (2013). DOI: 10.1021/mp4002365.

Ganesh, S., Iyer, A., Weiler, J., Morrissey, D., and **Amiji, M.** Combination of siRNA directed gene silencing with cisplatin reverses drug resistance in human non-small cell lung cancer. *Molecular Therapy – Nucleic Acids,* **30 (2):** e110 (2013). DOI: 10.1038/mtna.2013.29.

das Neves, J., **Amiji, M.,** Bahia, M.F., and Sarmento, B. Assessing the physical-chemical properties and stability of dapivirine-loaded polymeric nanoparticles. *International Journal of Pharmaceutics,* **456(2):** 307-314 (2013). DOI: 10.1016/j.ijpharm.2013.08.049.

Chernenko, T., Buyukozturk, F., Miljkovic, M., R. Carrier, Diem, M., and **Amiji, M.** Label-free Raman microspectral analysis for comparison of cellular uptake and distribution between non-targeted and EGFR-targeted biodegradable polymeric nanoparticles. *Drug Delivery and Translational Research,* **3:** 575–586 (2013). DOI: 10.1007/s13346-013-0178-3.

Ganesh, S., Iyer, A., Gattacceca, F., Morrissey, D., and **Amiji, M.** *In vivo* biodistribution of siRNA and cisplatin administered using CD44-targeted hyaluronic acid nanoparticles. *Journal of Controlled Release,* **172(3):** 699-706 (2013). DOI: 10.1016/j.jconrel.2013.10.016.

Iyer, A.K., Singh, A., Ganta, S., and **Amiji, M.M.** Role of integrated cancer nanomedicine in overcoming drug resistance. *Advanced Drug Delivery Reviews,* **65(13-14):** 1784-802. (2013). DOI: 10.1016/j.addr.2013.07.012. [**Invited submission** for a special theme edition on *"Nanotechnology and Drug Resistance"* edited by Professor T. Minko].

Jain, S., Doshi, A.S., Iyer, A.K., and **Amiji, M.M.** Multifunctional nanoparticles for targeting cancer and inflammatory diseases. *Journal of Drug Targeting,* **21(10):** 888-903. (2013). DOI: 10.3109/1061186X.2013.832769. [**Invited publication** for special thematic issue in honor of Professor Vladimir P. Torchilin – Recipient of the journal's 2013 Lifetime Achievement Award edited by **Professor M.M. Amiji**].

Cuccarese, M.F., Singh, A., **Amiji, M.,** and O'Doherty, G.A. A novel use of gentamicin in the ROS-mediated sensitization of NCI-H460 lung cancer cells to various anticancer agents. *ACS Chemical Biology,* **8(12):** 2771-2777 (2013). DOI: 10.1021/cb4007024.

Shah, L., Gattacceca, F., and **Amiji, M.M.** CNS delivery and pharmacokinetic evaluations of DALDA analgesic peptide analog administered systemically in nano-sized oil-in-water emulsion formulation. *Pharmaceutical Research,* **31(5):** 1315-1324 (2014). DOI: 10.1007/s11095-013-1252-8.

Xu, J., Singh, A., and **Amiji, M.** Redox-responsive EGFR targeted gelatin nanoparticles for delivery of combination wt-p53 expressing plasmid DNA and gemcitabine in the treatment of pancreatic cancer. *BMC Cancer,* **14**: 75 (2014). DOI:10.1186/1471-2407-14-75.

Kosovrasti, V.Y., Lukashev, D., Nechev, L.V., and **Amiji, M.M.** Novel RNA interference-based therapies for sepsis. *Expert Opinion on Biological Therapy,* **14(4):** 419-435. (2014). DOI: 10.1517/14712598.2014.875524.

Talekar, M., Boreddy, S., Singh, A., and **Amiji, M.** Tumor aerobic glycolysis: new insight into therapeutic strategies with targeted delivery. *Expert Opinion on Biological Therapy,* **14(8):** 1-15 (2014). DOI: 10.1517/14712598.2014.912270.

das Neves, J., Araújo, F., Andrade, F., **Amiji, M.,** Bahia, M.F., and Sarmento, B. Biodistribution and pharmacokinetics of dapivirine-loaded nanoparticles after vaginal delivery in mice. *Pharmaceutical Research,* **31(7):** 1834-1845 (2014). DOI: 10.1007/s11095-013-1287-x.

Deshpande, D., Kethireddy, S., Gattacceca, F., and **Amiji, M.** Comparative pharmacokinetics and tissue distribution analysis of systemically administered 17-β-estradiol and its metabolites *in vivo* delivered using a cationic nanoemulsion or a peptide-modified nanoemulsion system for targeting atherosclerosis. *Journal of Controlled Release,* **180:** 117-24 (2014). DOI: 10.1016/j.jconrel.2014.02.009.

Ganta, S., Talekar, M., Singh, A., Coleman, T.P., and **Amiji, M.M.** Nanoemulsions in translational research – Opportunities and challenges in targeted cancer therapy. *AAPS PharmSciTech,* **15(3):** 694-708 (2014). DOI: 10.1208/s12249-014-0088-9. [**Invited submission** for a special thematic issue of the journal entitled *"Translational Application of Nano Delivery Systems: Emerging Cancer Therapy"* edited by Professor M. Chougule].

Migliore, M., Ortiz, R., Dye, S., Campbell, R.C., **Amiji, M.,** and Waszczak, B. Neurotrophic and neuroprotective efficacy of intranasal GDNF in a rat model of Parkinson's disease. *Neuroscience,* **274C:** 11-23 (2014). DOI: http://dx.doi.org/10.1016/j.neuroscience.2014.05.019.

Ganta, S., Singh, A., Rawal, Y.H., Cacaccio, J., Patel, N.R., **Amiji, M.M.,** and Coleman, T.P. Development of a novel targeted theranostic nanoemulsion of docetaxel to overcome multidrug resistance in ovarian cancer. *Drug Delivery,* **5:** 1-13 (2014). DOI: 10.3109/10717544.2014.923068.

Ganta, S., Singh, A., Patel, N.R., Cacaccio, J., Rawal, Y.H., Davis, B.J., **Amiji, M.M.,** and Coleman, T.P. Development of EGFR targeted nanoemulsion for imaging and novel platinum therapy of ovarian cancer. *Pharmaceutical Research,* **31(9):** 2490-2502 (2014). DOI 10.1007/s11095-014-1345-z.

Iyer, A.K., Duan, Z., and **Amiji, M.M.** Nano-delivery systems for nucleic acid therapeutics in drug resistant tumors. *Molecular Pharmaceutics,* **11(8):** 2511-2526. (2014). DOI 10.1021/mp500024p. [**Invited submission** for a special thematic issue of the journal entitled *"Delivery Systems for Reversal of MDR"* edited by Drs. Y. Li and Y. Huang].

Singh, A., Talekar, M., Raikar, A., and **Amiji, M.** Macrophage-targeted delivery systems for nucleic acid therapy in inflammatory diseases. *Journal of Controlled Release,* **190:** 515–530 (2014). DOI: 10.1016/j.jconrel.2014.04.021. [**Invited submission** for the *Journal of Controlled Release* – 30th Anniversary special thematic issue edited by Professor S. Mitragotri].

Shah, L., Kulkarni, P., Ferris, C., and **Amiji, M.** Analgesic efficacy and safety of DALDA peptide analog delivery to the brain using nano-sized oil-in-water emulsion formulation. *Pharmaceutical Research,* **31(10):** 2724-2734 (2014). DOI: 10.1007/s11095-013-1252-8.

Singh. A., Talekar, M., Tran, T.H., Samantha, A., Sundaram, R., and **Amiji, M.M.** Combinatorial approach in the design of multifunctional polymeric nano-delivery systems for cancer therapy. *Journal of Material Chemistry B,* **2:** 8069-8084 (2014). DOI: 10.1039/c4tb01083c. [**Invited review article** for a special thematic issue of the journal entitled *"Nanoscale Biomaterials"* edited by Professors J. Green and J. Burdick].

Tran, T.H. and **Amiji, M**. Targeted delivery systems for biological therapies of inflammatory diseases. *Expert Opinion on Drug Delivery,* **12(3):** 1-22 (2014). DOI: 10.1517/17425247.2015.972931.

Nascimento, A.V, Singh, A., Bousbaa, H., Ferreira, D., Sarmento, B., and **Amiji, M.M.** *Mad2* checkpoint gene silencing using epidermal growth factor receptor-targeted chitosan nanoparticles in non-small cell lung cancer model. *Molecular Pharmaceutics,* **11(10):** 3515-3527 (2014). DOI: 10.1021/mp5002894.

Shah, R.R., O'Hagan, D.T., **Amiji, M.M.,** and Brito, L.A. The impact of particle size on vaccine adjuvants. *Nanomedicine (London),* **9(17):** 2671-2681 (2014). DOI: 10.2217/nnm.14.193.

Yang, X., Iyer, A.K., Singh, A., Choy, E., Hornicek, F.J., **Amiji**, **M.M.,** and Duan, Z. Cluster of differentiation (CD)-44 targeted hyaluronic acid-based nanoparticles for *MDR1* siRNA delivery to overcome drug resistance in ovarian cancer. *Pharmaceutical Research,* **32(6):** 2097-2109. (2015). DOI: 10.1007/s11095-014-1602-1.

Shah, R.R., Dodd, S., Schaefer, M., Ugozzoli, M., Singh, M., Gillis Otten, **Amiji, M.M.,** O'Hagan, D.T., and Brito, L.A. The development of self-emulsifying oil-in-water emulsion adjuvant and an evaluation of the impact of droplet size on performance. *Journal of Pharmaceutical Sciences,* **104(4):** 1352-1361 (2015). DOI: 10.1002/jps.24337.

Gao, Y., Shen, J.K., Milane, L., Hornicek, F.J., **Amiji, M.,** and Duan, Z. Targeted cancer therapy; nanotechnology approaches for overcoming drug resistance. *Current Medicinal Chemistry,* **22(11):** 1335-47 (2015). DOI: 10.2174/0929867322666150209151851.

Yang, X., Iyer, A.K., Singh, A., Choy, E., Hornicek, F.J., **Amiji, M.M.,** and Duan, Z. *MDR-1* siRNA loaded hyaluronic acid-based CD44 targeted nanoparticle systems circumvent paclitaxel resistance in ovarian cancer. *Nature Scientific Reports,* **5(8509):** 1-9 (2015). DOI: 10.1038/srep08509.

Ganta, S., Singh, A., Kulkarni, P., Keeler, A., Piroyan, A., Sawant, R., Patel, N., Davis, B., Ferris, C., Metzger, G., Zamboni, W., **Amiji, M.M.,** and Coleman, T.P. EGFR targeted theranostic nanoemulsion for image-guided ovarian cancer therapy. *Pharmaceutical Research,* **32(8):** 2753-2763 (2015). DOI: 10.1007/s11095-015-1660-z.

Yadav, S., Gattacceca, F., Panicucci, R., and **Amiji, M.M.** Comparative biodistribution and pharmacokinetic analysis of cyclosporine-A in the brain upon intranasal and intravenous administration in an oil-in-water nanoemulsion formulation. *Molecular Pharmaceutics*, **12(5):** 1523-1533 (2015). DOI: 10.1021/mp5008376.

Gao, Y., Foster, R., Yang, X., Feng, Y., Shen, J.K., Mankin, H.J., Hornicek, F.J., **Amiji, M.M.,** and Duan, Z. Up-regulation of CD44 in the development of metastasis, recurrence, and drug resistance of ovarian cancer. *Oncotarget,* **6(11):** 9313-9326 (2015). DOI: 10.18632/oncotarget.3220.

Tran, T.H., Mathiolabakis, G., Aldawsari, H.M., and **Amiji, M.M.** Exosomes as nano-carriers for immunotherapy of cancer and inflammatory diseases. *Clinical Immunology,* **160(1):** 46–58 (2015). DOI: 10.1016/j.clim.2015.03.021. [**Invited review article** for a special thematic issue of the journal entitled *"Nanotherapeutics in Autoimmunity and Transplantation"* edited by Professors W. Meng and N. Giannoukakis].

Milane, L., Trivedi, M., Singh, A., Talekar, M., and **Amiji, M.M.** Mitochondrial biology, targets, and drug delivery. *Journal of Controlled Release,* **207:** 40–58, (2015), DOI: 10.1016/j.jconrel.2015.03.036.

Zhang, L., Iyer, A., Yang, X., Kobayashi, E., Mankin, H., Hornicek, F., **Amiji, M.,** and Duan, Z. Polymeric nanoparticle-based delivery of microRNA-199a-3p inhibits proliferation and growth of osteosarcoma cells. *International Journal of Nanomedicine,* **10:** 2913–2924 (2015). DOI: http://dx.doi.org/10.2147/IJN.S79143.

Talekar, M., Tran, T.H., and **Amiji, M.** Translational nano-medicines: opportunities for targeted delivery in cancer and inflammatory diseases. *The AAPS Journal,* **17(4):** 813-827 (2015). [**Invited submission** for the special thematic issue of the journal entitled "*"Clinical and Commercial Translation of Drug Delivery Systems"* in honor of the 12th Annual Garnet E. Peck Symposium edited by Professors Y. Yeo and C. Svensson]. DOI: 10.1208/s12248-015-9772-2.

Talekar, M., Ouyang, Q., Goldberg, M., and **Amiji, M.** Co-Silencing of *PKM-2* and *MDR-1* sensitizes multidrug resistant ovarian cancer cells to paclitaxel in a murine model of ovarian cancer. *Molecular Cancer Therapeutics,* **14(7):** 1521-1531 (2015). DOI:10.1158/1535-7163.MCT-15-0100.

Oka, A., Talekar, M., Ouyang, O., Luther, E., and **Amiji, M.** Macrophage polarization and the effect of microRNA-155 administered in water-in-oil-in-water multiple emulsion formulations. *Journal of Clinical and Cellular Immunology* **6(326):** 2-7 (2015). [**Invited research article** for a special thematic issue of the journal entitled *"Macrophage Polarization"* edited by Professor D.J. Vigerust]. DOI: 10.4172/2155-9899.1000326.

Jain, S., Tran, T.H., and **Amiji, M.M.** Macrophage repolarization with targeted alginate nanoparticles containing IL-10 plasmid DNA for the treatment of experimental arthritis. *Biomaterials,* **61:** 162-177 (2015). DOI: 10.1016/j.biomaterials.2015.05.028.

Gandham, S.K., Talekar, M., Singh, A., and **Amiji, M.M.** Inhibition of hexokinase-2 with targeted liposomal 3-bromopyruvate in an ovarian tumor spheroid model of aerobic glycolysis. *International Journal of Nanomedicine,* **10:** 4405–4423 (2015). DOI: org/10.2147/IJN.S82818.

Mattheolabakis, G., Milane, L., Singh, A., and **Amiji, M.** Hyaluronic acid targeting of CD44 for cancer therapy: from receptor biology to nanomedicine. *Journal of Drug Targeting.* **23(7–8):** 605–618 (2015). DOI: 10.3109/1061186X.2015.1052072. [**Invited publication** for a special thematic issue of the journal in honor of MIT

Institute Professor Robert Langer - Recipient of the journal's 2015 Lifetime Achievement Award edited by Professor S. Mitragotri].

Lu, X., Tran, H., Jia, F., Tan, X., Davis, S., Krishnan, S., **Amiji, M.** and Zhang, K. Providing oligonucleotides with steric selectivity by brush polymer-assisted compaction. *Journal of the American Chemical Society,* **137(39):**12466-12469 (2015). DOI:10.1021/jacs.5b08069.

Milane, L., Singh, A., Mattheolabakis, G., Suresh, M. and **Amiji, M.M.** Exosome mediated communication within the tumor microenvironment. *Journal of Controlled Release*, **219:** (10) 278–294 (2015). DOI: 2015 10.1016/j.jconrel.2015.06.029. [**Invited publication** for the *Journal of Controlled Release* "Americas" Special Issue edited by Professors J. Hanes, L. Ensign, R. Kannan, and J.S. Suk].

Nguyen, C.T., Tran, T.H., **Amiji, M.,** Lu, X., and Kasi, R.M. Bio-responsive nanoparticles from amphiphilic cholesterol-based block copolymers for enhanced tumor intracellular release of doxorubicin. *Nanomedicine: Nanotechnology, Biology, and Medicine,* **11 (8):** 2071-2082 (2015). DOI: 10.1016/j.nano.2015.06.011.

Lin, M., Gao, Y., Hornicek, F., Xu, F., Lu, T.J., **Amiji, M.,** and Duan, Z. Near-infrared light activated delivery platform for cancer therapy. *Advances in Colloid and Interface Science,* **226 (part B):** 123–137 (2015). DOI: 10.1016/j.cis.2015.10.003.

Tran, T.H., Rastogi, R., Shelke, J., and **Amiji, M.M.** Modulation of macrophage functional polarity towards anti-inflammatory phenotype with plasmid DNA delivery in CD44 targeted hyaluronic acid nanoparticles. *Nature - Scientific Reports,* **5:** 16632 (2015). DOI: 10.1038/srep16632.

Nascimento, A.V., Singh, A., Bousbaa, H., Ferreira, D., Sarmento, B., and **Amiji. M.M.** Combinatorial-designed epidermal growth factor receptor-targeted chitosan nanoparticles for encapsulation and delivery of lipid-modified platinum derivatives in wild type and resistant non-small cell lung cancer cells. *Molecular Pharmaceutics,* **12 (12):** 4466–4477 (2015). DOI: 10.1021/acs.molpharmaceut.5b00642.

Singh, A., Xu, J., Mattheolabakis, G., and **Amiji, M.** EGFR-targeted gelatin nanoparticles for systemic administration of gemcitabine in an orthotopic pancreatic cancer model. *Nanomedicine: Nanotechnology, Biology, and Medicine,* **12(3):** 589-600 (2016). DOI: 10.1016/j.nano.2015.11.010.

Talekar, M., Trivedi, M., Shah, P., Ouyang, Q., Oka, A., Gandham, S.K., and **Amiji, M.M.** Combination wt-p53 and microRNA-125b transfection in a genetically engineered lung cancer model using dual EGFR/CD44 targeted nanoparticles. *Molecular Therapy,* **24(4):** 759-769 (2016). DOI: 10.1038/mt.2015.22.

Yadav, S., Gandham, S.K., Panicucci, R., and **Amiji, M.M.** Intranasal brain delivery of cationic nanoemulsion-encapsulated TNFα siRNA for prevention of experimental neuroinflammation. *Nanomedicine: Nanotechnology, Biology, and Medicine,* **12(4):** 987-1002, (2016). DOI: 10.1016/j.nano.2015.12.374.

Deshpande, D., Kethireddy, S., Janero, D.R., and **Amiji, M.M.** Therapeutic efficacy of an ω-3-fatty acid-containing estradiol nano-delivery system against experimental atherosclerosis. *PLOS One,* **11(2):** e0147337 (2016). DOI: 10.1371/journal.pone.0147337.

Hotta, R., Cheng, L., Graham, H.K., Nagy, N., Belkind-Gerson, J., Mattheolabakis, G., **Amiji, M.M.,** and Goldstein, A.M. Delivery of enteric neural progenitors with 5-HT4 agonist-loaded nanoparticles and thermosensitive hydrogel enhances cell proliferation and differentiation following transplantation *in vivo*. *Biomaterials*, **88:** 1-11 (2016). DOI: 10.1016/j.biomaterials.2016.02.016.

Nascimento, A.V., Gattacceca, F., Singh, A., Bousbaa, H., Ferreira, D., Sarmento, B., and **Amiji. M.M.** Biodistribution and pharmacokinetics of *Mad2* silencing siRNA administered in EGFR-targeted chitosan nanoparticles in cisplatin sensitive and resistant non-small cell lung cancer models. *Nanomedicine (London),* **11(7):** 767-781 (2016). DOI: 10.2217/nnm.16.14.

Berman, M., Mattheolabakis, G., Suresh, M., and **Amiji, M.M.** Reversing epigenetic mechanisms of drug resistance in solid tumors using targeted microRNA delivery. *Expert Opinion on Drug Delivery,* **13(7):** 987-998 (2016). DOI: 10.1080/17425247.2016.1178236.

Tran, T.H., Krishnan, S., and **Amiji, M.M.** MicroRNA-223 induced repolarization of peritoneal macrophages using CD44 targeting hyaluronic acid nanoparticles for anti-inflammatory effects. *PLOS One,* **11(5):** e0152024 (2016). DOI: 10.1371/journal.pone.0152024.

De Freitas, L.M., Fioramonti, G.M., Chorilli, C.M., Giusti, J.S.M., Bagnato, V.S., Soukos, N.S., **Amiji, M.M.,** and Fontana, C.R. Polymeric nanoparticle-based photodynamic therapy for chronic periodontitis. *International Journal of Molecular Sciences,* **17(5):** E769 (2016). DOI: 10.3390/ijms17050769.

Su, M.J., Aldawsari, H., and **Amiji, M.M.** Pancreatic cancer cell exosome-mediated macrophage reprogramming and the role of microRNAs 155 and 125b2 transfection using hyaluronic acid-based nanoparticle delivery systems. *Nature – Scientific Reports,* **6:** 30110 (2016). DOI: 10.1038/srep30110.

Trivedi, M.S., Talekar, M.V., Shah, P., Ouyang, Q., and **Amiji, M.M.** Modification of tumor cell exosome content by transfection with wt-p53 and microRNA-125b expressing plasmid DNA and its effect on macrophage polarization. *Oncogenesis,* **5:** e250 (2016). DOI:10.1038/oncsis.2016.52.

Mattheolabakis, G., Ling, D., Ahmad, G., and **Amiji, M.** Enhanced anti-tumor efficacy of lipid-modified platinum derivatives in combination with *survivin* silencing siRNA in resistant non-small cell lung cancer. *Pharmaceutical Research,* **33(12),** 2943-2953 (2016). DOI: 10.1007/s11095-016-2016-z.

Deshpande, D., Janero, D.R., Blanco, E., Cooke, J.P., and **Amiji, M.M.** Targeted nucleic acid delivery for endothelial dysfunction in cardiovascular diseases. *Methodist DeBakey Cardiovascular Journal,* **12(3):** 134-140 (2016). DOI: 10.14797/mdcj-12-3-134.

Kosovrasti, V.Y., Nechev, L.V., and **Amiji, M.M.** Peritoneal macrophage-specific TNFα gene silencing in an LPS-induced acute inflammation model using CD44 targeting hyaluronic acid nanoparticles. *Molecular Pharmaceutics,* **13(10):** 3404-3416 (2016). DOI: 10.1021/acs.molpharmaceut.6b00398.

Ahmad, G. and **Amiji, M.M.** Cancer stem cell-targeted therapeutics and delivery strategies. *Expert Opinion on Drug Delivery,* **1:** 1-12, (2016). DOI: 10.1080/17425247.2017.1263615.

Nascimento, A.V., Singh, A., Bousbaa, H., Ferreira, D., Sarmento, B., and **Amiji. M.M.** Overcoming cisplatin resistance in non-small cell lung cancer with *Mad2* silencing siRNA delivered systemically using targeted chitosan nanoparticles. *Acta Biomaterialia,* **47:** 71-80 (2017). DOI: 10.1016/j.actbio.2016.09.045.

Lin, M., Gao Y., Diefenbach, T.J., Shen, J.K., Hornicek, F.J., Xu, F., Lu, T.J., **Amiji, M.,** Duan, Z. Facial layer-by-layer engineering of upconversion nanoparticles for gene delivery: NIR initiated FRET tracking and overcoming drug resistance in ovarian cancer. *ACS Materials and Interfaces,* **9(9):** 7941–7949 (2017). DOI: 10.1021/acsami.6b15321.

Kadakia, E., Shah, L., and **Amiji, M.** Mathematical modeling and experimental validation of nanoemulsion-based drug transport across cellular barriers. *Pharmaceutical Research,* **34(7):** 1416-1427 (2017). DOI: 10.1007/s11095-017-2158-7.

Trivedi, M., Singh, A., Talekar, M., Pawar, P., Shah, P., Vazquez, N., and **Amiji, M**. MicroRNA-34a encapsulated in hyaluronic acid nanoparticles induces epigenetic changes resulting in altered mitochondrial bioenergetics and apoptosis in wild-type and resistant non-small-cell lung cancer cells. *Nature - Scientific Reports,* **7(3636):** 1-7 (2017). DOI:10.1038/s41598-017-02816-8.

Parayath, N.N. and **Amiji, M.M.** Therapeutic targeting strategies using endogenous cells and proteins. *Journal of Controlled Release,* **258:** 81-94 (2017). DOI: 10.1016/j.jconrel.2017.05.004.

Attarwala, H.Z., Clausen, V.A., Chaturvedi, P., and **Amiji, M.M.** Co-silencing of intestinal transglutaminase-2 and interleukin-15 using gelatin-based nanoparticles in an *in vitro* model of celiac disease. *Molecular Pharmaceutics,* **14(9):** 3036-3044 (2017). DOI: 10.1021/acs.molpharmaceut.7b0023.

Ahmad, G., El-Sadda, R., Botchkina, G., Ojima, I., Egan, J., and **Amiji, M.** Nanoemulsion formulation of a novel taxoid prodrug SBT-1214 conjugated with omega-3 fatty acid inhibits prostate cancer stem cell-induced tumor growth. *Cancer Letters,* **406:** 71-80, (2017). DOI: 10.1016/j.canlet.2017.08.004.

Chen, D., Ganesh, S., Wang, W., and **Amiji, M.** Plasma protein adsorption and biological identity of systemically administered nanoparticles. *Nanomedicine (London),* **12(17):** 2113-2135., (2017). DOI: 10.2217/nnm-2017-0178.

Russman, C and **Amiji, M.M.** Molecular imaging of sub-clinical diabetic retinopathy. *Journal of Ophthalmic and Vision Research,* **12(2):** 129–131 (2017). DOI: 10.4103/jovr.jovr_54_17.

Attarwala, H.Z., Han, M., Kim, J., and **Amiji, M.M.** Oral nucleic acid therapy using multi-compartmental delivery systems. *WIREs Interdisciplinary Reviews: Nanomedicine and Nanobiotechnology*, **10(2):** 2-20, (2018). DOI: 10.1002/wnan.1478.

Ahmad, G. and **Amiji, M.** Use of CRISPR/Cas9 gene editing tools for developing models in drug discovery. *Drug Discovery Today,* **23(3):** 519-533 (2018). DOI: 10.1016/j.drudis.2018.01.014.

Ahmad, G., Gattacecca, F., El-Sadda, R., Botchkina, G., Ojima, I., Egan, J., and **Amiji, M.** Biodistribution and pharmacokinetic evaluations of a novel taxoid DHA-SBT-1214 in an oil-in-water nanoemulsion formulation in naïve and tumor-bearing mice. *Pharmaceutical Research,* **35(4):** 91 (2018). DOI: 10.1007/s11095-018-2349-x.

Mueller, S.K., Scangas, G., **Amiji, M.M.,** and Bleier, B.S., Prospective trans-frontal sheep model of skull base reconstruction using vascularized mucosa. *International Forum of Allergy and Rhinology,* **8(5):** 614-619, (2018). DOI: 10.1002/alr.22058.

Padmakumar, S., Parayath, N., Leslie, F., Nair. S.V., Menon, D, and **Amiji, M.M.** Intraperitoneal chemotherapy for ovarian cancer using sustained-release implantable devices. *Expert Opinion on Drug Delivery,* **15(5):** 481-494, (2018). DOI: 10.1080/17425247.2018.1446938.

Parayath, N.N., Parikh, A., and **Amiji, M.M.** Repolarization of tumor-associated macrophages in a genetically engineered non-small cell lung cancer model by intraperitoneal administration of hyaluronic acid-based nanoparticles encapsulating microRNA-125b. *Nano Letters,* **18(6):** 3571-3579, (2018). DOI: 10.1021/acs.nanolett.8b00689.

Craig, K., Abrams, M., and **Amiji, M.** Preclinical and clinical advances in oligonucleotide conjugates. *Expert Opinion on Drug Delivery,* **15(6):** 629-640, (2018). DOI: 10.1080/17425247.2018.1473375.

Padmakumar, S., Bindhu Paul-Prasanth, B., Pavithran, K., Vijaykumar, D.K, Anupama, R, Sivanarayanan T.B., Kadakia, E., **Amiji, M.M.,** Nair. S.V., and Menon, D, Long-term drug delivery using implantable electrospun woven polymeric nano-textiles. *Nanomedicine: Nanotechnology, Biology, and Medicine,* **15(1):** 274-284, (2018). DOI: 10.1016/j.nano.2018.10.002.

Pawar, G.N., Parayath, N.N., Nocera, A.L., Bleier, B.S., and **Amiji, M.M**. Direct CNS delivery of proteins using thermosensitive liposome-in-gel carrier by heterotopic mucosal engrafting. *PLoS, ONE,* **13(12):** e0208122 (2018): DOI: 10.1371/journal.pone.0208122.

Nocera, A.L., Mueller, S.K., Stephan, J.R., Hing, L., Seifert, P., Nolan, E.M., Han, X., Lin, D.T., **Amiji, M.M.,** Libermann, T., and Bleier, B.S. Exosome swarms eliminate airway pathogens and provide passive epithelial immunoprotection through nitric oxide. *Journal of Allergy and Clinical Immunology,* **143(4):** 1525-1535 (2019). DOI: https://doi.org/10.1016/j.jaci.2018.08.046.

Yadav, S., Pawar, G., Kulkarni, P., Ferris, C., and **Amiji. M.** Brain delivery and anti-Inflammatory effects of intranasally-administered cyclosporine-A in cationic nanoemulsion formulations. *Journal of Pharmacology and Experimental Therapeutics.* **370(3):** 843-854 (2019). DOI: 10.1124/jpet.118.254672. [**Invited submission** for a Special Issue on *"Drug Delivery Technologies"* edited by Professor M.N.V. Ravikumar].

Aldawsari, H.M., Dhaliwal, H.K., Aljaeid, B.M., Alhakamy, N.A., Banjar, Z.A., and **Amiji, M.M.** Optimization of the conditions for plasmid DNA delivery and transfection with self-assembled hyaluronic acid-based nanoparticles. *Molecular Pharmaceutics,* **16(1):** 128-140. (2019). DOI: 10.1021/acs.molpharmaceut.8b00904.

Iyer, S., Radwan, A., Hafezi-Moghadam, A., Malyala, P., and **Amiji, M.** Long-acting intraocular delivery strategies for biological therapy of age-related macular degeneration. *Journal of Controlled Release,* **296:** 140-149 (2019) DOI: 10.1016/j.jconrel.2019.01.007.

Chen, D., Ganesh, S., Wang, W., and **Amiji, M.** Role of surface chemistry on serum protein corona-mediated cellular delivery and gene silencing with lipid nanoparticles. *Nanoscale,* **11:** 8760-8775 (2019). DOI: 10.1039/c8nr09855g.

Padmakumar, S., Parayath, N., Nair. S.V., Menon, D., and **Amiji, M.M.** Enhanced antitumor efficacy and safety with metronomic intraperitoneal chemotherapy for metastatic ovarian cancer using biodegradable nanotextile implants. *Journal of Controlled Release,* **305:** 29-40 (2019). DOI: 10.1016/j.jconrel.2019.05.022.

Kadakia, E., Bottino, D., and **Amiji, M.** Mathematical modeling and simulation to investigate the CNS transport characteristics of nanoemulsion-based drug delivery following intranasal administration. *Pharmaceutical Research,* **36(5)**: 75-93 (2019). DOI: 10.1007/s11095-019-2610-y.

Cho, Y., Milane, L., and **Amiji, M.** Genetic and epigenetic strategies for advancing ovarian cancer immunotherapy. *Expert Opinion on Biological Therapy,* **19(6):** 547-560 (2019). DOI: 10.1080/14712598.2019.1602605.

Sousa, F., Dhaliwal, H.K., Gattacceca, F., Sarmento, and **Amiji, M.M.** Enhanced anti-angiogenic effects of bevacizumab in glioblastoma treatment upon intranasal administration in biodegradable polymeric nanoparticles, *Journal of Controlled Release*, **309:** 27-37 (2019). DOI: 10.1016/j.jconrel.2019.07.033.

Parayath, N.N., Gandham, S.K., Leslie, F., and **Amiji, M.M.** Improved anti-tumor efficacy of paclitaxel in combination with MicroRNA-125b-based tumor-associated macrophage repolarization in epithelial ovarian cancer. *Cancer Letters,* **461:** 1-9 (2019). DOI: 10.1016/j.canlet.2019.07.002

Miyake, M. Workman, A., Nocera, A., Wu, D., Mueller, S., Finn, K., **Amiji, M.,** and Bleier, B. Discriminant analysis followed by unsupervised cluster analysis including exosomal cystatins predict presence of chronic rhinosinusitis, phenotype, and disease severity. *International Forum of Allergy & Rhinology,* **9(9):**1069-1076 (2019). DOI: 10.1002/alr.22380.

Saleh, B., Dhaliwal, H.K., Lara, R.P., Sani, E.S., Abdi, R., **Amiji, M.M.,** and Annabi, N. Local immunomodulation using an adhesive hydrogel loaded with miRNA laden nanoparticles accelerates wound healing. *Small,* **15(36):** e1902232**,** (2019) DOI: 10.1002/smll.201902232.

Kadakia, E., Harpude, P., Parayath, N., Bottino, D., and **Amiji, M.** Challenging the CNS targeting potential of systemically administered nanoemulsion delivery systems: a case study with rapamycin-containing fish oil nanoemulsions in mice. *Pharmaceutical Research,* **36(9):** 134 (2019), DOI: doi.org/10.1007/s11095-019-2667-7.

Shah, R.R., Taccone, M., Monaci, E., Brito, L.A., Bonci, A., O'Hagan, D.T., **Amiji, M.M.** and Seubert, A. The droplet size of emulsion adjuvants has significant impact on their potency, due to differences in immune cell-recruitment and activation. *Nature – Scientific Reports,* **9**, Article number: 11520 (2019). DOI:10.1038/s41598-019-47885-z.

Altuntas, S., Dhaliwal, H., Bassous, N, Radwan, E. A., Alpaslan, P., Webster, T., Buyukserin, F., *and* **Amiji, M.** Nano-pillared chitosan-gelatin films: an implant coating model for improved osteogenesis. *ACS Biomaterials Science and Engineering,* **5(9):** 4311-4322, (2019). DOI:10.1038/s41375-019-0540-7.

Ahmad, G., Mackenzie, G., Egan, J., and **Amiji, M.** DHA-SBT-1214 taxoid nanoemulsion and anti-PD-L1 antibody combination therapy enhances antitumor efficacy in a syngeneic pancreatic adenocarcinoma model. *Molecular Cancer Therapeutics,* **18(11):** 1961-1972 (2019). DOI: 10.1158/1535-7163.MCT-18-1046.

Rawal, M., Singh. A., and **Amiji, M.M.** Quality-by-design concepts to improve nanotechnology-based drug development. *Pharmaceutical Research,* **36(11):** 153 (2019). DOI: 10.1007/s11095-019-2692-6. [**Invited submissio**n for the special thematic issue of the journal on *"Nanotechnology in Cancer"* edited by Professors J. Reineke and J. Nicolazzo].

Chen, D., Parayath, N., Ganesh, S., Wang, W., and **Amiji, M.** Role of apolipoprotein**-** and vitronectin-enriched protein corona on lipid nanoparticles for *in vivo* targeted delivery and transfection of oligonucleotides in murine tumor models. *Nanoscale,* **11:** 18806–18824 (2019). DOI: 10.1039/C9NR05788A.

Fan, Y.F., Dhaliwal, H.K., Menon, A.V., Chang, J., Choi, J.E., **Amiji, M.M.,** and Kim, J. Site-specific intestinal DMT1 gene silencing to mitigate iron overload using pH-sensitive multicompartmental nanoparticulate oral delivery system. *Nanomedicine: Nanotechnology, Biology, and Medicine.* **22:** 102091 (2019). DOI: /10.1016/j.nano.2019.102091.

Lodaya, R., Kanitkar, A.P., Friedrich, K., Henson, D., Yamagata, R., Nuti, S., Mallett, C.P., Bertholet, S., **Amiji, M.M.,** O'Hagan, D.T. Formulation design, optimization and *in vivo* evaluations of an alpha-tocopherol-containing self-emulsified adjuvant system using inactivated influenza vaccine. *Journal of Controlled Release,* **316:** 12-21 (2019). DOI: 10.1016/j.jconrel.2019.10.042.

Parayath, N., Padmakumar, S., Nair, S.V., Menon, D., and **Amiji, M.M.** Strategies for targeting cancer immunotherapy through modulation of the tumor microenvironment. *Regenerative Engineering and Translational Medicine*, **6**: 29–49 (2020). DOI: 10.1007/s40883-019-00113-6. [**Invited submissio**n for the special issue of the journal as a tribute to Professor Robert Langer on his 70th Birthday edited by Professors J. Kohn, J. Green, and L. Nair].

Bae, J., Parayath, N., Ma, W., **Amiji, M.,** Munshi, N., and Anderson, K. BCMA peptide engineered nanoparticles enhance induction and function of antigen specific CD8+ cytotoxic T lymphocytes against multiple myeloma. *Nature – Leukemia,* **34**: 210–223 (2020), DOI: 10.1038/s41375-019-0540-7.

Padmakumar, S., Taha, M.S., Kadakia, E., Bleier, B.S., and **Amiji, M.M.** Delivery of neurotrophic factors in the treatment of age-related chronic neurodegenerative diseases. *Expert Opinion on Drug Delivery,* **17(3):** 323-340 (2020). DOI: 10.1080/17425247.2020.1727443.

Parayath, N.N., Padmakumar, S., and **Amiji, M.M.** Extracellular vesicle-mediated nucleic acid transfer and reprogramming in the tumor microenvironment. *Cancer Letters,* **482(10):** 33-43 (2020). DOI: 10.1016/j.canlet.2020.04.009. (2020). [**Invited submission** for a special thematic issue of the journal "*Exosomes: Emerging Insights in Cancer"* edited by Professors S. Singh and A. Singh].

Taha, M., Padmakumar, S., Singh, A., and **Amiji, M.M.** Critical quality attributes in the development of therapeutic nanomedicines towards clinical translation. *Drug Delivery and Translational Research,* **10**: 766–790, (2020), DOI: 10.1007/s13346-020-00744-1. [**Invited submission** for the special issue of the journal *"Fundamentals of Nanomedicines towards Clinical Translation"* edited by Professors B. Sarmento and S. Little].

Dhaliwal, H.K., Fan, Y., Kim, J., and **Amiji, M.M.** Intranasal delivery and transfection of mRNA therapeutics in the brain using cationic liposomes. *Molecular Pharmaceutics,* **17(6):** 1996-2005, (2020). DOI: 10.1021/acs.molpharmaceut.0c00170.

Hosur, V., Skelly, D.A., Francis, C., Low, B.E., Kohar, V., Burzenski, L.M., **Amiji, M.M.,** Shultz, L.D., and Wiles, M.V. Improved mouse models and advanced genetic and genomic technologies for the study of neutrophils. *Drug Discovery Today,* **25(6):**1013-1025, (2020). DOI: 10.1016/j.drudis.2020.03.018.

Chen, D., Ganesh, S., Wang, W., and **Amiji, M.** Protein corona-enabled systemic delivery and targeting of nanoparticles. *The AAPS Journal,* **22(4):** 83. (2020). DOI: 10.1208/s12248-020-00464-x. [**Invited submissio**n for the special issue of the journal *"Selected Highlights from the 2019 AAPS PharmSci 360"* edited by Professor A. Salem].

Gandham, S.K., Xianyi Su, X., Wood, J., Nocera, A.L, Alli, S.C., Milane, L., Zimmerman, A. **Amiji, M.,** and Ivanov, A.R. Technologies and standardization in research of extracellular vesicles. *Trends in Biotechnology,* **S0167-7799(20):** 30163-3, (2020). DOI: 10.10.16/j.tibtech.2002.05.012.

Patil, R., Srinivasarao, M., **Amiji, M,** Low, P.S., and Niedre, M. Fluorescence labeling of circulating tumor cells with a folate receptor targeted molecular probe for diffuse *in vivo* flow cytometry. *Molecular Imaging and Biology,* **22**: 1280–1289 (2020). DOI: 10.1007/s11307-020-01505-9.

Attarwala, A.Z., Suri, K., and **Amiji, M.M.** Pharmacokinetics and biodistribution analysis of siRNA for silencing tissue transglutaminase-2 in celiac disease after oral administration using gelatin-based multicompartmental delivery systems in mice. *Bioelectricity,* **2(2):** 167-174 (2020). DOI: 10.1089/bioe.2020.0008. [**Invited submission** for the special issue of the journal *"Electrically Charged Biomaterials for Drug Delivery and Tissue Repair"* edited by Professors A. Bajpayee and **M.M. Amiji**].

Taha, M., Nocera, A., Workman, A., **Amiji, M.M.,** Bleier, B.S. P-glycoprotein inhibition with verapamil overcomes mometasone resistance in chronic sinusitis with nasal polyps. *Rhinology,* **59(2):** 205-211, (2021). DOI: 10.4193/Rhin20.551.

Padmakumar, S., Jones, G., Pawar, G., Khorkova, O., Hsiao, J., Kim, J., **Amiji, M.M.,** and Bleier, B.S. Minimally invasive nasal depot (MIND) technique for direct BDNF AntagoNAT delivery to the brain. *Journal of Controlled Release,* **331:** 176–186 (2021). DOI: 10.1016/j.jconrel.2021.01.027.

Milane, LS. and **Amiji, M.M.** Clinical approval of nanotechnology-based SARS-CoV-2 mRNA vaccines: impact on translational nanomedicine. *Drug Delivery and Translational Research,* **11(4):** 1309-1315. (2021). DOI: /10.1007/s13346-021-00911-y. [**Invited** Inspirational Notes publication for the journal].

Chen, D., Ganesh, S., Wang, W., Lupieri, A., and **Amiji, M.** Role of vitronectin-rich protein corona on tumor-specific siRNA delivery and transfection with lipid nanoparticles. *Nanomedicine,* (*London).* **16(7):** 535-551, (2021). DOI: 10.2217/nnm-2020-0428.

Pawar, G.N., Parayath, N.N., Sharma, A.A., Colito, C., Khorkova, O., Hsiao, J., **Amiji, M.M.,** and Bleier, B.S. Endonasal CNS delivery system for blood-brain barrier impermeant therapeutic oligonucleotides using heterotopic mucosal engrafting. *Frontiers in Neuroscience: Neuropharmacology.* **12:** 660841, (2021). DOI: 10.3389/fphar.2021.660841.

Padmakumar, S., Jones, G., Khorkova, O., Hsiao, J., Kim, J., Bleier, B.S., and **Amiji, M.M.** Osmotic core-shell polymeric implant for sustained BDNF antagoNAT delivery in CNS using minimally invasive nasal depot (MIND) approach. *Biomaterials,* **276:** 120989, (2021). DOI: 10.1016/j.biomaterials.2021.120989.

Milane, L., Dolare, S., Jahan, T., and **Amiji, M.** Mitochondrial nanomedicine: subcellular organelle-specific delivery of molecular medicines. *Nanomedicine: Nanotechnology, Biology & Medicine,* **37:** 102422, (2021). DOI: 10.1016/j.nano.2021.102422. [**Invited review** article for a special issue of the journal entitled *"Innovative Technologies in Cardiovascular Nanomedicine"* edited by Professors A. Grattoni and J.P. Cooke].

Attarwala, A.Z., Suri, K., and **Amiji, M.M.** Co-silencing of tissue transglutaminase-2 and interleukin-15 genes in celiac disease mimetic mouse model using nanoparticle-in-microsphere oral system (NiMOS). *Molecular Pharmaceutics,* **18(8):** 3099-3107, (2021). DOI: 10.1021/acs.molpharmaceut.1c00322.

Suri, K., Bubier, J., Wiles, M.V., Shultz, L.D., **Amiji, M.M.,** and Hosur, V. Role of microRNA in inflammatory bowel disease: clinical evidence and the development of preclinical animal models. *Cells,* **10:** 2204, (2021). DOI: 10.3390/cells10092204.

Parayath, N.N., Hong, B.V., Mackenzie, G.G., and **Amiji, M.M.** Hyaluronic acid nanoparticles encapsulated microRNA-125b repolarizes tumor-associated macrophages in pancreatic cancer. *Nanomedicine,* (*London),* **16(25):** 2291-2303 (2021). DOI: 10.2217/nnm-2021-0080.

Francis, C., Wroblewska, L., Pegman, P., and **Amiji, M**. Systemic biodistribution and hepatocyte-specific gene editing with CRISPR/Cas9 using hyaluronic acid-based nanoparticles. *Nanomedicine: Nanotechnology, Biology, & Medicine,* **40:** 102488*,* (2022). DOI: 10.1016/j.nano.2021.102488.

Singh, A. and **Amiji, M.M.** Application of nanotechnology in medical diagnosis and imaging. *Current Opinion in Biotechnology,* **74:** 241–246 (2022). DOI: /10.1016/j.copbio.2021.12.011. [**Invited Submission** for the special issue of the journal entitled *"Nanobiotechnology 2022"* edited by Professors P.M. Tessier and R.S. Kane].

D'Souza, A.A., Kutlehria, S., Huang, D., Bleier, B.S., and **Amiji, M.M.** Nasal delivery of nano-therapeutics for central nervous system diseases: challenges and opportunities**.** *Nanomedicine,* (*London),* **20(30):** 2651-2655, (2022). DOI: 10.2217/nnm-2021-0311 C. [**Invited Submission** for the Commentary section of the journal].

Padmakumar, S., Kulkarni, P., Ferris, C.F., Bleier, B.S., and **Amiji, M.M.** Traumatic brain injury and the development of parkinsonism: understanding pathophysiology, animal models, and therapeutic targets. *Biomedicine and Pharmacotherapy,* **149:** 112812 (2022). DOI: 10.1016/j.biopha.2022.112812.

Gandham, S.K., Rao, M., Shah, A., Trivedi, M.S., and **Amiji, M.M.** Combination microRNA-based cellular reprogramming with paclitaxel enhances therapeutic efficacy in a relapsed and multidrug-resistant model of epithelial ovarian cancer. *Molecular Therapy – Oncolytics*, **25:** 57-68, (2022). DOI: 10.1016/j.omto.2022.03.005.

Doshi, A.S., Cantin, S., Prickett, L.B., Mele, D.A., and **Amiji, M.M.** Systemic nano-delivery of low-dose STING agonist targeted to CD103+ dendritic cells in cancer immunotherapy. *Journal of Controlled Release,* **345**: 721–733, (2022). DOI: 10.1016/j.jconrel.2022.03.054.

Nocera, A.N., Mueller, S.K., Workman, A., Wu, D., McDonnell, K., Sadow, P.M., **Amiji, M.M.,** and Bleier, B.S. Cystatin SN is a potent upstream initiator of epithelial derived Type 2 inflammation in chronic rhinosinusitis. *Journal of Allergy and Clinical Immunology,* **150(4):** 872-881, (2022). DOI: 10.1016/j.jaci.2022.04.034.

Kutlehria, S., D'Souza, A., Bleier, B.S., and **Amiji, M.M**. Role of 3D printing in the development of biodegradable implants for CNS delivery. *Molecular Pharmaceutics*, **19(12):** 4411–4427, (2022). DOI: 10.1021/acs.molpharmaceut.2c00344. [**Invited Publication** for the thematic issue of the journal entitled *"Interdisciplinary Integration of Biomaterials for Drug and Gene Therapy"* edited by Professors N. Brogden and M. Chougule].

Gandham, S.K., Attarwala, H.Z., and **Amiji, M.M.** Mathematical modeling and experimental validation of extracellular vesicles-mediated tumor suppressor microRNA delivery and propagation in ovarian cancer cells. *Molecular Pharmaceutics,* **11:** 4067–4079, (2022). DOI: 10.1021/acs.molpharmaceut.2c00525.

Padmakumar, S., D'Souza, A., Parayath, N.N., Bleier, B.S., and **Amiji, M.M.** Nucleic acid therapies for CNS diseases: pathophysiology, targets, barriers, and delivery strategies. *Journal of Controlled Release,* **352:** 121-145, (2022). DOI: 10.1016/j.jconrel.2022.10.018. [**Invited Publication** for the thematic issue of the journal entitled *"VSI: JCR Editorial Board Member"* edited by Assistant Editors Professors A.B. García, D. Ling, and D. Manickam].

Parayath, N.N., Gandham, S.K., and **Amiji, M.M.** Tumor-targeted microRNA nanomedicine for overcoming challenges in immunity and therapeutic resistance. *Nanomedicine, (London),* **17(19):** 1355-1373, (2022). DOI: 10.2217/nnm-2022-0130.

Francis, C. and **Amiji, M.** Expanding CRISPR repertoire using CjCas9 as a smaller editing tool. *Molecular Therapy – Nucleic Acid,* **30:** 64-65, (2022). DOI: 10.1016/j.omtn.2022.09.013. [**Invited** commentary article by the journal editor].

Craig, K., Abrams, M., and **Amiji, M.** Cholesterol-conjugated siRNA silencing *Tnf* for the treatment of liver macrophage-mediated acute inflammation in non-alcoholic fatty liver disease. *Nucleic Acid Therapeutics,* **33(1):** 35-44. (2023). DOI: 10.1089/nat.2022.0038.

D'Souza, A., Nozohouri, S., Bleier, B.S., and **Amiji, M.M.** CNS delivery of nucleic acid therapeutics: beyond the blood-brain barrier and towards specific cellular targeting. *Pharmaceutical Research,* **40(1):** 77-105, (2023). DOI: 10.1007/s11095-022-03433-5. [**Invited Publication** for the thematic issue of the journal entitled *"Nucleic Acid Delivery"* edited by Professors G. Shi and Z.R. Lu].

Altuntas, S., Dhaliwal, H., Radwan, E. A., **Amiji, M.,** and Buyukserin, F. Local epidermal growth factor delivery using nano-pillared chitosan-gelatin films for melanogenesis and wound healing. *Biomaterial Science,* **11**: 181-194 (2023). DOI: 10.1039/d2bm00836j.

Huang, D., Taha, M.S., Nocera, A.L., Workman, A.D., **Amiji, M.M.,** and Bleier, B.S. Cold exposure impairs extracellular vesicle swarm mediated nasal anti-viral immunity. *Journal of Allergy and Clinical Immunology,* **151(2):** 509-525-e8, (2023). DOI: 10.1016/j.jaci.2022.09.037.

Suri, K., D'Souza, A., Huang, D., Bhavsar, A., and **Amiji, M.** Bacterial extracellular vesicle applications in cancer immunotherapy. *Bioactive Materials,* **22**: 551–566, (2023). DOI: 10.1016/j.bioactmat.2022.10.024 [**Invited Publication** for the thematic issue of the journal entitled *"Cancer Nanomedicine: Precision Delivery and Advanced Targeting Strategies"* edited by Professors R. Kankala, W. Tao, and P.N. Gupta].

Lodaya, R.N., Kanitkar, A.P., Ashraf, A., Bamba, D., **Amiji, M.M.,** O'Hagan, D.T. A self-emulsified adjuvant system containing alpha tocopherol induced higher neutralizing antibody responses than a squalene only emulsion against a recombinant Cytomegalovirus (CMV) pentamer antigen. *Pharmaceutics,* **15(1):** 238-252, (2023). DOI: 10.3390/pharmaceutics15010238.

Taha, M., Kutlehria, S., Bleier, B.S., and **Amiji, M.M**. Topical administration of verapamil in poly(ethylene glycol)-modified liposomes for enhanced bioavailability and sino-nasal tissue residence in chronic rhinosinusitis: *ex vivo* and *in vivo* studies. *Molecular Pharmaceutics,* **20(3):** 1729-1736, (2023). DOI: 1021/acs.molpharmaceut.2c00943.

Hussain, H., Ganesh, A., Milane, L, and **Amiji, M.** Lessons learned from the SARS-CoV-2 pandemic; from nucleic acid nanomedicines, to clinical trials, herd immunity, and the vaccination divide. *Expert Opinion on Drug Delivery,* **20(4):** 489-506, (2023). DOI: /10.1080/17425247.2023.2189697.

Padmakumar, S. and **Amiji, M.M**. Long-acting therapeutic delivery systems for the treatment of gliomas. *Advanced Drug Delivery Reviews*, **197:** 114853, (2023). DOI: 10.1016/j.addr.2023.114853. [**Invited Publication** for the thematic issue of the journal entitled *"Long-Acting Therapeutics: Development Strategies and Clinical Significance"* edited by Professors S. Jain and A. Jindal].

Milane, L.S., Dolare, S., Ren, G., and **Amiji, M.M.** Combination organelle mitochondrial endoplasmic reticulum therapy (COMET) for multidrug resistant breast cancer. *Journal of Controlled Release,* **363:** 435-451 (2023). DOI: 10.1016/j.jconrel.2023.09.023. [**Invited Publication** for the thematic issue of the journal entitled *"VSI in Honor of Professor Kinam Park"* edited by **Professors M.M. Amiji**, R. Gemeinhart, T. Li, and Y. Yeo].

Chua, A.J., Di Francesco, V., Huang, D., D'Souza, A., Bleier, B.S., and **Amiji, M.M.** Nanotechnology-enabled topical delivery of therapeutics for chronic rhinosinusitis. *Nanomedicine (London),* **18(20):**1399-1415 (2023). DOI: 10.2217/nnm-2023-0072.

D'Souza, A.A., Kulkarni, P., Ferris, C.F., **Amiji, M.M.,** Bleier, B.S. Mild repetitive TBI reduces brain derived neurotrophic factor (BDNF) in the substantia nigra and hippocampus: A preclinical model for testing BDNF-targeted therapeutics. *Experimental Neurology*, **374**, 114696, (2024). DOI: 10.1016/j.expneurol.2024.114696.

Di Francesco, V., Chua, A.J., Huang, D., D'Souza, A., Yang, A., Bleier, B.S., and **Amiji, M.M.** RNA therapeutics for CNS diseases. *Advanced Drug Delivery Reviews,* **208:** 115283 (2024). DOI: 10.1016/j.addr.2024.115283. [**Invited Publication** for the thematic issue of the journal entitled *"RNA Delivery Technologies: From Concept toward the Clinic"* edited by Professors M. Blanco-Prieto and E. Garbayo-Atienza].

Bitounis, D., E. Jacquinet, Rogers, M., and **Amiji, M.M.** Strategies to reduce the risks of mRNA drug and vaccine toxicity. *Nature Reviews Drug Discovery,* **23**: 281–300 (2024). DOI: 10.1038/s41573-023-00859-3.

Oza, D., Ivich, F., Pace, J., Yu, M., Niedre, M., and **Amiji, M.** Lipid nanoparticle encapsulated large peritoneal macrophages migrate to the lungs via the systemic circulation in a model of clodronate-mediated lung-resident macrophage depletion. *Theranostics,* **14(6):** 2526-2543 (2024). DOI: 10.7150/thno.91062.

Bitounis, D. and **Amiji, M.M.** Lipid nanoparticles target haematopoietic stem cells. *Nature Nanotechnology,* **19,** 1249-1250 (2024). DOI: 10.1038/s41565-024-01682-6. [**Invited** News and Views article by the journal editor].

Agarwal, P., Reid, D.L., and **Amiji, M.M.** CNS delivery of targeted protein degraders. *Journal of Controlled Release,* **372:** 661-673, (2024). DOI: 10.1016/j.jconrel.2024.06.057.

Di Francesco, V., Chua, A.J., Davoudi, E., Kim, J., Bleier, B.S., and **Amiji, M.M.** Minimally Invasive Nasal Infusion (MINI) approach for CNS delivery of protein therapeutics: a case study with ovalbumin. *Journal of Controlled Release,* **372:** 674-681, (2024). DOI: 10.1016/j.jconrel.2024.06.056.

Suri, K., Pfeifer, L., Cvet, D., Li, A., McCoy, M., Singh, A., and **Amiji, M.M.** Oral delivery of stabilized lipid nanoparticles for nucleic acid therapeutics. *Drug Delivery and Translational Research,* Published Online, (2024). DOI: 10.1007/s13346-024-01709-4.

Kulkarni, M.P., Paudel, K.R., Saeid, A.B., De Rubis, G., Chellappan, D.K., Singh, M., Sachin Kumar Singh, S.K., Gupta, G., Shahbazi, M.A., Oliver, B.G.G., **Amiji, M.M.,** Santos, H.A., and Dua, K. Interplay of nano-based delivery systems and protein signaling in ameliorating lung diseases. *Journal of Drug Delivery Science and Technology,* **102:** 106432, (2024). DOI: 10.1016/j.jddst.2024.106432.

Chua, A.J., Di Francesco, V., D'Souza, A., **Amiji, M.M.,** and Bleier, B.S. Murine model of minimally invasive nasal depot (MIND) technique for central nervous system delivery of blood-brain barrier impermeant therapeutics. *Nature - Lab Animal,* Published Online, (2024). DOI: 10.1038/s41684-024-01460-w.

Bhangde, S., Fresnay-Murray, S., Garretson, T., Ashraf, A., O'Hagan, D.T., **Amiji, M.M.,** and Lodaya, R.N. Microfluidic-chip-based formulation and *in vivo* evaluations of squalene oil emulsion adjuvants for subunit vaccines. *Vaccines*, **12:** 1343 (2024). DOI: 10.3390/vaccines12121343.

Di Francesco, V., Chua, A., Bleier, B.S., and **Amiji, M.M.** Effective nose-to-brain delivery of blood-brain barrier impermeant anti-IL-1β antibody via the minimally invasive nasal depot (MIND) technique. *ACS Applied Materials and Interfaces,* Published Online, (2024). DOI: 10.1021/acsami.4c18679.

D'Souza, A.A. and **Amiji, M.M.** Dual polymer carboxymethyl cellulose (CMC) and poly(ethylene oxide) (PEO)-based gel for the prevention of post-surgical adhesions. *Journal of Biomedical Material Research: Part A,* **113:** e378522025, (2025). DOI: 10.1002/jbm.a.37852.

Iyer, S., Lee, C., and **Amiji, M.M.** Biodegradable polymeric microsphere formulations of full-Length anti-VEGF antibody bevacizumab for sustained intraocular delivery. *Drug Delivery and Translational Research,* (In press).

Oza, D., Ivich, F., Deprey, K., Bittner, K., Bailey, K., Goldman, S., Yu, M., Niedre, M., Tu, H.C., and **Amiji, M.M.** Treatment of acute liver injury through selective tropism of RNAi-mediated *HMGB1* silenced GATA6+ large peritoneal macrophages. *ACS Nano,* (In review).

D'Souza, A.A., Kulkarni, P., Khorkova, O., Ferris, C.F., **Amiji, M.M.,** and Bleier, B.S. Sustained BDNF AntagoNAT delivery reverses parkinsonian pathology in PINK-1 knock-out rats. *Progress in Neurology,* (In review).

Suri, K., Hosur, V., Panchakshari, R., and **Amiji, M.M.** A multi-modal therapeutic strategy for inflammatory bowel disease using microRNA-146a mimic encapsulated in lipid nanoparticles, *Molecular Pharmaceutics, (*In review).

Conference Proceedings (partial listing)

Bapat, N., **Amiji, M.,** and Boroujerdi, M. Adsorption isotherms of doxorubicin on oxidized dextran. *Pharmaceutical Research,* **5:** S-143 (1988).

Park, H., **Amiji, M.,** and Park, K. Mucoadhesive hydrogels effective at neutral pH. *Proceedings of the International Symposium on the Controlled Release of Bioactive Materials,* **16:** 217-218 (1989).

Park, K., Mao, F.W., **Amiji, M.,** and Park, H. The minimum amount of biologically active fibrinogen necessary for surface-induced platelet activation. *Transactions of the Society for Biomaterials,* **13:** 137 (1990).

Park, K. and **Amiji, M.** Mechanism of surface passivation by albumin. *Proceedings of the Cardiovascular Science and Technology Conference: Basic and Applied,* **5:** 245-247 (1990).

Amiji, M. and Park, K. Mechanism study on the prevention of surface-induced platelet activation by adsorbed albumin. *Transactions of the Surfaces in Biomaterials '91 Symposium,* **1:** 1-5 (1991).

Amiji, M., Park, H., and Park, K. Prevention of protein adsorption and platelet adhesion by steric repulsion. *Transactions of the Society for Biomaterials,* **14:** 41 (1991).

Amiji, M. and Park, K. Surface passivating effect of PEO/PPO/PEO triblock copolymers. *Polymer Preprints,* **33:** 501-502 (1992).

Amiji, M. and Park. K. Analysis on the surface adsorption of PEO/PPO/PEO triblock copolymers. *Proceedings of the American Chemical Society: Division of Polymeric Materials, Science, and Engineering,* **67:** 211 (1992).

Amiji, M. and Park, K. Prevention of protein adsorption on surfaces by PEO/PPO/PEO triblock copolymers. *Pharmaceutical Research,* **9:** S-115 (1992).

Amiji, M. and Park, K. Adsorption behavior of PEO/PPO/PEO triblock copolymers on DDS-glass. *Transactions of the Society for Biomaterials,* **17:** 137 (1994).

Amiji, M.M. and Patel, V.R. Development of poly(ethylene oxide)-chitosan blend membranes for hemodialysis. *Transactions of the Society for Biomaterials,* **17:** 108 (1994).

Amiji, M.M. and Patel, V.R. Chitosan-poly(ethylene oxide) semi-IPN as a pH-sensitive drug delivery system. *Polymer Preprints,* **35:** 403-404 (1994).

Amiji, M. Shah, E. and Boroujerdi, M. Pyrene fluorescence study of insulin denaturation and aggregation at hydrophobic interfaces. *Pharmaceutical Research,* **11:** S-81(1994).

Amiji, M.M. and Patel, V.R. Chitosan-poly(ethylene oxide) hydrogels for pH-sensitive oral drug delivery. *Proceedings of the International Symposium on the Controlled Release of Bioactive Materials,* **22:** 330-331 (1995).

Amiji, M.M. and Patel, V.R. Site-specific oral delivery of antibiotics using pH-sensitive hydrogels. *Proceedings of the American Chemical Society's Conference on Formulations and Drug Delivery* **1:** 38 (1995).

Amiji, M.M. Surface modification of chitosan hemodialysis membranes with anionic polysaccharides. *Transactions of the Fifth World Biomaterials Congress,* **1:** 879 (1996).

Amiji, M.M. Modification of chitosan membrane surfaces by the complexation-interpenetration of anionic polysaccharides. *Transactions of the Surfaces in Biomaterials '96 Symposium,* **6:** 108-112 (1996).

Amiji, M.M. Chitosan surface modification with anionic poly(ethylene glycol) derivative for improved blood compatibility. *Proceedings of the First International Symposium on Advanced Biomaterials,* **1:** 73 (1997).

Qaqish, R.B., Patel, V.R., and **Amiji, M.M.** The role of gastric pH and mucin permeability on localized antibiotic delivery for *H. pylori* infection. *Pharmaceutical Research* **14:** S-707 (1997).

Shah, S., Qaqish, R., and **Amiji, M.** Mucoadhesive chitosan microspheres for stomach-specific antibiotic delivery. *Pharmaceutical Research,* **14:** S-711 (1997).

Amiji, M.M. Surface modification of chitosan by polyelectrolyte complexation-interpenetration to improve biocompatibility. *Pharmaceutical Research,* **14:** S-151 (1997).

McQueen, C., Silvia, A., Lai, P.K., and **Amiji, M.** Surface modification of chitosan microspheres to improve biocompatibility. *Transactions of the Society for Biomaterials.* **22:** 239 (1999).

Lai, P.K., Nguyen, T., and **Amiji, M.** Novel thermogelling paclitaxel formulation for localized delivery. *Transactions of the Society for Biomaterials,* **22:** 321 (1999).

Nguyen, T., Lai, P.K., Anderson, D., and **Amiji, M.** Membranes formed by physical interpenetration of chitosan with PEO/PPO/PEO triblock copolymers. *Proceedings of the International Symposium on the Controlled Release of Bioactive Materials,* **26:** 320 (1999).

Hejazi, R. and **Amiji, M.** Preparation and characterization of cross-linked chitosan microspheres for delivery of tetracycline locally in the stomach. *AAPS PharmSci Supplement* **2:** (2000).

Mak, K.D., Nip, C.S., and **Amiji, M.** Permselective membranes prepared by physical interpenetration of chitosan with PEO/PPO/PEO triblock copolymers. *Proceedings of the American Association of Pharmaceutical Scientists – Pharmaceutical Congress of the Americas,* **1:** 114 (2001).

Amiji, M., Lai, P.K., Shenoy, D., and Rao, M. Intratumoral administration of paclitaxel in a thermogelling Pluronic® F-127 formulation. *Proceedings of the American Association of Pharmaceutical Scientists – Pharmaceutical Congress of the Americas.* **1:** 129 (2001).

Nsereko, S., and **Amiji, M.M.** Biodegradable chitin-paclitaxel microparticle formulations for localized drug delivery. *Proceedings of the American Association of Pharmaceutical Scientists – Pharmaceutical Congress of the Americas,* **1:** 129 (2001).

Chawla, J.S. and **Amiji, M.M.** Poly(epsilon-caprolactone) nanoparticles for intracellular delivery of tamoxifen. *AAPS PharmSci Supplement,* **3:** (2001).

Taqieddin, E. and **Amiji, M.** Perm-selective alginate-chitosan hybrid microcapsules for enzyme immobilization. *AAPS PharmSci Supplement,* **3:** (2001).

Gupta, M., Williams, D.A., Jambhekar, S.S., **Amiji, M.M.,** and Bhargava, H.N. Design and *in vitro* evaluation of colon specific delivery system for budesonide, a novel glucocorticoid. *AAPS PharmSci Supplement,* **3:** (2001).

Kaul, G. and **Amiji, M.** Cellular uptake, trafficking, and DNA transfection studies with poly(ethylene glycol)-modified gelatin nanoparticles. *AAPS PharmSci Supplement,* **4:** (2002).

Shenoy, D.B., Chawla, J.S., and **Amiji, M.M.** Polymeric nanoparticles for targeted and controlled tamoxifen delivery in breast cancer: *in-vitro* and *in-vivo* investigations. *AAPS PharmSci Supplement,* **6:** (2004).

Kommareddy, S. and **Amiji, M.M.** Preparation of thiolated gelatin nanoparticles for rapid intracellular delivery in response to glutathione. *AAPS PharmSci Supplement,* **6:** (2004).

Kaul, G. and **Amiji, M.M.** Biodistribution and targeting potential of poly(ethylene glycol)-modified gelatin nanoparticles in tumor-bearing mice. *AAPS PharmSci Supplement,* **6:** (2004).

Bhavsar. M. and **Amiji, M.M.** Nanoparticles-in-microsphere hybrid systems for oral DNA vaccine delivery. *AAPS PharmSci Supplement,* **6:** (2004).

Fu, W., Shenoy, D., Li, J., Crasto, C., Jones, G., Dimarzio, C., Sridhar, S., and **Amiji, M.** Biomedical applications of gold nanoparticles functionalized using hetero-bifunctional poly(ethylene glycol) spacer. *Materials Research Society Symposium Proceedings (Nanoscale Materials Science in Biology and Medicine),* **845:** 223-228 (2005).

Kaul, G. and **Amiji, M.** Biodistribution and tumor-targeting potential of poly(ethylene glycol)-modified gelatin nanoparticles. *Materials Research Society Symposium Proceedings, (Nanoscale Materials Science in Biology and Medicine),* **845:** 229-235 (2005).

Shenoy, D.B., Chawla, J.S., and **Amiji, M.M.** Biodegradable polymeric nanoparticles for tumor-selective tamoxifen delivery: *In vitro* and *In vivo* studies. *Materials Research Society Symposium Proceedings (Nanoscale Materials Science in Biology and Medicine),* **845:** 369-373 (2005).

Fu, W., Saini, G., Shenoy, D., Nagesha, D., **Amiji, M.,** and Sridhar, S. Gold and iron-gold nanoparticles for intracellular tracking and *in vivo* medical applications. *Proceedings of the American Physical Society Meeting* (2005).

Fu, W., Shenoy, D., Li, J., Crasto, C., Jones, G., Dimarzio, C., Sridhar, S., and **Amiji, M.** Hetero-bifunctional poly(ethylene glycol) modified gold nanoparticles as an intracellular tracking and delivery agent. *Proceedings of the NSTI Nanotech 2005, NSTI Nanotechnology Conference and Trade Show*, Anaheim, California, May 8-12, (2005).

Saini, G., Shenoy, D., Nagesha, D. K., Kautz, R., Sridhar, S., **Amiji, M.** Superparamagnetic iron oxide-gold core-shell nanoparticles for biomedical applications. *Proceedings of the NSTI Nanotech 2005, NSTI Nanotechnology Conference and Trade Show*, Anaheim, California, May 8-12, (2005).

Bhavsar, M., Tiwari, S., and **Amiji, M.** Formulation optimization for the nanoparticles-in-microsphere hybrid oral delivery system using factorial design. *The AAPS Journal,* **7: S2,** Abstract W4128 (2005).

Kommareddy, S. and **Amiji, M.** Formulation development and *in vivo* biodistribution studies of poly(ethylene glycol)-modified thiolated gelatin nanoparticles. *The AAPS Journal,* **7: S2**, Abstract W5088 (2005).

Tiwari, S., Shenoy, D., and **Amiji, M.** Novel nanoemulsions for improved oral delivery of hydrophobic drugs. *The AAPS Journal,* **7: S2,** Abstract M1184 (2005).

Tiwari, S., Song, Y.-H., Kamath, K., Barry, J., and Amiji, M. Application of statistical factorial design for the preparation of poly(styrene-b-isobutylene-b-styrene) triblock copolymer microspheres. *The AAPS Journal,* **7: S2**, Abstract R6151 (2005).

Sridhar, S., **Amiji, M.,** Shenoy, D., Nagesha, D., Weissig, V., Fu, W. Nanomedicine: a new paradigm in diagnosis and therapy. *Proceedings of SPIE-The International Society for Optical Engineering,* **6008:** 247-254 (2005).

van Vlerken, L.E., Shenoy, D., Duan, Z., Seiden, M., Mehta, S., and **Amiji, M.M.** Modulation of intracellular ceramide using polymeric nanoparticles to overcome multidrug resistance in tumor cells. *Transactions of the Society for Biomaterials,* (2006).

Bhavsar, M.D., Tiwari, S.B, and **Amiji, M.M.** Development of the nanoparticles-in-microsphere hybrid formulations for oral delivery of plasmid DNA. *Transactions of the Society for Biomaterials,* (2006).

Tiwari, S.B. and **Amiji, M.M.** Novel nanoemulsions for improved oral delivery of hydrophobic drugs. *Transactions of the Society for Biomaterials,* (2006).

van Vlerken, L.E., Shenoy, D., Duan, Z., Seiden, M., Mehta, S., and **Amiji, M.M.** Modulation of intracellular ceramide using polymeric nanoparticles to overcome multidrug resistance in tumor cells. *Proceedings of the NSTI Nanotech 2006, NSTI Nanotechnology Conference and Trade Show*, Boston, Massachusetts May 8-12, (2006).

Bhavsar, M.D., Tiwari, S.B, and **Amiji, M.M.** Formulation optimization for the nanoparticles-in-microsphere hybrid oral delivery systems using factorial design. *Proceedings of the NSTI Nanotech 2006, NSTI Nanotechnology Conference and Trade Show*, Boston, Massachusetts May 8-12, (2006).

Tiwari, S.B., Shenoy, D.B., and **Amiji, M.M.** Novel nanoemulsions for improved oral delivery of poorly soluble drugs. *Proceedings of the NSTI Nanotech 2006, NSTI Nanotechnology Conference and Trade Show*, Boston, Massachusetts May 8-12, (2006).

Kommareddy, S. and **Amiji, M.M.** Characterization and in vivo biodistribution studies with poly(ethylene glycol)-modified thiolated gelatin nanoparticles. *Proceedings of the NSTI Nanotech 2006, NSTI Nanotechnology Conference and Trade Show*, Boston, Massachusetts May 8-12, (2006).

Amiji, M.M. Nanotechnology for drug delivery: an overview. *Proceedings of the NSTI Nanotech 2006, NSTI Nanotechnology Conference and Trade Show*, Boston, Massachusetts May 8-12, (2006).

Tiwari, S.B., Song, Y.-H., Kamath, K., Barry, J., and **Amiji, M.** Poly(styrene-*b*-isobutylene-*b*-styrene) triblock copolymer microspheres for sustained release drug delivery. *Proceedings of the International Symposium on the Controlled Release of Bioactive Materials* **33:** (2006).

Amiji, M. Devalapally, H.K., van Vlerken, L., Duan, Z., Seiden, M. Multifunctional nanosystems to overcome drug resistance in cancer. *Proceedings of the First National Cancer Institute's Alliance in Nanotechnology Meeting.* San Diego, California. October 24-26, pp 17 (2006).

van Vlerken, L.E., Little, S., Duan, Z., Seiden, M., Langer, R., and **Amiji, M.** Modulation of multidrug resistance in cancer with polymer blend nanoparticles. *Proceedings of the First National Cancer Institute's Alliance in Nanotechnology Meeting.* San Diego, California October 24-26, pp 30 (2006).

Migliore, M., Vyas, T.K., Campbell, R.C., **Amiji, M.M.,** and Waszczak, B.L. Brain delivery of proteins by the intranasal route of administration using cationic liposomes. *Proceedings of the Society of Neuroscience Meeting,* Atlanta, Georgia. (2006).

Devalapally, H.K., Shenoy, D.B., Little, S., Langer, R., and **Amiji, M.M.** Tumor-targeted delivery of hydrophobic drugs in pH-sensitive poly(ethylene oxide)-modified poly(beta-amino ester) nanoparticles. *The AAPS Journal,* **8:** S2, (2006).

Desai, A., Vyas, T.K., and **Amiji, M.M.** Development and characterization of nanoemulsion formulations containing multimodal therapeutics for brain tumor. *The AAPS Journal,* **8:** S2, (2006).

Shah, L.K., Gamsiz, E.D., Carrier, R.L., and **Amiji. M.M.** Biodegradable polymeric nanoparticles for intracellular saquinavir delivery in HIV/AIDS. *The AAPS Journal,* **8:** S2, (2006).

Bhavsar, M.D. and **Amiji, M.M.** Oral plasmid DNA administration and transfection using nanoparticles-in-microsphere formulations. *The AAPS Journal,* **8:** S2, (2006).

van Vlerken, L.E., Little, S., Duan, Z., Seiden, M., Langer, R., and **Amiji, M.** Modulation of multidrug resistance in cancer with polymer blend nanoparticles. *The AAPS Journal,* **8:** S2, (2006).

Kommareddy, S. and **Amiji, M.M.** Tumor-targeted *sFlt-1* gene delivery using long-circulating thiolated gelatin nanoparticles. *The AAPS Journal,* **8:** S2, (2006).

Vyas, T.K. and **Amiji, M.M.** Improved oral delivery of saquinavir in nanoemulsion formulations for HIV/AIDS. *The AAPS Journal,* **8:** S2, (2006).

Amiji, M.M. Nanotechnology for targeted drug and gene delivery. *Nanomedicine: Nanotechnology, Biology and Medicine,* **2(4):** 299-300 (2006).

Amiji, M.M. Nanotechnology in cancer diagnosis, imaging, and therapy. *Proceedings of the American College of Veterinary Pathologists 57th Annual Meeting and the American Society for Veterinary Clinical Pathology 41st Annual Meeting,* pp 4-7 (2006).

Bhavsar, M.B. and **Amiji, M.M.** Gastrointestinal gene delivery in mice using polymeric nanoparticles-in-microsphere oral system. *Proceedings of the International Symposium on the Controlled Release of Bioactive Materials* (2007).

van Vlerken, L.E., Duan, Z., Little, S., Seiden, M.V., Langer, R., and **Amiji, M.M.** Design and development of a polymer-blend nanoparticle drug delivery system to overcome multidrug resistance in cancer. *Proceedings of the International Symposium on the Controlled Release of Bioactive Materials* (2007).

Devalapally, H.K., Duan, Z., Seiden, M.V., and **Amiji, M.M.** Paclitaxel and ceramide combination therapy in biodegradable polymeric nanoparticles to overcome multidrug resistance in cancer. *Proceedings of the International Symposium on the Controlled Release of Bioactive Materials* (2007).

Devalapally, H.K., Duan, Z., Seiden, M.V., and **Amiji, M.M.** Modulation of intracellular ceramide metabolism with biodegradable polymeric nanoparticle-encapsulated tamoxifen to overcome multidrug resistance in cancer. *The AAPS Journal,* **9:** S2, (2007).

van Vlerken, L.E., Duan, Z., Little, S., Seiden, M.V., Langer, R., and **Amiji, M.M.** Multifunctional polymer blend nanoparticles for temporal-controlled release of combination therapeutics to overcome multidrug resistance of cancer. *The AAPS Journal,* **9:** S2, (2007).

Bhavsar, M.D., Brito, L., and **Amiji, M.M.** Development of novel biodegradable polymeric nanoparticles-in-microsphere formulation for local plasmid DNA delivery in the gastrointestinal tract. *The AAPS Journal,* **9:** S2, (2007).

Magadala, P. and **Amiji, M.M.** HER2/neu receptor-targeted engineered gelatin nano-vectors for gene delivery and transfection in pancreatic cancer cells. *The AAPS Journal,* **9:** S2, (2007).

Brito, L., Little, S., Langer, R., and **Amiji, M.M.** Gene delivery and transfection studies with lipopolyplexes in human endothelial and smooth muscle cells. *Proceedings of the American Chemical Society: Division of Polymeric Materials, Science, and Engineering* **78:** (2008).

Brito, L., Chandrasekhar, S., Little, S., and **Amiji, M.** Gene delivery and transfection studies with lipopolyplexes in human endothelial and smooth muscle cells. *Proceedings of the NSTI Nanotech 2008, NSTI Nanotechnology Conference and Trade Show*, Boston, Massachusetts June 1-5, (2008).

Magadala, P. and **Amiji, M.** Epidermal growth factor receptor-targeted engineered gelatin nanovectors for gene delivery and transfection in pancreatic cancer cells. *Proceedings of the NSTI Nanotech 2008, NSTI Nanotechnology Conference and Trade Show*, Boston, Massachusetts June 1-5, (2008).

Jain, S. and **Amiji, M.** Non-condensing calcium alginate microspheres for macrophage-selective gene delivery and transfection. *Proceedings of the NSTI Nanotech 2008, NSTI Nanotechnology Conference and Trade Show*, Boston, Massachusetts June 1-5, (2008).

Pai, S. and **Amiji, M.** Multifunctional nanoparticulate system for simultaneous *EGFR* gene silencing and enhancement of apoptosis in pancreatic cancer cells. *Proceedings of the NSTI Nanotech 2008, NSTI Nanotechnology Conference and Trade Show*, Boston, Massachusetts June 1-5, (2008).

Brito, L., Chandrasekhar, C., Little, S.R., and **Amiji, M.M.** Gene delivery and transfection studies in smooth muscle cells with lipopolyplexes immobilized in gelatin-coated stainless-steel substrates. *Proceedings of the International Symposium on the Controlled Release of Bioactive Materials* (2008).

Milane, L., Matthäus, C., Chernenko T., Diem, M., and **Amiji, M.** Cellular trafficking studies of ceramide-loaded poly(ethylene oxide)-modified poly(epsilon-caprolactone) nanoparticles with Raman spectroscopy. *Proceedings of the International Symposium on the Controlled Release of Bioactive Materials* (2008).

Magadala, P. and **Amiji, M.M.** Epidermal growth factor receptor-targeted gelatin-based nanoparticles for reporter and therapeutic gene delivery in human pancreatic cancer cells. *The AAPS Journal,* **10:** S2, (2008).

Deshpande, D. and **Amiji, M.** *In vitro* studies with estradiol-loaded omega-3 fatty acid-containing oil-in-water nanoemulsion formulations for the treatment of coronary restenosis. *The AAPS Journal,* **11:** S2, (2009).

Ganta, S., Devalapally, H., and **Amiji, M.** The effect of curcumin in enhancing oral absorption and anti-tumor therapeutic efficacy of paclitaxel administered in nanoemulsion formulations. *The AAPS Journal,* **11:** S2, (2009).

Kriegel, C. and **Amiji, M.** TNFα gene silencing using nanoparticles-in-microsphere oral delivery system in an inflammatory bowel disease model. *The AAPS Journal,* **11:** S2, (2009).

Jain, S. and **Amiji, M.M.** Tuftsin-modified alginate nanoparticles as a non-condensing macrophage-targeted gene delivery system for anti-inflammatory therapy. *Proceeding of the International Symposium on the Controlled Release of Bioactive Materials* (2010).

Deshpande, D. and **Amiji, M.M.** Preliminary evaluations of combination ceramide/estradiol therapy in coronary restenosis with omega-3 fatty acid-containing nanoemulsion formulations. *Proceeding of the International Symposium on the Controlled Release of Bioactive Materials* (2010).

Attarwala, H. and **Amiji, M.M.** *In vitro* evaluations of nanoparticle-in-emulsion formulations for gene delivery and transfection in macrophages. *Proceeding of the International Symposium on the Controlled Release of Bioactive Materials* (2010).

Deshpande, D. and **Amiji, M.M.** Preliminary evaluations of combination ceramide/estradiol therapy in atherosclerosis with omega-3 fatty acid-containing nanoemulsion formulations. *The AAPS Journal,* **12:** S2, (2010).

Jain, S. and **Amiji, M.M.** Tuftsin-modified alginate nanoparticles as a non-condensing macrophage-targeted gene delivery system for anti-inflammatory therapy. *The AAPS Journal,* **12:** S2, (2010).

Barchet, T. and **Amiji, M.M.** Advances in siRNA delivery: preliminary work in the development of an siRNA nanoemulsion delivery system. *The AAPS Journal,* **12:** S2, (2010).

Xu, J. and **Amiji, M.M.** Gene delivery and transfection in human pancreatic cancer cells using epidermal growth factor receptor-targeted gelatin nanoparticles. *The AAPS Journal,* **12:** S2, (2010).

INTRAMURAL AND EXTRAMURAL RESEARCH SUPPORT (Total >$55M; as PI >$40M)

Current Funding

Source: Massachusetts Eye and Ear Infirmary, Boston, Massachusetts.
Title: Development of Cystatin Targeted Therapeutics for the Treatment of Chronic Rhinosinusitis (CRS)
Amount: $1,177,000
Duration: January 2020 – December, 2025
Role: Principal Investigator

Source: National Institute of Alcohol Abuse and Alcoholism (NIAAA) of the National Institutes of Health Grant R21-AA029260-01.
Title: Heat Shock Protein-90 in Alcoholic Liver Disease: Targeting Macrophage Function
Amount: $1,250,000 (total); NU Share 54,192
Duration: July 2024 – June 2027(with NCE)
Role: PI of NU Sub-Contract (PI: Pranoti Mandrekar, University of Massachusetts Medical School, Department of Medicine, Worcester, Massachusetts)

Source: Glaxo-Smith Kline Vaccines, Rockville, Maryland
Title: Pharm Sci Industrial Graduate Fellowship Program (designated to Mr. Apurva Krishna)
Amount: $266,000 (total)
Duration: January 2022 – December 2025
Role: Principal Investigator

Source: National Institutes of Health, National Cancer Institute (1R01-CA269233-01A1)
Title: TGX-1214 - Combination Strategy for the Treatment of Advanced Pancreatic Cancer
Amount: $2,998,487 (total); NU Share: $1,180,240
Duration: February 2023 – January 2028
Role: Co-Principal Investigator (Multi-PI Grant with Dr. Gerardo Mackenzie, Department of Nutrition Sciences, University of California Davis)

Source: Moderna Therapeutics, Inc., Cambridge, Massachusetts
Title: Academic-Industrial Post-Doctoral Fellowships in Pharmacometrics (for Drs. Mohammad Abbasi and Miao Zhang)
Amount: $575,000
Duration: October 2023 – September 2025
Role: Principal Investigator

Source: Moderna Therapeutics, Inc., Cambridge, Massachusetts
Title: Academic-Industrial Post-Doctoral Fellowships in Preclinical Pathology/Toxicology (for Drs. Robyn Novorolsky and Beatrice Muriuki)
Amount: $575,000
Duration: April 2024 – March 2026
Role: Principal Investigator

Source: Northeastern University, Boston, Massachusetts - Tier-1 Grant
Title: Nanoparticle Functionalized Bioactive Peptide for the Resolution of Inflammation
Amount: $50,000 (total)
Duration: June 2024 – May 2025
Role: Principal Investigator (in Collaboration with Dr. Emeka Okeke, Department of Biology, College of Science, Northeastern University, Boston, Massachusetts)

Source: Life Edit Therapeutics (and Elevate Bio Company), Durham, North Carolina
Title: CNS Delivery of mRNA in Lipid Nanoparticles using MIND
Amount: $108,941 (total)
Duration: September 2024 – June, 2025
Role: Principal Investigator

Source: Eli Lilly & Company, Indianapolis, Indiana
Title: CNS Delivery of Small Molecule Therapeutics with MIND
Amount: $136,322 (total)
Duration: September 2024 – June, 2025
Role: Principal Investigator

Past Funding

Source: National Institutes of Health, Biomedical Research Support Grant
Title: Prevention of Protein Adsorption on Poly(Ethylene Oxide)-Modified Surfaces
Amount: $2,000 (total).
Duration: June, 1993 - May, 1994
Role: Principal Investigator

Source: Northeastern University, 1995 Research and Scholarship Development Fund
Title: Development of Blood-Compatible Hemodialysis Membranes from Chitosan
Amount: $10,000 (total)
Duration: July, 1995 - December, 1996 (with 6-months no-cost extension)
Role: Principal Investigator

Source: Bristol-Myers Squibb Pharmaceutical Research Institute, Kenilworth, NJ.
Title: Development of Novel Thermogelling System for Localized Delivery of Taxol®
Amount: $8,000 (total)

Duration: July, 1996 - June, 1997
Role: Principal Investigator.

Source: Roche Laboratories, Inc., Nutley, NJ.
Title: HPLC Assay Development for Mycophenolic Acid and Mycophenolic Acid Glucuronide
Amount: $10,000 (total)
Duration: July, 1996 - December, 1996
Role: Co-Principal Investigator (PI: Prof. Rafaat Seifeldin, Department of Pharmacy Practice, Northeastern University, Boston, Massachusetts)

Source: Northeastern University, Honors Program Research Funds
Title: Undergraduate Honors Students Research Initiatives
Amount: $5,000.
Duration: July 1997 - June 1999
Role: Principal Investigator.

Source: Pharmaceutical Research and Manufacturers of America Foundation, Undergraduate Pharmaceutics Research Fellowship. (On behalf of Ms. Phung-Kim Lai, B.S. student in the class of 1999).
Title: Novel Thermogelling Paclitaxel Formulation for Intra-Tumoral Delivery
Amount: $5,000 (total)
Duration: January 1999 - December 1999
Role: Principal Investigator.

Source: Northeastern University, 1999 Research and Scholarship Development Fund
Title: Stomach-Specific Antibiotic Delivery for *H. pylori* Infection
Amount: $10,000 (total)
Duration: July 1999 - June 2000
Role: Principal Investigator

Source: EOS Pharmaceuticals Corporation, Woburn, Massachusetts (through National Institutes of Health, Small Business Innovation Research Program, Phase I Grant)
Title: Stomach-Specific Anti-*H. pylori* Therapy
Amount: $50,000 (total, ~ 45% of the total SBIR funding)
Duration: July 2000 – June 2001
Role: Principal Investigator

Source: American Association of Pharmaceutical Scientists and American Foundation for Pharmaceutical Education, 2000-2001 "Gateway" Research Scholar Program. (On behalf of Mr. Chi-Sing Nip, Pharm.D. student, Class of 2001)
Title: Perm-selective Membranes from Chitosan for Extracorporeal Removal of β–2-Microglobulin
Amount: $5,000 (total)
Duration: July 2000 – June 2001
Role: Principal Investigator

Source: Braintree Laboratories, Inc., Braintree, Massachusetts
Title: Analysis of Phosphate Binding to Cationic Polymers
Amount: $31,000 (total)
Duration: December 2000 – June 2001
Role: Principal Investigator

Source: Pharmaceutical Research and Manufacturers of America Foundation, Undergraduate Pharmaceutics Research Fellowship. (On behalf of Ms. Erica J. Waugh, Pharm.D. student in the class of 2002)
Title: Novel Biodegradable Long-Circulating Nanoparticles for Tumor-Selective Drug Delivery
Amount: $5,000 (total)
Duration: January 2001 – December 2001
Role: Principal Investigator

Source: Braintree Laboratories, Inc., Braintree, Massachusetts
Title: Chitosan-Iron Complexes as Polymeric Phosphate Binders
Amount: $15,000 (total)
Duration: January 2002 – June 2002
Role: Principal Investigator

Source: Northeastern University, Undergraduate Research Fund. (On behalf of Ms. Nikita Mody, Pharm.D. student in the class of 2004)
Title: Tumor-Selective Gene Delivery Systems
Amount: $3,000 (total)
Duration: January 2002 – June 2002
Role: Principal Investigator

Source: Northeastern University, 2002 Research and Scholarship Development Fund
Title: Immobilized Enzyme System for Detection and Detoxification of Chemical Warfare Agents
Amount: $5,006 (total)
Duration: July 2002 - June 2003
Role: Principal Investigator

Source: Alfred P. Sloan Foundation, New York, NY
Title: Multi-Track Professional Masters Degree Program in Biotechnology
Amount: $75,000 (total)
Duration: July 2002 – June 2004 (with one year no-cost extension)
Role: Co-Investigator (PI: Prof. William Detrich, Department of Biology, Northeastern University, Boston, Massachusetts).

Source: Boston Scientific Corporation. Watertown, Massachusetts
Title: Drug Interactions with Poly(vinyl alcohol) Embolic Microspheres: Part I
Amount: $33,256 (total)
Duration: February 2003 – December 2003
Role: Principal Investigator

Source: National Cancer Institute, National Institutes of Health (R01-CA95522-01A2)
Title: Long-Circulating Tumor-Selective DNA Delivery Systems
Amount: $744,100 (total)
Duration: July 2003 – June 2007 (with NCE)
Role: Principal Investigator

Source: National Science Foundation, Major Research Instrumentation Grant (MRI-0320638)
Title: Acquisition of Scanning Electron Microscope for Nanoscience and Biotechnology
Amount: $477,846 (total)
Duration: July 2003 – June 2004
Role: Co-Investigator (PI: Prof. Donald Heiman, Department of Physics, Northeastern University, Boston, Massachusetts)

Source: Roger Williams Medical Center, Providence, RI. Subcontract of the Department of Defense Grant DAMD17-03-0716
Title: Drug Encapsulation in Poly(Epsilon-Caprolactone) Nanoparticles
Amount: $20,119 (total)
Duration: October 2003 – September 2005 (with NCE)
Role: Principal Investigator

Source: Boston Scientific Corporation. Watertown, Massachusetts
Title: Drug Interactions with Poly(vinyl alcohol) Embolic Microspheres: Part II
Amount: $44,865 (total)
Duration: February 2004 – December 2004
Role: Principal Investigator

Source: American Foundation for Pharmaceutical Education, Undergraduate Gateway Research Scholarship. (On Behalf of Ms. Stephanie Whalen, PharmD Class of 2006)
Title: Novel Gold Nanoparticle Sensor for Non-invasive Glucose Measurements
Amount: $5,000 (total)
Duration: June 2004 – December 2004
Role: Principal Investigator

Source: Boston Scientific Corporation, Natick, Massachusetts
Title: Preparation and Characterization of Drug-Loaded SIBS Copolymer Microsphere Formulations
Amount: $100,019 (total)
Duration: October 2004 – December 2005 (with NCE)
Role: Principal Investigator

Source: Novavax, Inc., Malvern, PA.
Title: Nanocarrier Formulation Optimization Studies
Amount: $60,543 (total)
Duration: May 2005 – December 2005
Role: Principal Investigator

Source: American Foundation for Pharmaceutical Education, Undergraduate Gateway Research Scholarship. (On Behalf of Mr. Zeu Hong Tzeng, PharmD Class of 2007)
Title: Thiolated Gelatin Nanoparticles for Intracellular siRNA Delivery
Amount: $5,000 (total)
Duration: July 2005 – June 2006
Role: Principal Investigator

Source: Northeastern University, 2005 Research and Scholarship Fund
Title: Functionalized Gold Nanoparticles as Novel Mitochondria-Targeted Vectors
Amount: $15,000 (total)
Duration: July 2005 – June 2006
Role: Co-Investigator (PI: Prof. Volkmar Weissig, Department of Pharmaceutical Sciences, Northeastern University, Boston, Massachusetts)

Source: Transport Pharmaceuticals, Inc., Framingham, Massachusetts
Title: Evaluation of Formulation Properties Used in Iontophoretic Drug Delivery Device
Amount: $58,875 (total)
Duration: August 2005 – July 2006

Role: Principal Investigator

Source: Boston Scientific Corporation. Marlborough, Massachusetts
Title: Drug Interactions with Poly(vinyl alcohol) Embolic Microspheres: Part III
Amount: $125,208 (total)
Duration: March 2006 – February 2007
Role: Principal Investigator

Source: Transport Pharmaceuticals, Inc., Framingham, Massachusetts
Title: Evaluation of Formulation Properties Used in Iontophoretic Drug Delivery Device: Part II
Amount: $72,952 (total)
Duration: August 2006 – July 2007
Role: Principal Investigator

Source: Parsalus Pharmaceuticals, Inc., Boston, Massachusetts
Title: Preliminary Micellar Characterization Studies of Lipopeptide Molecules
Amount: $12,372 (total)
Duration: October 2007 – January 2008
Role: Principal Investigator

Source: The Michael J. Fox Foundation for Parkinson's Research
Title: Feasibility of Intranasal Delivery of GDNF for Parkinson's Disease
Amount: $74,800 (total)
Duration: November 2007 – December 2008
Role: Co-Investigator (PI: Prof. Barbara Waszczak, Department of Pharmaceutical Sciences, Northeastern University, Boston, Massachusetts)

Source: Microfluidics, Inc., Newton, Massachusetts
Title: HPLC Studies of Drug Encapsulation in Polymeric Nanoparticle Formulations
Amount: $13,549 (total)
Duration: May 2008 – July 2008
Role: Principal Investigator

Source: BioCure, Inc., Norcross, Georgia
Title: Cellular Uptake and Trafficking Properties of siRNA-Loaded Polymeric Nano-Vesicles
Amount: $28,414 (total)
Duration: July 2008 – June 2009
Role: Principal Investigator

Source: National Cancer Institute of the National Institutes of Health, Nanotechnology Characterization Laboratory, Frederick, Maryland
Title: Multifunctional Nanoemulsions for Brain Tumor Imaging and Therapy
Amount: Undisclosed (complete preclinical characterization studies)
Duration: July 2006 – December 2009
Role: Principal Investigator

Source: National Cancer Institute of the National Institutes of Health, Nanotechnology Characterization Laboratory, Frederick, Maryland
Title: Engineered Gelatin-Based Nano-vectors for Pancreatic Cancer Gene Therapy
Amount: Undisclosed (complete preclinical characterization studies)

Duration: July 2007 – December 2009
Role: Principal Investigator

Source: Physical Sciences, Inc., Andover, Massachusetts. Sub-Contract of the National Cancer Institute STTR Phase I Application in response to RFA *"Image Guided Cancer Interventions"* (STTR R41/R42) (1R41-CA132256-01).
Title: Endoscopically Guided OCT Imaging for Early Cancer Screening
Amount: 87,933 (total)
Duration: May 2008 – December 2009
Role: Principal Investigator of NU Sub-contract (PI: Dr. Nick Iftimia, Physical Sciences, Inc., Andover, Massachusetts)

Source: BioCure, Inc., Norcross, Georgia. Sub-contract funding from the National Cancer Institute Phase I SBIR contract.
Title: Targeted Multifunctional Polymersomes for Cancer Therapy
*Amount: $*66,958 (total)
Duration: September 2009 – June 2010
Role: Principal Investigator

Source: Physical Sciences, Inc., Andover, Massachusetts. Sub-Contract of the National Cancer Institute STTR Phase I Application in response to RFA *"Image Guided Cancer Interventions"* (STTR R41/R42) (1R41-CA135911-01).
Title: Enhanced Contrast Optical Imaging for Screening of Early-Stage Pancreatic Cancer
Amount: $115,071 (total)
Duration: August 2008 – July 2010
Role: Principal Investigator of NU Sub-contract (PI: Dr. Nick Iftemia, Physical Sciences, Inc., Andover, Massachusetts)

Source: National Cancer Institute/National Science Foundation, Interdisciplinary Graduate Education and Training (IGERT) Grant (DGE-0504331)
Title: IGERT-Nanomedical Science and Technology
Amount: $3,320,168 (total)
Duration: October 2005 – September 2010
Role: Co-Investigator (PI: Prof. Srinivas Sridhar, The Nanomedicine Education and Research Consortium (NERC), Northeastern University, Boston, Massachusetts)

Source: National Cancer Institute of the National Institutes of Health. R01 proposal in response to NCI's Alliance for Nanotechnology in Cancer RFA *"Cancer Nanotechnology Platform Partnership Grant"* program (1R01-CA119617-01)
Title: Nanotherapeutic Strategy for Multidrug Resistant Tumors
Amount: $1,329,399 (total)
Duration: October 2005 – July 2011 (with NCE)
Role: Principal Investigator

Source: National Cancer Institute of the National Institutes of Health. ARRA Administrative Supplement for *"Cancer Nanotechnology Platform Partnership Grant"* (1R01-CA119617-S1)
Title: Nanotherapeutic Strategy for Multidrug Resistant Tumors
Amount: $200,000 (total)
Duration: August 2009 – July 2011 (with NCE)
Role: Principal Investigator

Source: Forsyth Institute, Boston, Massachusetts. Sub-Contract of the National Institute of Dental and Craniofacial Research's R21 Proposal in Response to Program Announcement PA-03-107 *"NIH Exploratory/Developmental Research Grant Program"* (1R21-DE018782-01A2).
Title: Nanoparticle-Based Antimicrobial Photochemotherapy in Biofilms
Amount: $140,092 (Sub-contract total)

Duration: August 2009 – July 2011
Role: Principal Investigator on NU Subcontract (PI: Dr. Nikos Soukos, Forsyth Institute, Boston, Massachusetts)

Source: Medix Corporation, Mexico City, Mexico
Title: Stomach-Specific Non-Antibiotic *H. pylori* Therapy
Amount: $399,759 (total)
Duration: October 2008 – May 2012 (with NCE)
Role: Principal Investigator

Source: Nemucore Medical Innovations, Inc., Worcester, Massachusetts - Sub-Contract of an NCI Phase 1 SBIR grant.
Title: EGFR-Targeted Nanoemulsions for Imaging and Therapy of Ovarian Cancer
Amount: $ 79,310
Duration: September 2010 – August 2012
Role: Principal Investigator on NU Sub-Contract

Source: National Cancer Institute of the National Institutes of Health, R21 Proposal in response to RFA PAR-07-034 *"Nanoscience and Nanotechnology in Biology and Medicine".* (1R21-CA135594)
Title: Nano-Delivery of Mitochondria-Targeted Ceramide to Overcome Tumor Drug Resistance
Amount: $355,232 (total)
Duration: January 2010 – December 2012 (with NCE)
Role: Principal Investigator

Source: National Institute of Diabetes, and Digestive Diseases, and Kidney Diseases (NIDDK) of the National Institutes of Health. R01 proposal in response to RFA *"Nanoscience and Nanotechnology in Biology and Medicine"* program (1R01-DK080477).
Title: Oral Gene Therapy with NiMOS for Inflammatory Bowel Disease
Amount: $1,334,500 (total)
Duration: March 2008 – February 2013 (with NCE)
Role: Principal Investigator

Source: National Institute of Neurological Disorders and Stroke of the National Institutes of Health, R21 Proposal in response to RFA PAR-08-232 *"NINDS Exploratory/Developmental Projects in Translational Research (R21)".* (1R21-NS066984)
Title: Multifunctional Nanoemulsions for Modulation of BBB Transport
Amount: $429,000 (total)
Duration: February 2010 – April 2013 (with NCE)
Role: Principal Investigator

Source: Northeastern University-Dana Farber Cancer Institute Joint Research Program Cancer Drug Development
Title: Evaluating Synergy between Inhibition of Replication and Promotion of Apoptosis in the Treatment of Ovarian Cancer
Amount: $100,000 (total)
Duration: July 2012 – June 2014
Role: Principal Investigator (in Collaboration with Dr. Michael Goldberg, Dana-Farber Cancer Institute, Boston, Massachusetts)

Source: Merrimack Pharmaceuticals, Inc., Cambridge, Massachusetts
Title: In Vivo Imaging Study
Amount: $35,000 (total)
Duration: August 2014 – June 2015
Role: Principal Investigator

Source: Novartis Vaccine and Diagnostics, Cambridge, Massachusetts
Title: Pharm Sci Industrial Graduate Fellowship Program (designated to Ms. Ruchi Shah)
Amount: $159,300 (total)
Duration: May 2012 – August 2015
Role: Principal Investigator

Source: Northeastern University Tier-1 Grant
Title: A Cyber-Physical Platform for Rapid Development of Nano-Delivery Systems
Amount: $50,000 (total)
Duration: July 2014 – December 2015
Role: Principal Investigator (in Collaboration with Dr. Ravi Sundaram, College of Computer and Information Science, Northeastern University)

Source: National Cancer Institute of the National Institutes of Health proposal in response to NCI's Alliance for Nanotechnology in Cancer RFA California-09-012 *"Center of Cancer Nanotechnology Excellence (CCNE) U54 Grant"* program (1U54-CA151881. Project #3).
Title: Multi-Modal Therapy for Pancreatic Cancer with Targeted Nanovectors
Amount: $1,420,972 (total project funding); $13.9 million (total CCNE funding)
Duration: September 2010 – December 2015 (with NCE)
Role: Principal Investigator of Project #3 (CCNE PI: Prof. Vladimir Torchilin, Department of Pharmaceutical Sciences, Northeastern University, Boston, Massachusetts)

Source: National Cancer Institute of the National Institutes of Health proposal in response to the NCI's Alliance for Nanotechnology in Cancer RFA California-09-013 *"Cancer Nanotechnology Platform Partnership U01 Grant"* program (1U01-CA151452)
Title: Combinatorial-Designed Nano-Platforms to Overcome Tumor Drug Resistance
Amount: $2,317,537 (total)
Duration: September 2010 – August 2016 (with NCE)
Role: Principal Investigator

Source: National Science Foundation, Interdisciplinary Graduate Education and Training (IGERT) Grant (DGE-0965843)
Title: IGERT-Nanomedical Science and Technology
Amount: $3,178,512 (total)
Duration: September 2010 – August 2016 (with NCE)
Role: Co-Principal Investigator (PI: Prof. Srinivas Sridhar, The Nanomedicine Education and Research Consortium (NERC), Northeastern University, Boston, Massachusetts)

Source: Nemucore Medical Innovations, Inc., Wellesley, Massachusetts. Sub-Contract of NCI proposal in response to Request for Application *"Academic-Industrial Partnerships for Translation of In Vivo Imaging Systems for Cancer Investigations (R01*)" PAR-10-169 (1R01-CA158881)
Title: Integrated Image-Guided Targeted Therapy for Refractory Ovarian Cancer
Amount: $3,138,368 (total), NU share: $823,893
Duration: April 2011 - December 2016 (with NCE)
Role: Principal Investigator

Source: Northeastern University-Houston Methodist Research Institute Collaboration Grant
Title: Non-Viral Telomerase Gene Therapy in Progeria
Amount: $75,000 (total)
Duration: August 2015 – July 2016
Role: Principal Investigator (in Collaboration with Dr. John P. Cooke, Houston Methodist Research Institute, Houston, Texas)

Source: Moderna Therapeutics, Inc. Cambridge, Massachusetts
Title: Oral mRNA Delivery and Transfection with Multicompartmental Systems
Amount: $93,543 (total)
Duration: July 2016 – April 2017
Role: Principal Investigator

Source: National Cancer Institute of the National Institutes of Health, R21 Proposal in response to PAR13-146 "*NCI Exploratory/Developmental Research Grant Program (NCI Omnibus R21)".* (R21 proposal California-179652-A1).
Title: Targeted Platinates/siRNA Combination Therapy for Resistant Lung Cancer
Amount: $427,625 (total)
Duration: April 2014 – March 2017 (with NCE)
Role: Principal Investigator

Source: National Institute of General Medical Sciences, National Institutes of Health R01 grant in response to RFA *"PAR-10-142 Interface of the Life and Physical Sciences"* (1R01-GM098117)
Title: Impact of Lipids on Compound Absorption: Mechanistic Studies and Modeling
Amount: $2,315,953 (total); Co-PI Share: $238,330
Duration: July 2012 – June 2017
Role: Co-Investigator (PI: Rebecca Carrier, Department of Chemical Engineering, Northeastern University, Boston, Massachusetts)

Source: Northeastern University Tier-1 Grant
Title: Engineering a Sprayable Multifunctional Wound Dressing
Amount: $50,000 (total)
Duration: July 2016 – December 2017
Role: Principal Investigator (in Collaboration with Dr. Nasim Annabi, Department of Chemical Engineering, College of Engineered at Northeastern University, Boston, Massachusetts)

Source: National Institute of Diabetes, and Digestive Diseases, and Kidney Diseases (NIDDK) of the National Institutes of Health. (1 R01 DK098655)
Title: Hepatic Insulin Resistance and Metabolic Disease
Amount: $2,427,993 (total), NU share: $212,447
Duration: April 2013 – March 2018
Role: PI of NU Sub-Contract (PI: Morris F. White, Children's Hospital/Harvard Medical School, Boston, Massachusetts)

Source: National Cancer Institute of the National Institutes of Health, R56 "Bridge" (R56-CA198492) Grant on the NCI Nanotechnology for Cancer IRCN (U01) Submission
Title: Integrated Nano-Therapeutics to Overcome Tumor Plasticity and Resistance
Amount: $300,000 (total)
Duration: September 2017 – August 2018
Role: Principal Investigator

Source: Targagenix, Inc., Stony Brook, NY - Sub-Contract of NCI SBIR Contract
Title: Nanoemulsion Formulation and IND Enabling Studies of a Novel Cancer Stem Cell Cytotoxic Agent
Amount: $330,000 (total)
Duration: November 2015 – October 2018
Role: Principal Investigator

Source: Takeda Vaccines, Cambridge, Massachusetts

Title: Determination of Stability of Inactivated Zika Viral Vaccine Formulation
Amount: $79,751 (total)
Duration: February 2018 – October 2018
Role: Principal Investigator

Source: National Institute of Biomedical Imaging and Bioengineering of the National Institutes of Health, R21 Proposal in response to PA-16-040 "Exploratory/Developmental Bioengineering Research Grants (EBRG) [R21]". (R21 proposal EB-023025-01).
Title: Oral Gene Delivery to Improve Iron Overload Disorders
Amount: $419,425 (total)
Duration: June 2016 – March 2019 (with NCE)
Role: Co-Principal Investigator (In Collaboration with Dr. Jonghan Kim, Department of Pharmaceutical Sciences, School of Pharmacy at Northeastern University, Boston, Massachusetts)

Source: Northeastern University-Dana Farber Cancer Institute Joint Research Program on Cancer Drug Development
Title: MicroRNA-Based Reprogramming of Tumor-Associated Macrophages in Ovarian Cancer
Amount: $100,000 (total)
Duration: August 2017 – July 2019
Role: Principal Investigator (in Collaboration with Dr. Michael Goldberg, Dana-Farber Cancer Institute, Boston, Massachusetts)

Source: Glaxo-Smith Kline Vaccines, Cambridge, Massachusetts
Title: Pharm Sci Industrial Graduate Fellowship Program (designated to Mr. Rushit Lodaya)
Amount: $195,000 (total)
Duration: October 2015 – December 2019
Role: Principal Investigator

Source: Dicerna Pharmaceuticals, Inc. Cambridge, Massachusetts
Title: Pharm Sci Industrial Graduate Fellowship Program (designated to Ms. Dongyu Chen)
Amount: $195,000 (total)
Duration: October 2015 – December 2019
Role: Principal Investigator

Source: National Cancer Institute of the National Institutes of Health, R21 Proposal in response to PAR13-146 "*NCI Exploratory/Developmental Research Grant Program (NCI Omnibus R21)".* (R21 proposal CA213114-01A1).
Title: Reprogramming Tumor-Associated Macrophages in PDAC with MicroRNA Nano-Vectors
Amount: $427,625 (total)
Duration: August 2017 – July 2020 (with NCE)
Role: Multi-Principal Investigator (with Prof. Gerardo Mackenzie, University of California at Davis, Davis, California)

Source: Northeastern University 2020 "Fast Track" Funding
Title: Nasal Exosome Content Modulation for Anti-Viral Therapeutic Effects
Amount: 30,000 (total)
Duration: June 2020 – May 2021
Role: Principal Investigator

Source: Bessor Pharmaceuticals, Inc., Framingham, Massachusetts
Title: Systemic Liposomal Peptide (BP-1002) Formulation and Characterization
Amount: $31,484 (total)
Duration: February 2021 – May 2021

Role: Principal Investigator

Source: National Institute of Diabetes, and Digestive Diseases, and Kidney Diseases (NIDDK) of the National Institutes of Health.
Title: Heat Shock Protein 90 in Alcoholic Liver Disease: Targeting Macrophage Function
Amount: $1,570,350 (total), NU Share: $75,000
Duration: August 2015 – July 2021 (with NCE)
Role: PI of NU Sub-Contract (PI of the Grant: Pranoti Mandrekar, University of Massachusetts Medical School, Department of Medicine, Worcester, Massachusetts)

Source: Physical Sciences, Inc., Andover, Massachusetts. Sub-Contract of the National Institute of Mental Health SBIR Phase I Application (1R43-MH121179-01).
Title: Multi-channel Functional Imaging Tool for Neuropsychological Drug Development
Amount: $155,000 (total), NU Sub-contract: $53,108
Duration: September 2019 – September 2021 (with NCE)
Role: PI of NU Sub-Contract (PI of the Grant: Youbo Zhou, Physical Sciences, Inc., Andover, Massachusetts)

Source: Morningside Technology Advisory, LLC, Newton, Massachusetts
Title: CNS Delivery of Nilotinib using MIND: Phase 1 & 2
Amount: $148,500 (total)
Duration: November 2020 to December 2021
Role: Principal Investigator

Source: National Institutes of Health, Office of the Director (R21-OD027052-01)
Sub-contract from Jackson Laboratory, Inc.
Title: Development and Validation of a Novel Cas13a and Nanoparticle Guide-RNA Delivery System that Allows Precise Ablation of Host Macrophage Populations in a Humanized Mouse Model
Amount: $475,000 (total); NU Sub-contract: $65,000
Duration: April 2019 – March 2022 (with NCE)
Role: Principal Investigator on NU Sub-Contract (PI of the Grant: Dr. Michael Wiles, Jackson Labs, Bar Harbor, Maine)

Source: Northeastern University Tier-1 Grant
Title: Evaluating New Detection Modalities for Covert Pharmaceutical Authentication
Amount: $50,000 (total)
Duration: July 2021 – June 2022
Role: Co-Investigator (PI: Prof. Laura Lewis, Department of Chemical Engineering, College of Engineering, Northeastern University, Boston, Massachusetts)

Source: Takeda Vaccines, Inc., Cambridge, Massachusetts (designated to Dr. Kohal Das)
Title: Academic-Industrial Post-Doctoral Fellowship
Amount: $387,656
Duration: August 2019 – July 2022
Role: Principal Investigator

Source: Moderna Therapeutics, Inc., Cambridge, Massachusetts
Title: Academic-Industrial Post-Doctoral Fellowship in Pharmacometrics (designated to Dr. Mir Javid Iqbal)
Amount: $275,000
Duration: November 2020 – May 2023 (with NCE)
Role: Principal Investigator

Source: Massachusetts Life Sciences Center (MLSC) and Eli Lilly & Company, Cambridge, Massachusetts – 2021 Novel Therapeutic Delivery Program
Title: CNS Delivery of Nucleic Acid Therapeutics using MIND
Amount: $750,000 (MLSC) and $554,000 (Eli Lilly)
Duration: July 2021 – June 2023
Role: Role: Principal Investigator

Source: National Science Foundation, D-ISN: TRACK 2 Grant (IIS- 2039945)
Title: Collaborative Research: Financial Network Disruptions in Illicit and Counterfeit Medicines (FIND-M)
Amount: $169,999 (total)
Duration: September 2020 – August 2023 (with NCE)
Role: Co-Principal Investigator (PI: Prof. Nikos Passas, College of Social Sciences and Humanities, Northeastern University, Boston, Massachusetts)

Source: Northeastern University-Dana Farber Cancer Institute Joint Research Program on Cancer Drug Development
Title: MIND Delivery of Stapled Peptides for the Treatment of Pediatric Brain Tumors
Amount: $50,000 (total)
Duration: August 2022 – July 2023
Role: Principal Investigator (in Collaboration with Dr. Loren Walensky, Dana-Farber Cancer Institute, Boston, Massachusetts)

Source: National Institutes of Health, National Cancer Institute R21 Grant (1R21 CA246413-01A1)
Title: Towards *In Vivo* Liquid Biopsy of Circulating Tumor Cells
Amount: $475,000 (total)
Duration: January 2021 – December 2023
Role: Co-Investigator (PI of the Grant: Dr. Mark Niedre, Department of Bioengineering, College of Engineering, Northeastern University, Boston, Massachusetts)

Source: Moderna Therapeutics, Inc., Cambridge, Massachusetts
Title: Academic-Industrial Post-Doctoral Fellowship in Preclinical Pathology/Toxicology (designated to Dr. Dimitrios Bitounis)
Amount: $275,000
Duration: July 2021 – December 2023
Role: Principal Investigator

Source: Northeastern University's Center for Research Innovation 2022 SPARK Fund Program
Title: Oral RNA Tx - A Platform for Oral RNA Delivery for Therapeutics and Vaccination
Amount: $50,000 (total)
Duration: September 2022 – June 2024 (with NCE)
Role: Principal Investigator

Source: National Institutes of Health, National institute of Aging (1R21-AG074472-01)
Title: Intranasal Gene Delivery for Alzheimer's Disease
Amount: $445,124 (total), NU Share: $196,265
Duration: August 2021 – July 2024 (with NCE)
Role: Co-Principal Investigator (Multi-PI Grant with Dr. Jonghan Kim, Department of Nutrition Science, Zuckerberg College of Health Sciences, University of Massachusetts at Lowell, Lowell, Massachusetts)

Source: National Institute of Alcohol Abuse and Alcoholism (NIAAA) of the National Institutes of Health Grant R21-AA029260-01.
Title: Role of Intestinal Proteostasis Mediator HSP90 in Alcoholic Liver Disease

Amount: $475,000 (total); NU Share 47,500
Duration: September 2021 – August 2024 (with NCE)
Role: PI of NU Sub-Contract (PI: Pranoti Mandrekar, University of Massachusetts Medical School, Department of Medicine, Worcester, Massachusetts)

Source: Glaxo-Smith Kline Vaccines, Rockville, Maryland
Title: Pharm Sci Industrial Graduate Fellowship Program (designated to Mr. Shashank Bhangde)
Amount: $266,000 (total)
Duration: October 2020 – September 2024 (with NCE)
Role: Principal Investigator

Source: National Institute of Neurological Disorders and Stroke, National Institutes of Health R01 Grant (R01-NS108968) Sub-contract from Massachusetts Eye and Ear Infirmary
Title: Direct CNS Delivery System for BDNF AntagoNATs using Heterotopic Mucosal Grafting for the Treatment of Parkinson's Disease
Amount: $2,546,316 (total); NU Sub-contract: $1,279,394
Duration: January 2019 – December 2024 (with NCE)
Role: Principal Investigator on NU Sub-Contract (PI of the Grant: Dr. Benjamin Bleier, Mass Eye and Ear, Boston, Massachusetts)

PATENTS AND INVENTION DISCLOSURES

Amiji, M.M. *"Biocompatible Articles and Method of Making Same".* United States Patent Number 5,885,609. Issued: March 1999.

Amiji, M.M. *"Drug Delivery Using pH-Sensitive Semi-Interpenetrating Network Hydrogels".* United States Patent Number 5,904,927. Issued: May 1999.

Langer, R.S., Lynn, D.M., Putnam, D., **Amiji, M.M.,** and Anderson, D.G. *"Biodegradable Poly(Beta-Amino Esters) and Uses Thereof".* United States Patent Number 6,998,115. Issued: February, 2006.

Langer, R.S., Lynn, D.M., Putnam, D., **Amiji, M.M.,** and Anderson, D.G. *"Biodegradable Poly(Beta-Amino Esters) and Uses Thereof".* European Patent Application. (Serial number 019775410-2115-US0131270, Filed: October, 2001).

Amiji, M.M. and Taqieddin, E.S. *"Hybrid Immobilized Catalytic System with Controlled Permeability"* United States Patent Application US2004/0266026, Pending (Filed: January, 2003).

Amiji, M.M., Shenoy, D.B., and van Vlerken, L.E. *"Nanoparticulate Delivery Systems for Treating Multi-drug Resistance".* United States Patent Application, US2006/0257493, Pending (Filed: April, 2006).

Amiji, M.M. and Tiwari, S.K. *"Novel Nanoemulsion Formulations"* United States Patent Application US2007/0148194, Pending (Filed: November, 2006).

Hirt, T., Lu, Z., Meir, W., and **Amiji, M**. *"Mucoadhesive Vesicles for Drug Delivery".* PCT and United States Patent Application PCT/US2008/12/157,144. Pending (Filed: August, 2008).

Hanson, R., **Amiji, M..,** and Weissig, V. "*Precision-Guided Nanoparticle System for Drug Delivery"* PCT and United States Patent Application PCT/US2008/01766, Pending (Filed: February, 2008).

Amiji, M. and Iyer, A.K. *"Multi-Functional Self-Assembling Polymeric Nanosystems".* PCT and United States Patent Application US200961/246,355 and WO 2010042823-A1 Pending (Filed: September, 2009).

Amiji, M., Kalariya, M., Jain, S., and Attarwala, A. *"Multi-Compartmental Macrophage Delivery".* PCT and United States Patent Application US 20130243689-A1 and WO 2011119881-A1, Pending (Filed: March, 2011).

Amiji, M., Ganta, S., and Tsai, P.-C. *"Multimodal Diagnostic Technology for Early Stage Cancer Lesions".* PCT and United States Patent Application US 20130224120-A1 and WO 2011119822-A1, Pending (Filed March, 2011).

Amiji, M. and Iyer, A.K. *"Biodegradable Polymeric Buffers".* PCT and United States Patent Application WO 2014008283-A3, Pending (Filed: July, 2013).

Amiji, M. and Singh, A. *"Releasable Magnetic Cell Capture Technology".* PCT and United States Patent Application WO 2014110578-A1, Pending (Filed: January, 2014).

Amiji, M., Trivedi, M., and Singh, A. *"Mitochondrial Reprogramming by Non-Viral Nucleic Acid Delivery".* Provisional United States Patent Application (Filed: September, 2014).

Amiji, M., Singh, A., Nascimento, A.V., and Su, M.J. *"Cellular Reprogramming by Modulation of Extracellular Vesicle (Exosome) Composition".* Provisional United States Patent Application (Filed: September, 2014).

Amiji, M., Bleier, B., and Padmakumar, S., *"Biodegradable Implant for Sustained Trans-Nasal Delivery of Therapeutic Agents to the Brain"* United States Patent Application, Pending (Filed: July, 2021).

Amiji, M. *"Oral Nucleic Acid Therapeutics and Vaccines".* United States Provisional Patent Application (Filed: May, 2023).

PRESENTATIONS

American Association of Pharmaceutical Scientists Annual Meeting, Orlando, Florida. Poster presentation entitled *"Adsorption Isotherms of Doxorubicin on Oxidized Dextran".* November, 1988.

Controlled Release Society Annual Meeting, San Francisco, California. Podium presentation entitled *"Mucoadhesive Hydrogels Effective at Neutral pH".* March, 1989.

Society for Biomaterials Annual Meeting, Santa Fe, New Mexico. Podium presentation entitled *"The Minimum Amount of Biologically Active Fibrinogen Necessary for Surface-Induced Platelet Activation".* April, 1989.

NIH Conference on Cardiovascular Science and Technology, Bethesda, Maryland. Podium presentation entitled *"Mechanism of Surface Passivation by Albumin".* May 1990.

Surfaces in Biomaterials Foundation First Annual Meeting, Minneapolis, Minnesota. Podium presentation entitled *"Mechanism Study on the Prevention of Surface-Induced Platelet Activation by Adsorbed Albumin".* March, 1991.

Society for Biomaterials Annual Meeting, Scottsdale, Arizona. Podium presentation entitled *"Prevention of Protein Adsorption and Platelet Adhesion by Steric Repulsion.* May, 1991.

American Chemical Society National Meeting, Washington, District of Columbia. Podium presentation entitled *"Surface Passivating Effect of PEO/PPO/PEO Triblock Copolymers".* August, 1992.

American Chemical Society National Meeting, Washington, District of Columbia. Podium presentation entitled *"Analysis on the Surface Adsorption of PEO/PPO/PEO Triblock Copolymers".* August, 1992.

American Association of Pharmaceutical Scientists Annual Meeting, San Antonio, Texas. Podium presentation entitled *"Prevention of Protein Adsorption on Surfaces by PEO/PPO/PEO Triblock Copolymers".* November, 1992.

Society for Biomaterials Annual Meeting, Boston, Massachusetts. *"Adsorption Behavior of PEO/PPO/PEO Triblock Copolymers on DDS-Glass".* April, 1994.

Society for Biomaterials Annual Meeting, Boston, Massachusetts. Podium presentation entitled *"Development of Poly(ethylene oxide)-Chitosan Blend Membranes for Hemodialysis".* April, 1994.

American Chemical Society Annual Meeting, Washington, District of Columbia, Podium presentation entitled *"Chitosan-Poly(ethylene oxide) Semi-IPN as a pH-Sensitive Drug Delivery System".* August, 1994.

American Association of Pharmaceutical Scientists Annual Meeting, Orlando, Florida. Podium presentation entitled *"Pyrene Fluorescence Study of Insulin Denaturation and Aggregation at Hydrophobic Interfaces".* November, 1994.

Controlled Release Society Annual Meeting, Seattle, Washington. Poster presentation entitled *"Chitosan-Poly(Ethylene Oxide) Hydrogels for pH-Sensitive Oral Drug Delivery".* August, 1995.

American Chemical Society's Conference on Formulations and Drug Delivery, Boston, Massachusetts. Podium presentation entitled *"Site-specific Oral Delivery of Antibiotics using pH-Sensitive Hydrogels".* October, 1995.

American Association of Pharmaceutical Scientists, Eastern Regional Meeting, New Brunswick, New Jersey. Poster presentation entitled *"Site-Specific Delivery of Antibiotics for the Treatment of Helicobacter pylori Infection in Peptic Ulcer Disease".* June, 1995.

Fifth World Biomaterials Congress, Toronto, Ontario, Canada. Podium presentation entitled *"Surface Modification of Chitosan Hemodialysis Membranes with Anionic Polysaccharides".* June, 1996.

Surfaces in Biomaterials '96 Symposium, Chandler, Arizona. Poster presentation entitled *"Modification of Chitosan Membrane Surfaces by Complexation-Interpenetration of Anionic Polysaccharides"* September, 1996.

Nineteenth Annual Undergraduate Research Seminar, Morgantown, West Virginia. Poster presentation entitled *"Factors Influencing Stomach-Specific Antibiotic Delivery for H. pylori Infection".* October, 1997.

First International Symposium on Advanced Biomaterials, Montréal, Quebec, Canada. Podium presentation entitled *"Chitosan Surface Modification with Anionic Poly(Ethylene Glycol) Derivative for Improved Blood Compatibility."* October, 1997.

American Association of Pharmaceutical Scientists Annual Meeting, Boston, Massachusetts. Poster presentation entitled *"The Role of Gastric pH and Mucin Permeability on Localized Antibiotic Delivery for H. pylori Infection".* November, 1997.

American Association of Pharmaceutical Scientists Annual Meeting, Boston, Massachusetts. Poster presentation entitled *"Mucoadhesive Chitosan Microspheres for Stomach-Specific Antibiotic Delivery".* November, 1997.

American Association of Pharmaceutical Scientists Annual Meeting, Boston, Massachusetts. Poster presentation entitled *"Surface Modification of Chitosan by Polyelectrolyte Complexation-Interpenetration to Improve Biocompatibility".* November, 1997.

Society for Biomaterials Annual Meeting, Providence, Rhode Island. Podium presentation entitled *"Novel Thermogelling Paclitaxel Formulation for Localized Delivery".* May, 1999.

Society for Biomaterials Annual Meeting, Providence, Rhode Island. Podium presentation entitled *"Surface Modification of Chitosan Microspheres to Improve Biocompatibility".* May, 1999.

Controlled Release Society Annual Meeting, Boston, Massachusetts. Poster presentation entitled *"Membranes Formed by Physical Interpenetration of Chitosan with PEO/PPO/PEO Triblock Copolymers".* June, 1999.

American Association of Pharmaceutical Sciences Annual Meeting. Indianapolis, Indiana. Poster presentation entitled *"Preparation and Characterization of Cross-linked Chitosan Microspheres for Delivery of Tetracycline Locally in the Stomach".* November, 2000.

American Association of Pharmaceutical Sciences, Pharmaceutical Congress of the Americas, Orlando, Florida. Poster presentation entitled *"Intratumoral Administration of Paclitaxel in a Thermogelling Pluronic® F-127 Formulation".* March, 2001.

American Association of Pharmaceutical Sciences, Pharmaceutical Congress of the Americas, Orlando, Florida. Poster presentation entitled *"Biodegradable Chitin-Paclitaxel Microparticle Formulations for Localized Drug Delivery".* March, 2001.

American Association of Pharmaceutical Scientists, Pharmaceutical Congress of the Americas, Orlando, Florida. Poster presentation entitled *"Permselective Membranes Prepared by Physical Interpenetration of Chitosan with PEO/PPO/PEO Triblock Copolymers".* March, 2001.

American Association of Pharmaceutical Scientists, Northeast Regional Discussion Group Annual Meeting, Rocky Hill, Connecticut. Poster presentation entitled *"Poly(epsilon-caprolactone) Nanoparticles for Intracellular Delivery of Tamoxifen".* April, 2001.

American Association of Pharmaceutical Scientists, Northeast Regional Discussion Group Annual Meeting, Rocky Hill, Connecticut. Poster presentation entitled *"Poly(ethylene glycol)-Modified Gelatin Nanoparticles as Long-Circulating Intracellular Delivery Vehicle".* April, 2001.

American Association of Pharmaceutical Scientists Annual Meeting, Denver, Colorado. Poster presentation entitled *"Poly(epsilon-caprolactone) Nanoparticles for Intracellular Delivery of Tamoxifen".* October, 2001.

American Association of Pharmaceutical Scientists Annual Meeting, Denver, Colorado. Poster presentation entitled *"Perm-Selective Alginate-Chitosan Hybrid Microcapsules for Enzyme Immobilization".* October, 2001.

American Association of Pharmaceutical Scientists, Northeast Regional Discussion Group Annual Meeting, Rocky Hill, Connecticut. Poster presentation entitled *"Long-Circulating, pH-Sensitive Poly(beta-amino ester) Nanoparticles for Tumor-Selective Paclitaxel Delivery".* April, 2002.

American Association of Pharmaceutical Scientists Annual Meeting, Toronto, Ontario, Canada. Poster presentation entitled *"Cellular Uptake, Trafficking, and DNA Transfection Studies with Poly(ethylene glycol)-Modified Gelatin Nanoparticles".* November, 2002.

American Association of Pharmaceutical Scientists, Northeast Regional Discussion Group Annual Meeting, Rocky Hill, Connecticut. Poster presentation entitled *"In Vitro Evaluation of DNA Delivery to Tumor Cells Using Poly(ethylene glycol)-Modified Gelatin Nanoparticles".* April, 2003.

American Association of Pharmaceutical Scientists, Northeast Regional Discussion Group Annual Meeting, Rocky Hill, Connecticut. Poster presentation entitled *"Effect of Chemical Cross-linking of Chitosan Microspheres on Gastric Residence and Local Tetracycline Concentrations in Fasted Gerbils for Local Treatment of H. pylori Infection".* April, 2003.

American Association of Pharmaceutical Scientists, Northeast Regional Discussion Group Annual Meeting, Rocky Hill, Connecticut. Poster presentation entitled *"Chitosan Stabilized Colloidal Gold Complexes: Cationic Probes for Intracellular DNA Trafficking and Delivery".* April, 2003.

American Association of Pharmaceutical Scientists, Northeast Regional Discussion Group Annual Meeting, Rocky Hill, Connecticut. Poster presentation entitled *"Plasmid DNA Encapsulation in a Hybrid Nanoparticles-in-Microsphere System for Oral Delivery".* April, 2004.

American Association of Pharmaceutical Scientists, Northeast Regional Discussion Group Annual Meeting, Rocky Hill, Connecticut. Poster presentation entitled *"Preparation of Thiolated Gelatin Nanoparticles for Rapid Intracellular Delivery in Response to Glutathione".* April, 2004.

American Association of Pharmaceutical Scientists, Northeast Regional Discussion Group Annual Meeting, Rocky Hill, Connecticut. Poster presentation entitled *"Polymeric Nanoparticles for Targeted and Controlled Tamoxifen Delivery in Breast Cancer: In Vitro and In Vivo Investigations"*. April, 2004.

American Association of Pharmaceutical Scientists, Northeast Regional Discussion Group Annual Meeting, Rocky Hill, Connecticut. Poster presentation entitled *"Biodistribution and Targeting Potential of Poly(ethylene glycol)-Modified Gelatin Nanoparticles in Tumor-Bearing Mice".* April, 2004.

American Association of Pharmaceutical Scientists Annual Meeting, Baltimore, Maryland. Poster presentation entitled *"Polymeric Nanoparticles for Targeted and Controlled Tamoxifen Delivery in Breast Cancer: In-vitro and In-vivo Investigations".* November, 2004.

American Association of Pharmaceutical Scientists Annual Meeting, Baltimore, Maryland. Poster presentation entitled *"Preparation of Thiolated Gelatin Nanoparticles for Rapid Intracellular Delivery in Response to Glutathione".* November, 2004.

American Association of Pharmaceutical Scientists Annual Meeting, Baltimore, Maryland. Poster presentation entitled *"Biodistribution and Targeting Potential of Poly(ethylene glycol)-Modified Gelatin Nanoparticles in Tumor-Bearing Mice".* November, 2004.

American Association of Pharmaceutical Scientists Annual Meeting, Baltimore, Maryland. Poster presentation entitled *"Nanoparticles-in-Microsphere Hybrid Systems for Oral DNA Vaccine Delivery".* November, 2004.

Materials Research Society Fall National Meeting, Boston, Massachusetts. *"Biomedical Applications of Gold Nanoparticles Functionalized Using Hetero-Bifunctional Poly(ethylene glycol) Spacer".* December, 2004.

Materials Research Society Fall National Meeting, Boston, Massachusetts. *"Biodegradable Polymeric Nanoparticles for Tumor-Selective Tamoxifen Delivery: In Vitro and In Vivo Studies".* December, 2004.

Materials Research Society Fall National Meeting, Boston, Massachusetts. *"Biodistribution and Tumor-Targeting Potential of Poly(ethylene glycol)-Modified Gelatin Nanoparticles".* December, 2004.

American Association of Pharmaceutical Scientists, Northeast Regional Discussion Group Annual Meeting, Rocky Hill, Connecticut. Poster presentation entitled *"Polymeric Nanoparticles for Targeted and Controlled Tamoxifen Delivery in Breast Cancer: In-Vitro and In-Vivo Investigations".* April, 2005.

American Association of Pharmaceutical Scientists, Northeast Regional Discussion Group Annual Meeting, Rocky Hill, Connecticut. Poster presentation entitled *"Plasmid DNA Encapsulation in a Hybrid Nanoparticles-in-Microsphere System for Oral Delivery".* April, 2005.

American Association of Pharmaceutical Scientists, Northeast Regional Discussion Group Annual Meeting, Rocky Hill, Connecticut. Poster presentation entitled *"Improved Oral Delivery of Hydrophobic Drugs with Novel Nanoemulsion Formulations"* April, 2005.

Nano Science and Technology Institute's Nano2005 Conference and Trade Show, Anaheim, California. *"Biomedical Applications of Gold Nanoparticles Functionalized Using Hetero-bifunctional Poly(ethylene glycol) Spacer".* May, 2005.

Nano Science and Technology Institute's Nano2005 Conference and Trade Show, Anaheim, Connecticut. *"Super-paramagnetic Iron Oxide-Gold Core-Shell Nanoparticles for Biomedical Applications".* May, 2005.

American Association of Pharmaceutical Scientists Annual Meeting, Nashville, Tennessee. Poster presentation entitled *"Formulation Optimization for the Nanoparticles-In-Microsphere Hybrid Oral Delivery System Using Factorial Design".* November, 2005.

American Association of Pharmaceutical Scientists Annual Meeting, Nashville, Tennessee. Poster presentation entitled *"Formulation Development and In Vivo Biodistribution Studies of Poly(ethylene glycol)-Modified Thiolated Gelatin Nanoparticles".* November, 2005.

American Association of Pharmaceutical Scientists Annual Meeting, Nashville, Tennessee. Poster presentation entitled *"Novel Nanoemulsions for Improved Oral Delivery of Hydrophobic Drugs".* November, 2005.

American Association of Pharmaceutical Scientists Annual Meeting, Nashville, Tennessee. Poster presentation entitled *"Nanoemulsion Formulations for Improved CNS Drug Delivery".* November, 2005.

American Association of Pharmaceutical Scientists Annual Meeting, Nashville, Tennessee. Poster presentation entitled *"Application of Statistical Factorial Design for the Preparation of Poly(styrene-b-isobutylene-b-styrene) Triblock Copolymer Microspheres".* November, 2005

American Association of Pharmaceutical Scientists, Northeast Regional Discussion Group Annual Meeting, Rocky Hill, Connecticut. Poster presentation entitled *"Intracellular Delivery of Saquinavir in Biodegradable Polymeric Nanoparticles for HIV/AIDS"* April, 2006.

American Association of Pharmaceutical Scientists, Northeast Regional Discussion Group Annual Meeting, Rocky Hill, Connecticut. Poster presentation entitled *"Improved Oral Delivery of Saquinavir in Nanoemulsion Formulations for HIV/AIDS".* April, 2006.

American Association of Pharmaceutical Scientists, Northeast Regional Discussion Group Annual Meeting, Rocky Hill, Connecticut. Poster presentation entitled *"Development, Characterization and Transfection of the Plasmid DNA Encapsulated in Nanoparticles-in-Microsphere Formulations for Oral Delivery".* April, 2006.

American Association of Pharmaceutical Scientists, Northeast Regional Discussion Group Annual Meeting, Rocky Hill, Connecticut. Poster presentation entitled *"Tumor-Targeted Delivery of Hydrophobic Drugs in pH-Sensitive Poly(ethylene oxide)-Modified Poly(beta-amino ester) Nanoparticles".* April, 2006.

Society for Biomaterials Annual Meeting, Pittsburgh, Pennsylvania. Podium presentation entitled *"Modulation of Intracellular Ceramide Using Polymeric Nanoparticles to Overcome Multidrug Resistance in Tumor Cells".* April, 2006.

Society for Biomaterials Annual Meeting, Pittsburgh, Pennsylvania. Poster presentation entitled *"Development of the Nanoparticles-in-Microsphere Hybrid Formulations for Oral Delivery of Plasmid DNA".* April, 2006.

Society for Biomaterials Annual Meeting, Pittsburgh, Pennsylvania. Poster presentation entitled *"Novel Nanoemulsions for Improved Oral Delivery of Hydrophobic Drugs".* April, 2006.

Nano Science and Technology Institute's Nano2006 Conference and Trade Show, Boston, Massachusetts. Podium presentation entitled *"Modulation of Intracellular Ceramide Using Polymeric Nanoparticles to Overcome Multidrug Resistance in Tumor Cells".* May, 2006.

Nano Science and Technology Institute's Nano2006 Conference and Trade Show, Boston, Massachusetts. Poster presentation entitled *"Formulation Optimization for the Nanoparticles-in-Microsphere Hybrid Oral Delivery Systems Using Factorial Design".* May, 2006.

Nano Science and Technology Institute's Nano2006 Conference and Trade Show, Boston, Massachusetts. Poster presentation entitled *"Novel Nanoemulsions for Improved Oral Delivery of Poorly Soluble Drugs".* May, 2006.

Nano Science and Technology Institute's Nano2006 Conference and Trade Show, Boston, Massachusetts. Poster presentation entitled *"Characterization and In Vivo Biodistribution Studies with Poly(ethylene glycol)-Modified Thiolated Gelatin Nanoparticles".* May, 2006.

Controlled Release Society Annual Meeting, Vienna, Austria. Poster presentation entitled *"Poly(Styrene-b-Isobutylene-b-Styrene) Triblock Copolymer Microspheres for Sustained Release Drug Delivery".* July, 2006.

Society of Neuroscience 2006 Annual Meeting, Atlanta, Georgia. Poster presentation entitled *"Brain Delivery of Proteins by the Intranasal Route of Administration Using Cationic Liposomes".* October, 2006

The First National Cancer Institute's Alliance in Nanotechnology Principal Investigator Meeting. San Diego, California. Poster presentation entitled *"Multifunctional Nanosystems to Overcome Drug Resistance in Cancer".* October, 2006.

The First National Cancer Institute's Alliance in Nanotechnology Principal Investigator Meeting. San Diego, California. Poster presentation entitled *"Modulation of Multidrug Resistance in Cancer with Polymer Blend Nanoparticles".* October, 2006.

American Association of Pharmaceutical Scientists Annual Meeting, San Antonio, Texas. Poster presentation entitled *"Tumor-Targeted Delivery of Hydrophobic Drugs in pH-Sensitive Poly(ethylene oxide)-Modified Poly(beta-amino ester) Nanoparticles".* November, 2006.

American Association of Pharmaceutical Scientists Annual Meeting, San Antonio, Texas. Poster presentation entitled *"Development and Characterization of Nanoemulsion Formulations Containing Multimodal Therapeutics for Brain Tumor".* November, 2006.

American Association of Pharmaceutical Scientists Annual Meeting, San Antonio, Texas. Poster presentation entitled *"Biodegradable Polymeric Nanoparticles for Intracellular Saquinavir Delivery in HIV/AIDS".* November, 2006.

American Association of Pharmaceutical Scientists Annual Meeting, San Antonio, Texas. Poster presentation entitled *"Oral Plasmid DNA Administration and Transfection Using Nanoparticles-in-Microsphere Formulations".* November, 2006.

American Association of Pharmaceutical Scientists Annual Meeting, San Antonio, Texas. Poster presentation entitled *"Modulation of Multidrug Resistance in Cancer with Polymer Blend Nanoparticles".* November, 2006.

American Association of Pharmaceutical Scientists Annual Meeting, San Antonio, Texas. Poster presentation entitled *"Tumor-Targeted sFlt-1 Gene Delivery Using Long-Circulating Thiolated Gelatin Nanoparticles".* November, 2006.

American Association of Pharmaceutical Scientists Annual Meeting, San Antonio, Texas. Poster presentation entitled *"Improved Oral Delivery of Saquinavir in Nanoemulsion Formulations for HIV/AIDS".* November, 2006.

Controlled Release Society Annual Meeting, Long Beach, California. Poster presentation entitled *"Gastrointestinal Gene Delivery in Mice using Polymeric Nanoparticles-in-Microsphere Oral System".* July, 2007.

Controlled Release Society Annual Meeting, Long Beach, California. Poster presentation entitled *"Design and Development of a Polymer-Blend Nanoparticle Drug Delivery System to Overcome Multidrug Resistance in Cancer".* July, 2007.

Controlled Release Society Annual Meeting, Long Beach, California. Poster presentation entitled *"Paclitaxel and Ceramide Combination Therapy in Biodegradable Polymeric Nanoparticles to Overcome Multidrug Resistance in Cancer".* July, 2007.

The Second National Cancer Institute's Alliance in Nanotechnology Principal Investigator Meeting. Chapel Hill, North Carolina. Poster presentation entitled *"Nanoparticulate Therapeutic Strategy for Intracellular Ceramide Modulation to Lower Apoptotic Threshold and Overcome Multidrug Resistance in Cancer".* October, 2007.

American Association of Pharmaceutical Scientists Annual Meeting, San Diego, California. Poster presentation entitled *"Modulation of Intracellular Ceramide Metabolism with Biodegradable Polymeric Nanoparticle-Encapsulated Tamoxifen to Overcome Multidrug Resistance in Cancer."* November, 2007.

American Association of Pharmaceutical Scientists Annual Meeting, San Diego, California. Poster presentation entitled *"Multifunctional Polymer Blend Nanoparticles for Temporal-Controlled Release of Combination Therapeutics to Overcome Multidrug Resistance of Cancer".* November, 2007.

American Association of Pharmaceutical Scientists Annual Meeting, San Diego, California. Poster presentation entitled *"Development of Novel Biodegradable Polymeric Nanoparticles-in-Microsphere Formulation for Local Plasmid DNA Delivery in the Gastrointestinal Tract".* November, 2007.

American Association of Pharmaceutical Scientists Annual Meeting, San Diego, California. Poster presentation entitled *"HER2/neu Receptor-Targeted Engineered Gelatin Nanovectors for Gene Delivery and Transfection in Pancreatic Cancer Cells".* November, 2007.

American Chemical Society Annual Meeting, New Orleans, Louisiana. Podium presentation entitled *"Gene Delivery and Transfection Studies with Lipopolyplexes in Human Endothelial and Smooth Muscle Cells".* April, 2008.

Nano Science and Technology Institute's Nano2008 Conference and Trade Show, Boston, Massachusetts. Podium presentation entitled *"Gene Delivery and Transfection Studies with Lipopolyplexes in Human Endothelial and Smooth Muscle Cells"*. June, 2008.

Nano Science and Technology Institute's Nano2008 Conference and Trade Show, Boston, Massachusetts. Podium presentation entitled *"Epidermal Growth Factor Receptor-Targeted Engineered Gelatin Nanovectors for Gene Delivery and Transfection in Pancreatic Cancer Cells".* June, 2008.

Nano Science and Technology Institute's Nano2008 Conference and Trade Show, Boston, Massachusetts. Poster presentation entitled *"Non-condensing Calcium Alginate Microspheres for Macrophage-Selective Gene Delivery and Transfection".* June, 2008.

Nano Science and Technology Institute's Nano2008 Conference and Trade Show, Boston, Massachusetts. Poster presentation entitled *"Multifunctional Nanoparticulate System for Simultaneous EGFR Gene Silencing and Enhancement of Apoptosis in Pancreatic Cancer Cells".* June, 2008.

Controlled Release Society Annual Meeting, New York, New York. Podium presentation entitled *"Gene Delivery and Transfection Studies in Smooth Muscle Cells with Lipopolyplexes Immobilized in Gelatin-Coated Stainless Steel Substrates."* July, 2008.

Controlled Release Society Annual Meeting, New York, New York. Poster presentation entitled *"Cellular Trafficking Studies of Ceramide-Loaded Poly(ethylene Oxide)-Modified Poly(epsilon-caprolactone) Nanoparticles with Raman Spectroscopy."* July, 2008.

American Association of Pharmaceutical Scientists Annual Meeting, Atlanta, Georgia. Poster presentation entitled *"Epidermal Growth Factor Receptor-Targeted Gelatin-Based Nanoparticles for Reporter and Therapeutic Gene Delivery in Human Pancreatic Cancer Cells".* November, 2008.

The Fourth National Cancer Institute's Alliance in Nanotechnology Principal Investigator Meeting. Manhattan Beach, California. Poster presentation entitled *"Polymer Blend Nanoparticulate System for Combination Paclitaxe/Lonidamine Co-Therapy in Overcoming Multidrug Resistance in Breast and Ovarian Cancer via Exploitation of the Warburg's Effect".* October, 2009.

The Fourth National Cancer Institute's Alliance in Nanotechnology Principal Investigator Meeting. Manhattan Beach, California. Poster presentation entitled *"Inhibition of ABCD1 (MDR-1) Expression by siRNA Nanoparticulate Delivery System to Overcome Drug Resistance in Osteosarcoma".* October, 2009.

American Association of Pharmaceutical Scientists Annual Meeting, Los Angeles, California. Poster presentation entitled *"In Vitro Studies with Estradiol-Loaded Omega-3 Fatty Acid-Containing Oil-in-Water Nanoemulsion Formulations for the Treatment of Coronary Restenosis".* November, 2009.

American Association of Pharmaceutical Scientists Annual Meeting, Los Angeles, California. Poster presentation entitled *"The Effect of Curcumin in Enhancing Oral Absorption and Anti-Tumor Therapeutic Efficacy of Paclitaxel Administered in Nanoemulsion Formulations".* November, 2009.

American Association of Pharmaceutical Scientists Annual Meeting, Los Angeles, California. Poster presentation entitled *"TNF-α Gene Silencing Using Nanoparticles-in-Microsphere Oral Delivery System in an Inflammatory Bowel Disease Model".* November, 2009.

Controlled Release Society Annual Meeting, Portland, Oregon. Poster presentation entitled *"Tuftsin-Modified Alginate Nanoparticles as a Non-Condensing Macrophage-Targeted Gene Delivery System for Anti-Inflammatory Therapy."* July, 2010.

Controlled Release Society Annual Meeting, Portland, Oregon. Poster presentation entitled *"Preliminary Evaluations of Combination Ceramide/Estradiol Therapy in Coronary Restenosis with Omega-3 Fatty Acid-Containing Nanoemulsion Formulations".* July, 2010.

Controlled Release Society Annual Meeting, Portland, Oregon. Poster presentation entitled *"In Vitro Evaluations of Nanoparticle-in-Emulsion Formulations for Gene Delivery and Transfection in Macrophages".* July, 2010.

American Association of Pharmaceutical Scientists Annual Meeting, New Orleans, Louisiana. Poster presentation entitled *"Preliminary Evaluations of Combination Ceramide/Estradiol Therapy in Atherosclerosis with Omega-3 Fatty Acid-Containing Nanoemulsion Formulations".* November, 2010.

American Association of Pharmaceutical Scientists Annual Meeting, New Orleans, Louisiana. Podium and poster presentations entitled *"Tuftsin-Modified Alginate Nanoparticles as a Non-Condensing Macrophage-Targeted Gene Delivery System for Anti-Inflammatory Therapy".* November, 2010.

American Association of Pharmaceutical Scientists Annual Meeting, New Orleans, Louisiana. Poster presentation entitled *"Advances in siRNA Delivery: Preliminary Work in the Development of an siRNA Nanoemulsion Delivery System".* November, 2010.

American Association of Pharmaceutical Scientists Annual Meeting, New Orleans, Louisiana. Poster presentation entitled *"Advances in siRNA Delivery: Preliminary Work in the Development of an siRNA Nanoemulsion Delivery System".* November, 2010.

American Association of Pharmaceutical Scientists Annual Meeting, New Orleans, Louisiana. Poster presentation entitled *"Gene Delivery and Transfection in Human Pancreatic Cancer Cells using Epidermal Growth Factor Receptor-Targeted Gelatin Nanoparticles".* November, 2010.

American Association of Pharmaceutical Scientists, National Biotechnology Conference. San Francisco, California. Poster presentation entitled *"Therapeutic Gene Delivery and Transfection in Human Pancreatic Cancer Cells Using Epidermal Growth Factor Receptor-Targeted Gelatin Nanoparticles".* May, 2011.

Nano Science and Technology Institute's Nano2011 Conference and Trade Show, Boston, Massachusetts. Podium presentation entitled *"Label-Free Raman Micro-Spectral Imaging of the Micro-Environment of Panc-1 Spheroids".* June, 2011.

Nano Science and Technology Institute's Nano2011 Conference and Trade Show, Boston, Massachusetts. Podium presentation entitled *"Therapeutic Gene Delivery and Transfection in Human Pancreatic Cancer Cells Using Epidermal Growth Factor Receptor-Targeted Gelatin Nanoparticles".* June, 2011.

Controlled Release Society Annual Meeting, National Harbor, Maryland. Poster presentation entitled *"Label-Free Imaging of Panc-1 Human Pancreatic Tumor Spheroids by Raman Microspectroscopy".* July, 2011.

Controlled Release Society Annual Meeting, National Harbor, Maryland. Poster presentation entitled *"Therapeutic Gene Delivery and Transfection in Human Pancreatic Cancer Cells Using Epidermal Growth Factor Receptor-Targeted Gelatin Nanoparticles".* July, 2011.

17th International Workshop on Single Molecule Spectroscopy and Ultrasensitive Analysis in the Life Sciences, Berlin, Germany. Poster presentation entitled *"Label-Free and Sub-Micron Imaging of Tumor Micro-Environment In Vitro*". September, 2011.

The Fifth National Cancer Institute's Alliance in Nanotechnology for Cancer Annual Principal Investigators Meeting, Boston, Massachusetts. Poster presentation entitled *"Combinatorial Library Approach Using Functionally Variant Hyaluronic Acid-Based Self-Assembling Nanosystems for Tumor-Targeted Drug and Oligonucleotide Delivery".* September, 2011.

The Fifth National Cancer Institute's Alliance in Nanotechnology for Cancer Annual Principal Investigators Meeting, Boston, Massachusetts. Poster presentation entitled *"Evaluations of Dextran-Based Nanoparticle-Mediated Drug and siRNA Delivery"*. September, 2011.

The Fifth National Cancer Institute's Alliance in Nanotechnology for Cancer Annual Principal Investigators Meeting, Boston, Massachusetts. Poster presentation entitled *"Multimodal Therapeutic Approach for Pancreatic Cancer: Delivery of Combination wt-p53 Gene and Gemcitabine in Epidermal Growth Factor Receptor-Targeted Gelatin Nanoparticles"*. September, 2011.

Federation of Analytical Chemistry and Spectroscopy Societies (FACSS) 38th Annual Meeting. Reno, Nevada. Podium presentation entitled *"Label-Free Sub-Micron Imaging of Biological Systems".* October, 2011.

American Association of Pharmaceutical Scientists Annual Meeting, Washington, District of Columbia. Poster presentation entitled *"Combinatorial Library Approach Using Functionally Variant Hyaluronic Acid-Based Self-Assembling Nanosystems for Tumor-Targeted Drug and Oligonucleotide Delivery".* October, 2011.

American Association of Pharmaceutical Scientists Annual Meeting, Washington, District of Columbia. Poster presentation entitled *"Squalane oil Multiple Emulsion Formulations for Enhanced Immune Response to Peptide-Based Melanoma Vaccine".* October, 2011.

American Association of Pharmaceutical Scientists Annual Meeting, Washington, District of Columbia. Poster presentation entitled *"Macrophage-Targeted Tuftsin-Modified Alginate Nanoparticles for Anti-Inflammatory Gene Therapy in the Treatment of Rheumatoid Arthritis".* October, 2011.

American Association of Pharmaceutical Scientists Annual Meeting, Washington, District of Columbia. Poster presentation entitled *"Multimodal Therapeutic Approach for Pancreatic Cancer: Delivery of Combination wt-p53 Gene and Gemcitabine in Epidermal Growth Factor Receptor-Targeted Gelatin Nanoparticles".* October, 2011.

Connective Tissue Oncology Society (CTOS) Annual Meeting, Chicago, Illinois. Podium presentation entitled *"Dextran-Based Nanoparticulate Delivery System to Overcome Multidrug Resistance in Osteosarcoma".* October, 2011.

Eight Annual Workshop on FT-IR Spectroscopy in Microbiological and Medical Diagnostics. Berlin, Germany. Poster presentation entitled *"Raman-Active Gold Nanoparticles as Beacons in Cervical Cancer Cells".* October, 2011.

International Society of Pharmaceutical Engineers Annual Meeting. Dallas, Texas. Podium presentation entitled "*Macrophage-Targeted Tuftsin-Modified Alginate Nanoparticles for Anti-Inflammatory Gene Therapy in the Treatment of Rheumatoid Arthritis".* November, 2011.

American Association of Pharmaceutical Scientists, National Biotechnology Conference. San Diego, California. Poster presentation entitled *"Macrophage-Targeted Tuftsin-Modified Alginate Nanoparticles for Anti-Inflammatory Gene Therapy in the Treatment of Experimental Arthritis".* May, 2012.

INVITED PRESENTATIONS AND TUTORIALS

Massachusetts College of Pharmacy and Allied Health. Division of Pharmaceutical Sciences. Boston, Massachusetts. *"Formulation of Controlled Release Dosage Forms".* May, 1996.

Advanced Magnetics, Inc., Cambridge, Massachusetts. *"Poly(Ethylene Glycol)-Modified Biomaterial Surfaces"*. January, 1998.

Innovative Imaging Systems, Inc., North Billerica, Massachusetts. *"Polymers for Controlled Drug Delivery Systems".* August, 1998.

Kuwait University, Faculty of Pharmacy, Safat, Kuwait. *"Medical and Pharmaceutical Applications of Chitosan".* February, 1999.

Tufts University, Department of Chemical Engineering and Bioengineering and Center for Biotechnology Engineering. Medford, Massachusetts. *"Chitosan-Based Biomaterials and Drug Delivery Systems".* March, 2000.

Massachusetts Institute of Technology (MIT), Department of Chemical Engineering, Cambridge, Massachusetts. *"Polymeric Site-Specific Drug Delivery Systems".* September, 2000.

Zycos, Inc., Lexington, Massachusetts. *"Cationic Interpenetrating Network Hydrogels for DNA Delivery".* December, 2000.

Northeastern University, Department of Pharmaceutical Sciences, Boston, Massachusetts. *"Novel Biodegradable pH-Responsive Polymers for Intracellular Delivery".* March, 2001.

Northeastern University, School of Pharmacy, Boston, Massachusetts. *"Polymeric Delivery Systems for Drugs and Genes"*. March, 2002.

Cambridge Scientific, Inc., Cambridge, Massachusetts. *"Polymeric Drug and Gene Delivery Systems".* March, 2002.

Marine Polymer Technologies, Inc., Topsfield, Massachusetts. *"Chitosan-Based Biomaterials and Drug Delivery Systems".* April, 2002.

Northeastern University, Biotechnology Academic Steering Committee, Boston, Massachusetts. *"Polymeric Biomaterials and Drug Delivery Systems".* January, 2003.

Northeastern University, Department of Biology, Boston, Massachusetts. *"Polymeric Biomaterials and Delivery Systems".* April, 2003.

Northeastern University, Technology Transfer and Biotechnology Symposium, Boston, Massachusetts. *"Polymeric Biomaterials and Drug Delivery Systems".* April, 2003.

Catalyst Oncology, Inc., Providence, Rhode Island. *"Tumor-Targeted Polymeric Nanoparticle Delivery Systems"* December, 2003.

Archemix, Inc., Cambridge, Massachusetts. *"Nanotechnology for Drug Delivery".* May, 2004.

Novartis Institute for Biomedical Research, Cambridge, Massachusetts. *"Polymeric Technologies for Delivery of Drugs and Genes"*. August, 2004.

University of Massachusetts at Lowell, Lowell, Massachusetts. *"Polymer-Based Technologies for Targeted Delivery of Drugs and Genes"*. February, 2005.

Spherics, Inc., Lincoln, Rhode Island. *"Polymeric Delivery Systems for Drugs and Genes".* April, 2005.

Northeastern University, Department of 2005 Pharmaceutical Sciences Research Showcase, Boston, Massachusetts. *"Nanotechnology for Tumor-Targeted Delivery of Drugs and Genes".* May, 2005.

Nano Science and Technology Institute's Nano2005 Conference and Trade Show, Anaheim, California. *"Nanotechnology for Medical Diagnosis, Imaging, and Therapy – a Tutorial".* May, 2005.

Nano Science and Technology Institute's Nano2005 Conference and Trade Show, Anaheim, California. *"Tumor Targeted Nanocarriers for Drug and Gene Delivery".* May, 2005.

Pfizer Central Research, Groton, Connecticut. *"Polymeric Biomaterials and Targeted Delivery Systems".* September, 2005.

Universidad Metropolitana (UMET), Department of Science and Technology, National Science Foundation Sponsored XIV Undergraduate Research Symposium. San Juan, Puerto Rico. *"Nanotechnology for Medical Imaging and Therapy".* September, 2005.

Strategic Research Institute, Inc., Cambridge, Massachusetts. Nanomedicine: Commercialization of Drug Discovery, Delivery, and Diagnostics Conference. *"Nanotechnology for Targeted Delivery of Drugs and Genes"*. October, 2005.

Nano Science and Technology Institute's Tutorial, Washington, District of Columbia. *"Nanotechnology for Cancer Therapeutics – A Tutorial*" October, 2005.

National Institute of Standards and Technology, Gaithersburg, Maryland. "*Nanotechnology for Cancer Imaging and Therapy"* December, 2005.

Alkermes, Inc., Cambridge, Massachusetts. *"Multi-Functional Nanotechnology for Imaging and Therapy".* April, 2006.

Nano Science and Technology Institute's Tutorial, Washington, District of Columbia. *"Nanotechnology for Cancer Therapeutics – A Tutorial*" May, 2006.

Nano Science and Technology Institute's Nano2006 Conference and Trade Show, Boston, Massachusetts. *"Nanotechnology in Drug Delivery: An Overview".* May, 2006.

2006 Cancer Nanotechnology Conference, Paris, France. *"Nanotechnology for Tumor-Targeted Drug and Gene Delivery".* May, 2006.

Northeastern University, Department of 2006 Pharmaceutical Sciences Research Showcase, Boston, Massachusetts. *"Multi-functional Nanosystems for Drug Delivery and Imaging".* May, 2006.

National Cancer Institute, Center for Cancer Research, Nanobiology "Think Tank" Meeting, Frederick, Maryland. *"Multi-functional Nanosystems to Overcome Drug Resistance in Cancer".* June, 2006.

Microfluidics, Inc., Newton, Massachusetts. *"Nanotechnology for Targeted Delivery of Drugs and Genes".* June, 2006.

Wyeth Pharmaceuticals, Inc., Andover, Massachusetts. *"Nanotechnology and the Promise of Molecular Medicine".* July, 2006.

Emory University, School of Medicine, Department of Ophthalmology, Atlanta, Georgia. *"Nanotechnology for Targeted Delivery of Drugs and Genes".* July, 2006.

New Jersey Center for Biomaterials, Rutgers – the States University of New Jersey, Piscataway, New Jersey. *"Polymers for Tumor-Targeted Delivery and Modulation of Multidrug Resistance".* August, 2006.

Accelrys Nanobiotechnology Seminar Series, Cambridge, Massachusetts. "*Nanotechnology for Targeted Delivery of Drugs and Genes".* August, 2006.

Swiss House of Advanced Research and Education (SHARE), Consulate of Switzerland, Boston, Massachusetts. *"Nanotechnology for Medical Diagnosis and Treatment".* September, 2006.

American Academy of Nanomedicine 2nd Annual Meeting, Washington, District of Columbia. *"Nanotechnology for Targeted Drug and Gene Delivery".* September, 2006.

Epic Therapeutics, Inc., Norwood, Massachusetts. *"Nanotechnology for Targeted Delivery of Drugs and Genes".* September, 2006.

Twelfth Samsung International Symposium on Molecular Medicine, Seoul, Korea. *"Multi-functional Nanosystems for Tumor-Targeted Drug and Gene Delivery".* September, 2006.

Nanotechnology 2006 Conference, Rensselaer Polytechnic Institute, Troy, New York. *Multi-functional Nanosystems for Targeted Drug and Gene Delivery".* September, 2006.

Missouri Nanotechnology Alliance – Third Annual Meeting, Columbia, Missouri. *"Multi-functional Nanosystems for Tumor-Targeted Drug and Gene Delivery".* October, 2006.

Cambridge Healthtech Institute's Targeted Nanodelivery Conference, Baltimore, Maryland. *"Multi-functional Nanosystems to Overcome Drug Resistance in Cancer".* October, 2006.

Oncogene Science – A Bayer Healthcare Company, Cambridge, Massachusetts. *"Nanomedicine: Realizing the Potential for Early Cancer Diagnosis and Molecular Therapy".* October, 2006.

Northeastern University, Department of Chemistry and Chemical Biology, Boston, Massachusetts. *"Multi-functional Nanosystems for Imaging and Drug Delivery".* November, 2006.

Second Annual Conference on Biomaterials and Advanced Drug Delivery, New Jersey Center for Biomaterials. Rutgers's - The State University of New Jersey, New Brunswick, New Jersey. *"Multi-functional Nanosystems for Drug and Gene Delivery".* November, 2006.

American College of Veterinary Pathologists and American Society for Veterinary Clinical Pathology Annual Meeting, Tucson, Arizona. *"Nanotechnology for Medical Imaging and Therapy".* December, 2006.

National Institutes of Health, National Cancer Institute's, Drug Development and Therapeutics Committee, Bethesda, Maryland. *"Multifunctional Nanosystems to Overcome Drug Resistance in Cancer".* January, 2007.

Millennium Pharmaceuticals, Inc., Cambridge, Massachusetts. *"Nanotechnology Applications in Translational Oncology*". January, 2007.

Harvard-MIT Health Science and Technology Program, MIT, Cambridge, Massachusetts. *"Nanotechnology Applications in Cancer Therapy".* February, 2007.

Third Annual Conference on Biomaterials and Advanced Drug Delivery New Jersey Center for Biomaterials, Rutgers's - The State University of New Jersey, New Brunswick, NJ. *"Polymer Libraries for Tumor-Targeted Delivery and Modulation of Multidrug Resistance".* March, 2007.

Strategic Research Institute's Second Annual Nanomedicine Conference, Washington, District of Columbia. *"Nanotechnology for Tumor-Targeted Delivery of Drugs and Genes".* March, 2007.

Materials Research Society, 2007 Spring Meeting, San Francisco, California. *"Pre-Clinical In Vivo Efficacy and Safety Studies – a Tutorial".* April, 2007.

Materials Research Society, 2007 Spring Meeting, San Francisco, California. *"Multifunctional Nanosystems for Targeted Drug and Gene Delivery".* April, 2007.

American Association of Pharmaceutical Scientists, Northeast Regional Discussion Group Annual Meeting, Rocky Hill, Connecticut. *"Micro- and Nanotechnology for Oral Drug and Gene Delivery".* April, 2007.

Genzyme Pharmaceuticals, Inc. – Drug and Biomaterials R&D, Waltham, Massachusetts. *"Nanotechnology Applications in Translational Oncology*". April, 2007.

Vertex Pharmaceuticals, Inc., Cambridge, Massachusetts. *"Nanotechnology Applications in Translational Oncology*". April, 2007.

Thayer School of Engineering, Dartmouth College, Hanover, New Hampshire. *"Cancer Nanomedicine: Potential for Targeted Delivery and Molecular Medicine".* May, 2007.

2007 Association for Research in Vision and Ophthalmology Annual Meeting, Fort Lauderdale, Florida. *"Nanotechnology in Advanced Drug Delivery: An Overview".* May, 2007.

2007 Biotechnology Industry Organization Annual Conference, Cancer Nanotechnology for Early Diagnosis and Therapy Symposium, Boston, Massachusetts. *"Multifunctional Nanosystems for Tumor-Targeted Drug and Gene Delivery"*. May, 2007.

Northeastern University, Department of Pharmaceutical Sciences 2007 Research Showcase, Boston, Massachusetts. *"Systemic and Oral Therapeutic Gene Delivery with Non-Viral Vectors".* May, 2007.

2007 Cancer Nanotechnology Conference, Paris, France. *"Multifunctional Nanosystems for Tumor-Targeted Drug and Gene Delivery".* June, 2007.

Wellman's Photomedicine Center, Massachusetts General Hospital, Boston, Massachusetts. *"Nanotechnology for Cancer Imaging and Therapy".* July 2007.

National Cancer Institute, National Institutes of Health. Frederick, Maryland. *"Multifunctional Nanosystems to Overcome Drug Resistance in Cancer".* July 2007.

Cerulean (Tempo) Pharmaceuticals, Inc., Cambridge, Massachusetts. *"Nanotechnology Applications in Translational Oncology".* September 2007.

Tufts University – New England Medical Center, Molecular Oncology Research Institute, Boston, Massachusetts. *"Nanotechnology Applications in Translational Oncology".* September 2007.

Merck Research Laboratories, Boston, Massachusetts. *"Nanotechnology Applications in Translational Oncology".* September 2007.

2007 Boston Society for Advanced Therapeutics, Annual Meeting, Harvard Medical School, Boston, Massachusetts. *"Nanotechnology for Targeted Delivery of Drugs and Genes".* September 2007.

Second Annual National Cancer Insitute's Nanotechnology in Cancer Alliance's Principal Investigators Meeting, Chapel Hill, North Carolina. *"Multifunctional Nanoparticles to Overcome Tumor Drug Resistance".* October 2007.

Northeastern University, University's Board of Trustee's Annual Meeting, Boston, Massachusetts. *"Nanomedicine: Opportunity for Targeted Imaging and Drug Delivery".* October, 2007.

Dartmouth College, Thayer School of Engineering, 8th Annual Nanomaterials Conference, Hanover, New Hampshire. *"Nanotechnology for Cancer Specific Drug and Gene Delivery".* October, 2007.

The Fifth Annual Nanomedicine and Drug Delivery Symposium (NanoDDS), Boston, Massachusetts. *"Multifunctional Nanotherapeutic Strategies for Drug and Gene Delivery".* November, 2007.

University of Central Florida, Nano Science and Technology Center, Orlando, Florida. *"Nanotechnology Applications in Translational Oncology".* November, 2007.

Dartmouth Medical School, Hanover, New Hampshire. *"Nanotechnology Applications in Translational Oncology".* December, 2007.

University of South Carolina, Department of Pharmaceutical Sciences, College of Pharmacy, Columbia, South Carolina. *"Nanomedicine: Opportunity for Translation of Molecular Therapies".* February, 2008.

Medical University of South Carolina, School of Pharmacy, Charleston, South Carolina. *"Nanomedicine: Opportunity for Translation of Molecular Therapies".* February, 2008.

IQPC, The Future of Nanotechnology for Targeted Drug Delivery Conference, Boston, Massachusetts. *"Nanotechnology Applications in Translational Oncology".* February, 2008.

Novartis Institutes for Biomedical Research, Cambridge, Massachusetts. *"Advances in Oral Drug and Gene Delivery Systems".* April, 2008.

Museum of Science, Boston, Massachusetts. *"Nanomedicine: Realizing the Potential for Targeted Cancer Therapy".* April, 2008.

Boston University, College of Engineering, 2008 Emerging Technology and Best Practices Seminar Series Nanotechnology in Medicine: From Diagnostics to Therapeutics Program, Boston, Massachusetts. *"Advances in Nanotechnology for Drug and Gene Delivery".* April, 2008.

Microfluidics Corporation, Newton, Massachusetts. *"Nanotechnology for Targeted Imaging and Drug Delivery".* April, 2008.

Atrium Medical Corporation, Hudson, New Hampshire. *"Advances in Nanotechnology for Drug and Gene Delivery".* April, 2008.

First European Conference for Clinical Nanomedicine, Basel, Switzerland. *"Polymeric Nanosystems for Targeted Delivery of Drugs and Genes".* May, 2008.

Mayo Clinic, Department of Biomedical Engineering, Rochester, Minnesota. *"Nanotechnology Applications in Translational Oncology".* September, 2008.

Pfizer – Research Technology Center, Cambridge, Massachusetts. *"Nanomedicine: Opportunity for Translation of Molecular Therapies".* September, 2008.

Bio-Rad, Inc., Hercules, California. *"Advances in Nanotechnology for Non-Viral Gene Delivery".* October, 2008.

Purdue University, School of Pharmacy, West Lafayette, Indiana. *"Multifunctional Nanosystems for Targeted Drug and Gene Delivery",* November, 2008.

American Association of Pharmaceutical Scientists 2008 National Meeting, Atlanta, Georgia. *"Advances in Nanotechnology for Drug and Gene Delivery",* November, 2008.

Materials Research Society, 2008 Fall Meeting, Boston, Massachusetts. *"Multifunctional Nanosystems for Cancer-Targeted Imaging and Drug Delivery".* December, 2008.

Xavier University of Louisiana, College of Pharmacy, New Orleans, Louisiana. *"Multifunctional Nanosystems for Targeted Drug and Gene Delivery".* December, 2008.

Arqule, Inc., Waltham, Massachusetts. *"Nanotechnology Applications in Translational Oncology".* January, 2009.

Indo-US Science and Technology Forum-Sponsored Cancer Nanotechnology Symposium, New Delhi, India. *"Multifunctional Nanosystems to Overcome Tumor Drug Resistance".* February, 2009.

Panacea Biopharmaceuticals, Inc. New Delhi, India. "*Advances in Nanotechnology for Non-Viral Gene Delivery".* February, 2009.

Institute of Genomics and Integrative Biology, New Delhi, India. *"Multi-functional Nanosystems for Targeted Drug and Gene Delivery".* February, 2009.

Cadila Pharmaceuticals, LTD, Ahmedabad, India. *"Multi-functional Nanosystems for Targeted Drug and Gene Delivery".* February, 2009.

Microfluidics Corporation, Newton, Massachusetts. *"Multifunctional Nanosystems for Targeted Imaging and Drug Delivery".* February, 2009.

Strem Chemicals, Inc., Newburyport, Massachusetts. *"Nanotechnology Applications in Translational Oncology".* February, 2009.

Microfluidics Corporation, Newton, Massachusetts. Webinar on *"Multifunctional Nanomedicine: Opportunity for Targeted Drug and Gene Delivery".* May, 2009.

Massachusetts General Hospital, Department of Orthopedic Surgery and Orthopedic Oncology, Boston Massachusetts. *"Multifunctional Nanosystems to Overcome Tumor Drug Resistance".* July, 2009.

Microfluidics Corporation, Newton, Massachusetts. Roundtable Discussions with Scientific Board and Directors. "*Nanomedical Technologies in Early Disease Diagnosis, Imaging and Therapy".* July, 2009.

2009 American Association of Colleges of Pharmacy Annual Meeting, Boston, Massachusetts. "*Nanomedical Technologies in Early Diagnosis, Imaging and Therapy".* July, 2009.

Novartis Institute of Biomedical Research, Vaccine and Diagnostics Division, Cambridge, Massachusetts. *"Advances in Oral Non-Viral Gene Delivery Systems".* July, 2009.

2009 Nano Business Alliance Conference, Chicago, Illinois. *"Nanotechnology in Early Diagnosis and Targeted Therapy".* September, 2009.

Roche Pharmaceuticals Partnering Event, Cambridge, Massachusetts. *"Nanotechnology in Early Diagnosis and Targeted Therapy".* September, 2009.

Fifth Annual National Cancer Institute's Nanotechnology in Cancer Alliance's Principal Investigators Meeting, Manhattan Beach, California. *"Multifunctional Nanoparticles to Overcome Tumor Drug Resistance".* October 2009.

First Annual Conference of the American Society for Nanomedicine, Bolger Center, Potomac, Maryland. *"Multifunctional Nanosystems for Cancer Diagnosis and Therapy".* October, 2009.

University of Wisconsin at Madison, School of Pharmacy, Madison, Wisconsin. "*Nanotechnology in Early Diagnosis and Targeted Therapy".* November, 2009.

University of Illinois at Chicago, College of Pharmacy, Chicago, Illinois. "*Nanomedicine: Opportunity for Early Diagnosis and Targeted Therapy".* January, 2010.

Langer Lab Seminar Series, Massachusetts Institute of Technology, Cambridge, Massachusetts. "*Nanotechnology in Early Diagnosis and Targeted Therapy".* February, 2010.

University of Nebraska Medical Center, College of Pharmacy, Omaha, Nebraska. "*Nanotechnology in Early Diagnosis and Targeted Therapy".* March, 2010.

Canadian Society for Pharmaceutical Sciences 2010 Annual Meeting, Vancouver, British Columbia, Canada. *"Nanotechnology Applications in Cancer Diagnosis and Therapy"* June, 2010.

National Cancer Institute, Center for Cancer Research, Nano-Biology Program, Frederick, Maryland. *""Nanotechnology Applications in Cancer Diagnosis and Therapy"* June, 2010.

Stanford University, School of Medicine, Nano-Biotechnology Program Seminar Series, Stanford, California. *"Multifunctional Nanosystems for Early Diagnosis and Targeted Therapy".* June 2010.

American Chemical Society's National Meeting, Boston, Massachusetts. *"Multifunctional Nanosystems for Tumor Imaging and Therapy".* August, 2010.

Second Annual Conference of the American Society for Nanomedicine, NIAID-Sponsored Symposium on Nanotechnology for HIV/AIDS. Bolger Center, Potomac, Maryland. *"Nanotechnology Advances in the Prevention and Treatment of HIV/AIDS".* October, 2010.

Avila Therapeutics, Inc., Waltham, Massachusetts. "*Nanotechnology for Disease Diagnosis and Targeted Therapy".* November, 2010.

2010 Annual National Cancer Institute's Nanotechnology in Cancer Alliance's Principal Investigators Meeting, Bethesda, Maryland. *"Combinatorial-Designed Nano-Platforms to Overcome Tumor Drug Resistance".* November, 2010.

Center for Medicine and Innovative Technologies (CIMIT)-Wellcome Trust Joint Workshop on PTSD and TBI. Boston, Massachusetts. *"Strategies for Overcoming the Blood-Brain Barrier in CNS Therapies".* January, 2011.

Fifteenth International Symposium on Recent Advances in Drug Delivery Systems, University of Utah, Salt Lake City, UT. *"Multifunctional Nanosystems for Targeted Delivery of Molecular Therapies".* February, 2011.

Keynote Presentation at the 2011 GRASP Annual Meeting, Massachusetts College of Pharmacy and Health Sciences, Boston, Massachusetts. *"Multifunctional Nanosystems for Molecular Medicine".* June, 2011.

Fox Chase Cancer Center, Philadelphia, Pennsylvania. *"Multifunctional Nanosystems to Overcome Tumor Drug Resistance".* July, 2011.

2011 Annual National Cancer Institute's Nanotechnology in Cancer Alliance's Principal Investigators Meeting, Tutorial Presentation, Boston, Massachusetts. *"Nucleic Acid Therapeutics: Using DNA and Small Interfering RNA for Cancer".* September 2011.

2011 Annual National Cancer Institute's Nanotechnology in Cancer Alliance's Principal Investigators Meeting, Boston, Massachusetts. *"Taming the Beast: Nanotechnology Solutions for Tumor Aggression"* September, 2011.

Eight Lohmann Therapie Systems (LTS) Academy Meeting, Bonn, Germany. *"Multi-functional Nanomedicines: From Diagnostics to Targeted Delivery".* September, 2011.

Indiana University, Department of Biochemistry and Molecular Biology, Indianapolis, Indiana. *"Multi-functional Nanomedicines: From Cancer Diagnostics to Targeted Delivery".* October, 2011.

University of Missouri at Columbia, Oncology Grand Rounds, Columbia, Missouri. *"Multi-functional Nanomedicines: From Cancer Diagnostics to Targeted Delivery".* October, 2011.

American Association of Pharmaceutical Scientists (AAPS) 2012 annual meeting. Special symposium on *"Nano-Delivery Systems for Vaccines".* Washington, District of Columbia. *"Multi-Compartmental Delivery Systems for Cancer Vaccination".* October, 2011.

Carolina Center for Cancer Nanotechnology Excellence Symposium, University of North Carolina. Chapel Hill, North Carolina. *"Multifunctional Nanosystems: From Diagnostic Imaging to Targeted Therapies".* January, 2012.

Second International Conference on Nanotechnology at Bio-Medical Interface. Amrita Centre for Nanosciences and Molecular Medicine, Kochi, Kerala State, India. *"Translational Cancer Nano-Medicine: From Diagnostic Imaging to Targeted Therapies".* February, 2012.

Wayne State University, Department of Pharmaceutical Sciences, Applebaum College of Pharmacy and Allied Health. Detroit, Michigan. *"Translational Cancer Nano-Medicine: From Diagnostic Imaging to Targeted Therapies".* March, 2012.

2012 Nano-Bio International Collaborative Conference, University of South Florida, Tampa, Florida. "*"Translational Cancer Nano-Medicine: From Diagnostic Imaging to Targeted Therapies".* March, 2012.

Tufts University, Center for Translational Science Institute (CTSI) Roundtable Discussions, Boston, Massachusetts. *"Delivery Strategies for CNS Therapies".* March, 2012.

Tufts University School of Medicine, Cancer Center Seminar Program. Boston, Massachusetts. *"Translational Cancer Nano-Medicine: From Diagnostic Imaging to Targeted Therapies".* April, 2012.

Canadian Society for Pharmaceutical Sciences 2012 Annual Meeting, Toronto, Ontario, Canada*. "Multi-Compartmental Lipid Delivery Systems for Cancer Vaccination".* June, 2012.

2012 Nano Science and Technology Institute's Cancer Nanotechnology Symposium. Santa Clara, California. *"Translational Cancer Nanomedicine: Multimodal Strategies to Overcome Tumor Drug Resistance".* June, 2012.

University of Illinois at Urbana-Champaign 2012 BioSensing, BioActuation, and BioNanotechnology Summer Institute. Urbana-Champaign, Illinois. "*"Translational Cancer Nano-Medicine: From Diagnostic Imaging to Targeted Therapies".* August, 2012.

2012 American Association of Pharmaceutical Scientists Annual Meeting *"Tumor-Targeting Symposium".* Chicago, Illinois. *Translational Cancer Nano-Medicine: Multimodal Strategies to Overcome Tumor Drug Resistance"* October, 2012.

2012 Annual National Cancer Institute's Nanotechnology in Cancer Alliance's Principal Investigators Meeting, Houston, Texas. *"Combinatorial-Designed Self-Assembled Nano-Systems for Tumor-Targeted RNAi/Drug Therapy"* November, 2012.

University of Toronto, Leslie Dan School of Pharmacy, Toronto, Ontario, Canada. *"Translational Cancer Nano-Medicine: From Diagnostic Imaging to Targeted Therapies".* November, 2012.

Merck Research Laboratories, Rahway, New Jersey. *"Translational Cancer Nano-Medicine: From Diagnostic Imaging to Targeted Therapies".* November, 2012.

American Society of Health-Systems Pharmacists (ASHP) Midyear Meeting, *Spotlight on Science* Plenary Talk, Las Vegas, Nevada. *"Nanotechnology in Medicine: Very Tiny Solutions for Big Challenges".* December, 2012.

National Cancer Institute, National Institutes of Health, Special symposium on "Dysregulated Endocytosis in Cancer". Bethesda, Maryland. *"Nanotechnology for Tumor-Targeted Drug and Nucleic Acid Delivery".* January, 2013.

Harvard University, School of Engineering and Applied Sciences, Cambridge, Massachusetts. *"Translational Cancer Nano-Medicine: From Diagnostic Imaging to Targeted Therapies".* January, 2013.

University of Connecticut, School of Pharmacy, Department of Pharmaceutical Sciences. Storrs, Connecticut. *"Translational Cancer Nano-Medicine: From Diagnostic Imaging to Targeted Therapies".* April, 2013.

Ferris State University, College of Pharmacy's 60th Annual Spring Pharmacy Seminar Series Keynote Presentation, Big Rapids, Michigan. "*Nanotechnology in Medicine: Very Tiny Solutions for Bio-Medical Challenges".* May, 2013.

University of Missouri Kansas City, School of Pharmacy, Department of Pharmaceutical Sciences. Kansas City, Missouri. *"Translational Cancer Nano-Medicine: From Diagnostic Imaging to Targeted Therapies".* May, 2013.

First International Translational Nanomedicine Conference. Plenary Presentation. Northeastern University, Boston, Massachusetts. *"Translational Nano-Medicine: Diagnostics and Therapeutics for Cancer and Inflammatory Diseases".* July, 2013.

University of Massachusetts Medical School, Program in Molecular Medicine, Worcester, Massachusetts. *"Translational Nano-Medicine: Targeted Therapeutics for Cancer and Inflammatory Diseases".* September, 2013.

2013 Annual National Cancer Institute's Nanotechnology in Cancer Alliance's Principal Investigators Meeting, Bethesda, Maryland. *"Combinatorial-Designed Nano-Platforms: Opportunity for Targeted Delivery of Drugs and siRNA"* September, 2013.

Tufts University, Department of Biomedical Engineering, College of Engineering, Medford, Massachusetts. *"Translational Nano-Medicine: Targeted Therapeutics for Cancer and Inflammatory Diseases".* March, 2014.

Johnson & Johnson Innovation Center, Cambridge, Massachusetts. *"Translational Nano-Medicine: Targeted Therapeutics for Cancer, Pain, and Inflammatory Diseases".* April, 2014.

2014 Cambridge Healthtech Institute (CHI) Biologics Formulation and Delivery Summit, Keynote Presentation, Cambridge, Massachusetts. *"Translational Nano-Medicine: Targeted Therapeutics for Cancer and Inflammatory Diseases".* May, 2014.

2014 Oligonucleotide and Peptide Therapeutics Symposium – TIDES, Providence, Rhode Island. *"CNS Delivery of Peptide Therapeutics".* May, 2014.

Second International Translational Nanomedicine Conference. Plenary Presentation. Northeastern University, Boston, Massachusetts. *"Nanotechnology for CNS Delivery of Biological Therapeutics".* July, 2014.

Second Annual Workshop on Micro- and Nano-Technologies for Medicine: Emerging Frontiers and Applications. MIT-Harvard Science and Technology Program and the Wyss Institute. Cambridge, Massachusetts. *"Translational Nano-Medicine: Targeted Therapeutics for Cancer and Inflammatory Diseases".* July, 2014.

2014 Annual National Cancer Institute's Nanotechnology in Cancer Alliance's Principal Investigators Meeting, Bethesda, Maryland. *"Combinatorial-Designed Nano-Platforms: RNAi and Drug Co-Therapy in Resistant Tumors"* October, 2014.

Houston Methodist Research Institute's George and Angelina Kostas Research Center for Cardiovascular Nanomedicine Inaugural Symposium. Houston, Texas. *"Targeted Therapeutic Delivery for Endothelial Dysfunction in Cardiovascular Diseases".* October, 2014.

University of Michigan, College of Pharmacy, Department of Pharmaceutical Sciences, Ann Arbor, Michigan. *"Translational Nano-Medicine: Targeted Therapeutics for Cancer and Inflammatory Diseases".* November, 2014.

Purdue University, School of Pharmacy and Pharmacal Sciences, Twelfth Annual Garnet E. Peck Symposium, West Lafayette, Indiana. *"Translational Nano-Medicine: Targeted Therapeutics for Cancer and Inflammatory Diseases".* February, 2015.

Henry Stuart Talks, London, The United Kingdom. *"Nanotechnology for CNS Delivery of Biological Therapeutics".* March, 2015.

Takeda Pharmaceuticals, New Frontier Science, Cambridge, Massachusetts. *"Nanotechnology for Systemic and Local GI Delivery".* March, 2015.

Microfluidics, Inc., Westwood, Massachusetts. A webinar presentation on *"Nano-Emulsions for CNS Delivery of Biological Therapeutics".* April, 2015.

New England Structural Biology Association (NESBA) Annual Symposium, Bentley University, Waltham, Massachusetts. Keynote presentation entitled *"Translational Nano-Medicine: Targeted Therapeutics for Pain, Cancer, and Inflammatory Diseases".* May, 2015.

King Abdulaziz University, Faculty of Pharmacy, Jeddah, Saudi Arabia. Presentation to the graduating class of Doctor of Pharmacy students on *Pharmacy Career Day* 2015 entitled *"Translational Nano-Medicine: Opportunities in Graduate Education and Research".* May, 2015.

King Abdulaziz University, Faculty of Pharmacy, Jeddah, Saudi Arabia. Research presentation to the faculty and students entitled *"Translational Nano-Medicine: Tiny Solutions for Big Biomedical Challenges"*. May, 2015.

Tufts University Cancer Center 2015 Research Retreat, Cummings School of Veterinary Medicine at Tufts, Grafton, Massachusetts*. "Multimodal Nanotechnology Solutions for Drug Resistant Tumors".* June, 2015.

Eight European Summit for Clinical Nanomedicine and Targeted Medicine, Basel, Switzerland. "*Macrophage-Targeted Nano-Delivery Systems for Anti-Inflammatory Therapy*". June, 2015.

Third Annual Workshop on Micro- and Nano-Technologies for Medicine: Emerging Frontiers and Applications. MIT-Harvard Science and Technology Program and the Wyss Institute. Cambridge, Massachusetts*. "Advances in the Delivery of Cancer Vaccines and Therapeutics".* July, 2015.

Northeastern University and Houston Methodist Research Institute Collaborative Meeting, Boston, Massachusetts. *"Targeted Nucleic Acid Delivery in Inflammatory Diseases".* August, 2015.

Bioscience Seminar Program, Morsani College of Medicine, USF Health, University of South Florida, Tampa, Florida. "*Translational Nano-Medicine: Targeted Therapeutics for Pain, Cancer, and Inflammatory Disease".* September, 2015.

Houston Methodist Research Institute's George and Angelina Kostas Research Center for Cardiovascular Nanomedicine Second Annual Symposium. Houston, Texas. *"Targeted Delivery of Nucleic Acids for Inflammatory Diseases".* October, 2015.

Forsyth Institute, Cambridge, Massachusetts. *"Advances in Nanotechnology for Inflammatory Diseases".* January, 2016.

Dicerna Pharmaceuticals, Inc., Cambridge, Massachusetts. "*Translational Nano-Medicine: Targeted Therapeutics for Pain, Cancer, and Inflammatory Disease".* February, 2016.

Eight Bangalore India Nano Conference. Bangalore, Karnataka State, India. "*Translational Nano-Medicine: Targeted Therapeutics for Pain, Cancer, and Inflammatory Disease".* March, 2016.

2016 Annual SPIE Conference. Special symposium on Multifunctional Nanoparticles for Biomedical Research, Baltimore, Maryland. *"Multifunctional Nanoparticles for Nucleic Acid Therapy".* April, 2016.

2016 American Association of Pharmaceutical Scientists, National Biotechnology Conference, Boston, Massachusetts. *"Targeted Nano-Therapeutics for Drug Resistant Tumors".* May, 2016.

2016 Pharmaceutical Sciences Research Showcase, Northeastern University, Boston, Massachusetts. *"Exosome-Mediated Reprogramming of the Tumor Microenvironment".* May, 2016.

Engineering Conference International. Symposium on Nanotechnology in Medicine: From Molecules to Humans, Henstein, Austria. "*Translational Nano-Medicine: Targeted Therapeutics for Cancer and Inflammatory Disease".* July, 2016.

Fourth Annual Workshop on Micro- and Nano-Technologies for Medicine: Emerging Frontiers and Applications. MIT-Harvard Science and Technology Program and the Wyss Institute. Cambridge, Massachusetts. *"Macrophage Reprogramming in Cancer and Inflammatory Diseases".* July, 2016.

Third International Ovarian Cancer Symposium and International Symposium on Tumor Microenvironment and Therapy Resistance, University of Oklahoma Health Sciences Center, Oklahoma City, Oklahoma. *"Targeted Nano-Therapeutics for Drug Resistant Tumors".* August, 2016.

2016 Asian Polymer Association's International Conference on Advanced Polymers, Biomaterials, Bioengineering and Nano-Drug Delivery. Flic-En-Flac, Mauritius. *"Combinatorial-Designed Polymeric Nanosystems for Targeted Drug Delivery".* September, 2016.

University of Porto, Porto, Portugal. "*Translational Nano-Medicine: Targeted Therapeutics for Pain, Cancer, and Inflammatory Disease".* October, 2016.

Brown University, Department of Molecular Pharmacology, Physiology, and Biotechnology. Providence, Rhode Island. *"Targeting Nucleic Acid Base Therapeutics for Cancer and Inflammatory Diseases".* November, 2016.

2017 Systems Oncology Conference, Amrita Institute of Medical Sciences, Amrita Institute, Kochi, Kerala, India. "*"Targeted Nano-Therapeutics for Drug Resistant Tumors".* March, 2017.

University of Alberta, Faculty of Pharmacy and Pharmaceutical Sciences, Edmonton, Alberta, Canada. Invited presentation entitled *"Translational Nano-Medicine: Targeted Therapeutics for Pain, Cancer, and Inflammatory Diseases".* March, 2017.

Institute for Research and Medical Consultation (IRMC), Imam Abdulrahman bin Faisal University, Dammam, Saudi Arabia. *"Translational Nano-Medicine: Targeted Therapeutics for Pain, Cancer, and Inflammatory Diseases".* May, 2017.

Keynote presentation at the Ninety-first American Chemical Society Colloid and Surface Science Symposium. City College of New York, New York, NY. *"Combinatorial-Designed Nano-Systems for Delivery of Nucleic Acid".* July, 2017.

Fifth Annual Workshop on Micro- and Nano-technologies for Medicine: Emerging Frontiers and Applications. MIT-Harvard Science and Technology Program and the Wyss Institute. Cambridge, Massachusetts. *"Advances in CNS Delivery of Biological Therapeutics".* July, 2017.

Keynote presentation at the Applied Pharmaceutical Nanotechnology (APN) 2017 Conference, Broad Institute, Massachusetts Institute of Technology, Cambridge, Massachusetts. *"Translational Nano-Medicine: Targeted Therapeutics for Pain, Cancer, and Inflammatory Diseases"*. October, 2017.

Seminar presentation in the Department of Biochemistry and Molecular and Cellular Biology, Georgetown University Medical Center, Washington, District of Columbia. *"Delivery of Nucleic Acid Therapeutics for Refractory Tumors"*. October, 2017.

Seminar presentation in the Department of Chemistry, Kennedy College of Sciences, University of Massachusetts at Lowell, Lowell, Massachusetts. *"Advances in Systemic and Oral Nucleic Acid Therapeutic Delivery".* November, 2017.

Plenary presentation at the End-2-Cancer Symposium on Emerging Nanotechnology and Drug Delivery for Cancer. University of Oklahoma Health Sciences Center, Oklahoma City, Oklahoma. *"Reprogramming the Tumor Microenvironment by Exosomal Transfer of Nucleic Acids".* December, 2017.

Institute for Research and Medical Consultation (IRMC), Imam Abdulrahman bin Faisal University, Dammam, Saudi Arabia. *"Nanotechnology for the Treatment of Resistant Tumors".* March, 2018.

Institute for Research and Medical Consultation (IRMC), Imam Abdulrahman bin Faisal University, Dammam, Saudi Arabia. *"Nanotechnology for CNS Delivery of Biological Therapies".* March, 2018.

Institute for Research and Medical Consultation (IRMC), Imam Abdulrahman bin Faisal University, Dammam, Saudi Arabia. *"Nanotechnology in Cardiovascular Medicine".* March, 2018.

American Chemical Society and American Association of Pharmaceutical Scientists - 2018 Drug Design and Delivery Symposium Webinar Series, Alexandria, Virginia. *"Advanced Nano-Delivery Systems: Facilitating Tumor Delivery and Mitigating Resistance".* May, 2018.

Stony Brook University Institute of Chemical Biology and Drug Discovery (ICB & DD) 2018 Symposium on "Frontiers of Nanomedicine: Drug Delivery, Therapeutics, and Diagnosis" Keynote Presentation. Stony Brook, New York. *"Integrated Nano-Medicine for Cancer and Inflammatory Diseases".* October, 2018.

University of Massachusetts Medical School, Department of Biochemistry and Molecular Pharmacology, Worcester, Massachusetts. "*Targeted Delivery of Nucleic Acid Therapy for Cancer and Inflammatory Diseases".* November, 2018.

Chapman University, College of Pharmacy. Irvine, California. "*Translational Nano-Medicine: Targeted Therapeutics for Pain, Cancer, and Inflammatory Disease".* November, 2018.

University of Santiago de Compostela, "Frontiers in Science" Seminar Series, Keynote Presentation. Santiago de Compostela, Spain. *"Translational Nano-Medicine: Targeted Therapeutics for Pain, Cancer, and Inflammatory Diseases"*. January, 2019.

Astra Zeneca, Waltham, Massachusetts. "*Advances in Nano-Delivery of Nucleic Acid Therapies".* August, 2019.

Seventeenth Annual Nanomedicine and Drug Delivery Technology Symposium (NanoDDS). Massachusetts Institute of Technology, Cambridge, Massachusetts. *"Macrophage Reprogramming with Nano-Delivery for Cancer and Inflammatory Diseases".* September, 2019.

University of Nebraska Medical Center, College of Pharmacy. Omaha, Nebraska., *"Translational Nano-Medicine: Targeted Therapeutics for Pain, Cancer, and Inflammatory Diseases"*. October, 2019.

Saint John's University, College of Pharmacy and Health Sciences, Queens, New York. *"Targeted Delivery of Biological Therapies for Cancer and Inflammatory Diseases".* October, 2019.

2019 American Association of Pharmaceutical Scientists Annual Meeting, San Antonio, Texas. *"Role of Protein Corona on Oligonucleotide Delivery and Transfection with Lipid Nanoparticles".* November, 2019.

Keynote Presentation at the 2019 Advancing Drug Development Forum, Boston, Massachusetts. *"Advances in the Delivery of Therapeutics to the Brain".* December, 2019.

2020 Blood-Brain Barrier Summit - Enhancing Drug Delivery Across the Blood-Brain Barrier to Develop More Clinically Meaningful Therapeutics for Neurodegenerative Diseases, Boston, Massachusetts. *"CNS Delivery of Biological Therapeutics for Chronic Pain and Neuroinflammation".* August, 2020.

Eli Lilly and Company, Cambridge Innovation Center, Cambridge, Massachusetts. *Endogenous Targeting Strategies for Nanoparticle Delivery Systems.* October, 2020.

2020 Spring and Fall Virtual Meeting of the Materials Research Society, Oligonucleotide Symposium. Boston, Massachusetts. *"Role of Protein Corona on Oligonucleotide Delivery and Transfection with Lipid Nanoparticles".* December, 2020.

Northeastern University, Bouve College of Health Sciences, Boston, Massachusetts. *"The Science of COVID-19 Vaccines".* December, 2020.

University of Delhi, Department of Chemistry, 2021 Professor Amarnath Maitra Memorial Virtual Lecture. Delhi, India. *"Translational Nano-Medicine: Targeted Therapeutics for Pain, Cancer, and Inflammatory Diseases"*. February, 2021.

Senda Biosciences, Inc., Cambridge, Massachusetts. *"Multi-Compartmental Oral Nucleic Acid Delivery Systems".* March, 2021.

Abbvie Bioresearch Center, Worcester, Massachusetts. *"Peritoneal Macrophage Reprogramming and Tropism in Inflammatory Diseases and Cancer".* April, 2021.

Boehringer Ingelheim Pharmaceuticals, External Innovation Group, Ridgefield, Connecticut. *"Drug Delivery Research and Education at Northeastern University".* September, 2021.

2021 Nanomedicine Meets the Tumor Microenvironment (NANOTME-2021) Virtual Conference, The University of Twente, Twente, The Netherlands. *"Modulation of the Tumor Microenvironment with microRNA Nano-Vectors".* September, 2021.

2021 Professor Ambikanandan Misra Memorial Lecture – Faculty of Pharmacy, The Maharaja Sayajirao University of Baroda. Baroda, India. *"Translational Nano-Medicines: Targeted Therapeutic Delivery for the Treatment of Chronic Pain and Cancer".* September, 2021.

Life Sciences Collaborative, Boston Group Meeting, Boston, Massachusetts. *"Life Sciences Entrepreneurship and Industrial Partnerships at Northeastern University"*. September, 2021.

Generation Bio, Inc., Cambridge, Massachusetts. *"Advances in Non-Viral Nucleic Acid Delivery Systems".* October, 2021.

2021 GMP Symposium: Moving Forward into the PK World: New Drugs, New Tools, New Questions. Paris, France. *"Vaccine Formulation and Delivery Strategies to Improve Global Access".* October, 2021.

University of Rhode Island, Department of Chemical Engineering. Kingston, Rhode Island. "*Translational Nano-Medicine: Targeted Therapeutic Delivery for Pain, Cancer, and Inflammatory Diseases".* November, 2021.

University Institute of the Pharmaceutical Sciences, UGC Networking Resource Centre. Panjab University, Chandigarh, India. *"Translational Nano-Medicine: Targeted Therapeutic Delivery for Cancer and Inflammatory Diseases".* January, 2022.

The Controlled Release Society – Indian Local Chapter Annual Meeting. Mumbai, India. *"Advances in Non-Viral Nucleic Acid Delivery Systems".* February, 2022.

The American Society of Neurochemistry, 2022 Annual Meeting, Symposium on "Nano-Delivery Systems for CNS Therapeutics" Roanoke, Virginia. *"Nose-to-Brain Delivery of Nucleic Acid Therapeutics".* April, 2022.

Northeastern University and the University of Ben Gurion at Negev Collaborative Symposium. Boston, Massachusetts. *"Strategies for Delivery of Nucleic Acid Therapeutics in Cancer and Inflammatory Diseases".* May, 2022.

Hanson Wade 2022 Non-Viral RNA Delivery Systems Summit. Workshop on CNS Delivery of RNA Therapeutics. Boston, Massachusetts. *"RNA Delivery to the Brain: Challenges and Opportunities".* June, 2022.

The Controlled Release Society, 2022 Annual Meeting and Exposition, Montreal, Quebec, Canada. *"Overcoming Biological Barriers in Nucleic Acid Delivery"*. July, 2022.

Hanson Wade 3rd Annual Oligonucleotides for CNS Summit. Workshop on CNS Delivery of Oligonucleotide Therapeutics. Boston, Massachusetts. *"Oligonucleotide Delivery to the Brain: Challenges and Opportunities".* June, 2023.

Purdue University, College of Pharmacy, 53rd Pharmaceutics Graduate Student Research Meeting (PGSRM 2023). West Lafayette, Indiana. *"Advances in Non-Viral Nucleic Acid Delivery Systems".* June, 2023.

14th International Symposium on Frontiers in Biomedical Polymers. Portsmouth, New Hampshire. *"Hyaluronan-Based Nucleic Acid Delivery Systems".* June, 2023.

Hanson Wade's Second Annual Next Generation Lipid Nanoparticles Summit. Workshop on Exploring Beyond LNP: Evaluating New Lipid Nanocarrier Properties for Extrahepatic Delivery. Boston, Massachusetts. *"Lipid Nanoparticles for Targeted Nucleic Acid Delivery".* August, 2023.

Ascendia Pharmaceutical's Workshop on Solubilization and Nanotechnologies for Unmet Medical Needs. Princeton, New Jersey. *"Translational Nano-Medicines: Advances in Nucleic Acid Therapeutics for Cancer and Inflammatory Diseases".* September, 2023.

Estonia University of Life Sciences, Institute of Veterinary Medicine and Animal Science, Combivet Program. Tartu, Estonia. *"Extracellular Vesicle-Mediated Communication in the Tumor Microenvironment".* September, 2023.

American Pharmaceutical Reviews Webinar – Sponsored by Ascendia Pharmaceuticals, Princeton, New Jersey. *"Endogenous Mechanisms for Nanoparticle-Based Nucleic Acid Delivery"*. February, 2024.

American Association of Pharmaceutical Scientists – Lipid Based Drug Delivery Science Community Webinar Series. Boston, Massachusetts. *"Lipid Nanoparticle-Based Endogenous Targeted Delivery of Nucleic Acids".* May, 2024.

Hanson Wade 4th Annual Oligonucleotides for CNS Summit. Workshop on CNS Delivery of Oligonucleotide Therapeutics. Boston, Massachusetts. *"Oligonucleotide Delivery to the Brain: Challenges and Opportunities"*. July, 2024.

Northeastern University, Department of Pharmaceutical Sciences 2024 Research Showcase, Boston, Massachusetts. *"Endogenous Mechanisms for Targeted Drug Delivery".* September, 2024.

Ascendia Pharmaceutical's 2nd Annual Workshop on "Emerging Solubilization and Nanotechnology for Unmet Medical Needs". Princeton, New Jersey. *"Peritoneal Macrophage Reprogramming and Tropism in Inflammatory Diseases and Cancer".* September, 2024.

Hanson Wade 6th Exosome-Based Therapeutic Development Summit – Unlock the Therapeutic and Delivery Power of Exosomes and EVs. Boston, Massachusetts. *"Extracellular Vesicles-Mediated Communication in the Tumor Microenvironment".* September, 2024.

Academic Keynote Presentation at the 2024 Advanced Drug Development Forum, Boston, Massachusetts. *"Translational Therapeutic Delivery: An Academic Perspective".* December, 2024.

INTELLECTUAL CONSULTANCY

GelTex Pharmaceuticals, Inc., Waltham, Massachusetts. A medium sized pharmaceutical company that is marketing non-absorbable polymeric materials as therapeutic agents. I have consulted on pharmaceutical product development with GelTex's polymeric materials from May 1997 to June 2000.

EOS Pharmaceutical Corporation, Natick, Massachusetts. A start-up contract formulation company with domestic and international clients. I have consulted EOS Pharmaceuticals on novel bioadhesive polymeric materials for drug delivery from June 1997 to September 2001.

Biopolymer Technologies International, Inc., Westborough, Massachusetts. A start-up biotechnology company specializing in the development of polymer-based therapeutics and nutraceuticals. I consulted Biopolymer Technologies International from December 1997 to July 1999.

Braintree Laboratories, Inc., Braintree, Massachusetts. A medium sized pharmaceutical company developing various products, including phosphate binders, poly(ethylene glycol)-based laxatives, and gastric lavage agents. I consulted Braintree Laboratories from September 1999 to June 2003.

Catalyst Oncology, Inc., Providence, Rhode Island. A biotechnology start-up company, supported by the Slater Foundation, to develop novel target-specific anticancer drugs. I have consulted Catalyst Oncology on anticancer drug delivery issues from December 2003 to December 2004.

Cytogel, Inc., Stonington, Connecticut. Cytogel is a small pharmaceutical company focusing on hydrogel drug delivery technologies. I have consulted Cytogel on their hydrogel delivery platforms from September, 2004 to April 2005.

LifeScan, Inc., Milpitas, California. LifeScan is a Johnson and Johnson subsidiary developing diagnostic systems for diabetes. I have been consulting LifeScan on their diabetes monitories technologies from August, 2005 to May 2006.

Boston Scientific Corporation, Malborough, Massachusetts. A large-cap medical device company that manufacturers drug-coated stents, catheters, and embolic microspheres. I have consulted Boston Scientific on drug delivery technologies from October, 2003 to September, 2006.

Novavax, Inc., Columbia, Maryland. A medium-sized pharmaceutical company that focuses on women's healthcare market and novel vaccines for infectious diseases. I have consulted Novavax on their micellar nanoparticle and other delivery platforms from February, 2004 to December, 2006.

Scientia Advisors, LLC, Cambridge, Massachusetts. Scientia Advisors is an international management and strategy consulting firm with a concentration in biotechnology and life sciences. I provide intellectual consulting on polymeric drug delivery technologies. I have consulted Scientia Advisors from July, 2008 to May, 2009.

Cequent Pharmaceuticals, Inc., Cambridge, Massachusetts. Cequent Pharmaceutical is a small company interested in the development of proprietary Transkingdom RNA interference technology. I have provide consulting services in the formulation development and oral delivery. I have consulted Cequent Pharmaceuticals from May, 2007 to December, 2008.

Marine Polymer Technologies, Inc., Burlington, Massachusetts. A medium sized biotechnology/medical device company developing poly(acetyl-D-glucosamine)-based products. I have consulted Marine Polymer on drug formulation and delivery technologies with their proprietary polymers from September, 2002 to June, 2007.

Genzyme Pharmaceuticals – Biomaterials and Drug Development Group, Waltham, Massachusetts. Genzyme is a medium sized pharmaceutical company with interest in polymeric drug development. I provide intellectual consultation on polymeric biomaterials and drug delivery systems. I provided consultation on drug delivery and nanotechnologies from August, 2007-July, 2008.

Grayhead Associates, Wellesley, Massachusetts. Grayhead Associates is an international management consulting firm that assists its clients to capitalize on their technological resources and entrepreneurial spirit. I have consulted Grayhead Associates on biomedical nanotechnology and drug development technologies from October, 2005 to May, 2009.

Vertex Pharmaceuticals, Inc., Cambridge, Massachusetts. Vertex is a medium sized pharmaceutical company developing a number of proprietary therapeutics in cancer, inflammation, and infectious diseases. I provided intellectual consultation on drug delivery and nanotechnology solutions from January, 2008 to April, 2010.

BioCure, Inc., Norcross, Georgia. BioCure is a medium-sized biomedical device company developing polymer nanotechnology for imaging and drug delivery applications. I have consulted BioCure on their nanotechnology research portfolio from August 2006 to June, 2010.

Cerulean Pharmaceuticals, Inc., (aka Tempo Pharmaceuticals Inc.), Cambridge, Massachusetts. Cerulean Pharmaceutical is a startup company interested in the development of proprietary multi-modal polymeric nanoparticle technology. I have provided consulting services in nanoparticle formulations and preclinical studies. I have consulted Cerulean Pharmaceuticals from September, 2008 to June, 2016.

Takeda Pharmaceuticals, Inc., ***Cambridge, Massachusetts.*** Takeda is a large multi-national pharmaceutical industry interested in the development of nucleic acid therapeutics. I served as a consultant in the area of nucleic acid formulations for both oral and systemic delivery for a variety of disease targets from May, 2015 to December 2016.

Sun Pharmaceuticals Advanced Research Centre (SPARC), Baroda, India. SPARC is a research and development arm of the multinational Sun Pharmaceuticals, Inc. I was involved in consultation on oral and systemic controlled release drug delivery systems for various therapeutic areas from February, 2016 to December, 2017.

Summit Street Medical, LLC, Wallingford, Connecticut. Summit Street is a start-up company involved in repurposing existing therapeutics using novel drug formulation and delivery devices. I was involved in consultation on systemic drug delivery systems for various therapeutic areas from September, 2017 to June, 2018.

UbiquiTx, Inc., Cambridge, Massachusetts. UbiquiTx is a startup company leveraging parentship between Cornell University and MIT on the development of mRNA therapeutics targeting the ubiquitin-proteosome pathway in cancer

and other diseases. I consulted on the mRNA formulation and delivery strategies. The consultancy period was from April, 2022 to March, 2023.

The Round Table Group (RTG) - Thompson-Reuters, Washington, District of Columbia. RTG provides expert witness, intellectual consulting, and professional presentation services to many diverse groups of clients. I have been serving as a consultant in the area of pharmaceutical product development, biomaterial science and applications, and nano-medical technologies from February, 2004 to present.

IMS Expert Services, Pensacola, Florida. IMS provides expert witness and intellectual consulting services to many diverse groups of clients. I serve as a consultant in the area of pharmaceutical product development, biomaterial science and applications, and nano-medical technologies from June, 2011 to present.

Rubin-Anders Consulting, Boston, Massachusetts. Rubin-Anders provides expert witness and intellectual consulting services to many diverse groups of clients. I serve as a consultant in the area of pharmaceutical product development, biomaterial science and applications, and nano-medical technologies from March, 2013 to present.

Krystal Biotech, Inc., Pittsburgh, Pennsylvania. Krystal Biotech is a clinical stage gene therapy company focusing on the development of gene therapy solutions for rare diseases using viral vectors. I provided strategic consulting on novel routes of administration and formulation development. The consultancy period was from May, 2021 to December, 2021.

Cipla, LTD, Mumbai, India. Cipla is a large multinational pharmaceutical company headquartered in Mumbai, India. I provide intellectual constancy on novel product development strategies specifically focusing on biologics and vaccines. The consultancy period is from June, 2021 to December 2023.

Brixton Biosciences and EyeCool Therapeutics, Inc., Cambridge, Massachusetts. Brixton and EyeCool and both start-up companies developing proprietary nerve block technology for use in pain and other therapeutic applications. I have been serving as a consultant to Brixton in the development of their proprietary technologies and preclinical testing from November, 2019 to present.

Pykus Therapeutics, Inc., Cambridge, Massachusetts. Pykus is an early-stage biopharmaceutical company developing treatment strategies for acute and chronic eye diseases, including non-surgical methods to treat retinal detachment and age-related macular degeneration. I consult on the formulation strategies for ocular delivery. The consultancy period is from August, 2021 to present.

Tornado Biosciences, San Francisco, California. Tornado Bio is a startup company in the Bay Area focusing on development of immuno-oncology therapeutics with mRNA technology. I am consulting on the formulation development and characterization of delivery strategies. The consultancy period is from April, 2022 to present.

***FzioMed, Inc., San Luis Obispo, California*.** A medical device company intending to market polymeric materials to prevent post-surgical adhesions and thrombus formation. I have consulted on improving blood compatibility of the polymeric materials developed by FzioMed from October, 1996 to present.

Ascendia Pharmaceuticals, Inc, North Brunswick, New Jersey. Ascendia is a contract research organization (CRO) providing formulation, analytical, and manufacturing services to pharmaceutical companies, working collaboratively to provide innovative solutions to challenging drug delivery problems and to create advanced medicines. I consult on different drug delivery challenges and solutions from January, 2024 to present.

TEACHING EXPERIENCES

Courses Currently Teaching (2003 – Present)

Doctor of Pharmacy Program

Pharmaceutics 2 (4 SH): Theoretical course on the physicochemical properties of the drug product and their influence on development of pharmaceutical formulations and delivery offered under the semester calendar (for 16 weeks). I coordinate and teach 60% of this course to 4th year students. Approximate class size is about 150 students each year.

Capstone Course (4 SH): A final year course for PharmD students focusing on their cumulative educational experience at Northeastern University. Student groups participate in laboratory research, review of published papers around a thematic area, or a creative exercise (e.g., creating a new CE program).

Directed Study (4 SH): An elective course for professional pharmacy students interested in performing research under a faculty advisor.

Graduate Program in Pharmaceutical Sciences:

Advanced Drug Delivery Systems (3 SH): A graduate course for MS and PhD students in Pharmaceutical Sciences and other departments across campus focusing on novel drug delivery systems such as polymeric and lipid nano-formulations for drug, gene, vaccine, and siRNA delivery. The course is taught to 50-60 students each Fall and I coordinate the course and invite speakers from the industry to give specific presentations and case studies.

Pharmaceutical Science Doctoral Research (1 SH): Instructor for doctoral students performing laboratory research under my supervision. The course is offered every semester and 2-3 students register each time.

Graduate Program in Chemical Engineering:

Targeted Drug Delivery Systems (3 SH): A graduate course for MS and PhD students for Chemical Engineering and other departments across campus focusing on novel drug delivery systems such as polymeric and lipid nano-formulations for drug, gene, vaccine, and siRNA delivery. The course is taught to about 10 students each Fall and I coordinate the course and invite speakers from the industry to give specific presentations and case studies.

Courses Previously Taught

Pharm.D. Program:

Pharmaceutical Calculations (PCT 1240, 4 QH): Basic prescription interpretation and calculations for second year pharmacy students.

Dosage Forms (PMD 1323, 4 QH): Theoretical course on pharmaceutical product development, characterization, and quality control issues taught to the third-year pharmacy students.

Dosage Forms Laboratory (PCT 1300, 2 QH): A complementary laboratory course for Dosage Forms on prescription compounding skills.

Physical Pharmacy (PMD 1400, 4 QH): Theoretical course on the physicochemical properties of the drug product and their influence on development of pharmaceutical formulations and delivery.

Physical Pharmacy Laboratory (PCT 1320, 2 QH): A complementary laboratory course to Physical Pharmacy on analytical and experimental methods for testing of pharmaceutical products for quality control.

Biopharmaceutics and Pharmacokinetics (PMD 1410, 4 QH): Introduction to biopharmaceutics and pharmacokinetic principles, application of compartmental and non-compartmental modeling for analysis of data, and interpretation of pharmacokinetic data in clinical pharmacy practice.

Graduate Program in Pharmaceutical Sciences:

Advanced Physical Pharmacy (PCT 3200, 2 QH): A graduate level physical pharmacy course that with emphasis on physicochemical characterization of drug products.

Drug Design, Evaluation, and Development (PSC G210, 2 SH): A graduate level comprehensive course on drug discovery, development, and evaluation from an industrial perspective. I teach about 20% of the course to approximately 50-60 MS and PhD students in the Fall semester each year.

Pharmaceutical Science Seminar (PSC G200, 1 SH): A course on graduate seminar and journal club presentations for development of scientific skills for MS and PhD students in the department. I coordinate and teach 100% of the course for approximately 20-30 MS and PhD students in the Fall semester each year.

Interdisciplinary Graduate Programs:

Introduction to Biotechnology (2 SH): An interdisciplinary graduate course offered to students in the Professional MS program in Biotechnology in the Fall semester each year. I provide 10% effort to this course.

Introduction to Nanomedicine Science and Technology (2 SH): An interdisciplinary graduate course offered under the Nanomedicine Science and Technology IGERT program in the Fall semester of each year. I provide 20% effort to this course.

Nanosystems Design for Biomedical Applications (2 SH): An interdisciplinary graduate course offered under the Nanomedicine Science and Technology IGERT program in the Spring semester of each year. I provide 20% effort to this course.

Seminars in Nanomedicine (1 SH): An interdisciplinary graduate course offered under the Nanomedicine Science and Technology IGERT program in the Fall semester of each year. I coordinate this seminar course and provide 100% effort.

PROGRAM DEVELOPMENT AND TEACHING-RELATED ACCOMPLISHMENTS

Establishing a Master of Science (MS) Degree Program in Pharmaceutical Engineering: Working with colleagues in the Department of Chemical Engineering and the Department of Pharmaceutical Sciences, I have assisted in developing a proposal for establishment of a non-thesis MS in an interdisciplinary field of Pharmaceutical Engineering. The program will offer core courses in Pharmaceutical Sciences, Pharmaceutical Engineering, and laboratory as well as capstone course requirement as well as electives in Regulatory Affairs, Statistics and Experimental Design, and Biomanufacturing. The program started with a first cohort of students in the Fall of 2023.

Establishing a Professional Science Master's (PSM) Degree Program in Biomedical Nanotechnology: Working with Pharmaceutical Sciences, School of Law, and College of Business faculty, I have developed a new Professional Science Masters program in Biomedical Nanotechnology. The program offers terminal MS degree with didactic scientific, patent law, and entrepreneurship courses along with practical internship experience. The first class was admitted in Fall, 2013.

Establishing an Experiential (aka Non-Traditional or Industrial) PhD Program at Northeastern University: For students who have completed an MS degree in Pharmaceutical Sciences or related field and are currently working in industry, I started implemented a new 'non-traditional" PhD program that waives their didactic coursework. With permission from the corporate sponsors, students enroll in the PhD program and start thesis project under a faculty mentor, while still keeping their "day job" with the industry. The program was started in 2009 and graduated the first cohort of PhD students in 2012. The Experiential PhD program has now expanded across Northeastern University through the Provost Office (https://catalog.northeastern.edu/graduate/phdprograms/experiential-phd/).

Acquisition of IGERT Training Grants for Doctoral (PhD) Training in Nanomedicine - Phase 1 (2005-2010) and Phase 2 (2010-2015): With funding from the National Cancer Institute and the National Science Foundation (NSF), we have established an Interdisciplinary Graduate Education, Research and Training (IGERT) program. I am involved in the development and implementation of the Nanomedicine Science and Technology doctoral program. The program will admit interdisciplinary fellows who will take didactic courses, participate in internship opportunity, and carry out dissertation research in nanomedicine-related project. Phase 1 program started in the Fall, 2005 with a total of $4.0M in funding and Phase 2 program started in Fall 2010 with a total of over $3.5M in funding from the NSF.

Establishing a Multi-Track Professional Science Masters (PSM) Degree Program in Biotechnology: With $75K funding support from the Alfred P. Sloan Foundation, I have worked with faculty members from the Biology and Chemical Engineering Departments at Northeastern University to develop and implement an interdisciplinary Professional MS degree program in Biotechnology with tracks in Molecular Biotechnology, Pharmaceutical Biotechnology, and Engineering Biotechnology. The program started in the Fall of 2003.

Co-authoring Applied Physical Pharmacy Textbook 1st to 3rd Editions: In collaboration with Professor Beverly Sandmann who was at Butler University, I authored *"Applied Physical Pharmacy First Edition"* textbook specifically geared to pharmacy students and practitioners. The book contains physical and chemical concepts in drug product design with examples that are relevant to pharmacy practice. The textbook was published in November 2002. Additionally, in collaborations with Professors Thomas Cook from Tauro College of Pharmacy and W. Cary Mobley from University of Florida College of Pharmacy, a Second Edition of the textbook was published in early 2014 and the Third Edition in 2019..

Co-authoring Problem-Based Undergraduate Pharmaceutics Textbook*:* In collaboration with other pharmaceutics faculty members across the U.S. and Canada, I have authored cases for a textbook entitled "*Cases in Pharmaceutics for Problem-Based Learning and Problem Solving*" edited by Wendy C. Duncan-Hewitt and David L. Mount of the University of Toronto, Toronto, Ontario, Canada.

Authoring Pharmaceutics Laboratory Exercises Database and CD-ROM*:* I have contributed eight pharmaceutics laboratory exercises to the database and CD-ROM initiative of David L. Mount and others.

Authoring Pharmaceutics Instructional Materials on the World-Wide Web: With funding from the Dean's "Excellence in Teaching" initiative, I have developed pharmaceutics instructional materials on the Internet. These pages can be accessed through the World-Wide Web at "http://www.pharmsci.neu.edu/Courses/courses.html".

Computer-Aided Pharmaceutics Instruction: I am involved in various aspects of promoting and developing computer aids and tutorial programs for undergraduate pharmaceutics courses. In addition, I strongly advocate the use of pharmacy resources that are available on the Internet.

Providing NAPLEX Review: In the Spring quarter of every year, I provide an extensive review of Calculations, Physical Pharmacy, and Dosage Forms to the senior students who are planning to take the National Board of Pharmacy Licensing Examination (NAPLEX). In addition, I also provide a review of compounding skills to those students taking their NAPLEX exam in states that have a wet-lab section (e.g., New York, Maryland, Wisconsin, etc.).

RESEARCH ADVISING AND MENTORING

Visiting Scientists and Research/Clinical Fellows

Mr. Srinivas Ganta	PhD Candidate	University of Auckland Auckland, New Zealand July, 2007 – October, 2007

Dr. Pauline Pei Li	Associate Professor	Hong Kong Polytechnic University, Hong Kong, August, 2007
Dr. Wei Duan	Associate Professor	Daikin University, School of Medicine Melbourne, Victoria, Australia, May, 2008
Dr. Cristina Dehelean	Professor	Victor Babes University of Medicine and Pharmacy Timisoara, Romania November, 2008
Mr. Jose das Neves	PhD Candidate	University of Porto, College of Pharmacy, Porto, Portugal September, 2009 – March, 2010
Ms. Sharareh Adeli	PhD Candidate	Tehran University of Medical Sciences, Tehran, Iran November, 2009 – March, 2010
Dr. Satheesh Elangovan	Research Fellow	The Forsyth Dental Institute Boston, Massachusetts November, 2009 – May, 2010
Ms. Meghna Talekar	PhD Candidate	University of Auckland Auckland, New Zealand July, 2011 – December, 2011
Dr. Florence Gattacceca	Assistant Professor	Montpellier University, Faculty of Pharmacy Montpellier, Cedex, France August, 2012 – August, 2013 June, 2016 – September, 2016
	Associate Professor	Aix- Marseille University, Faculty of Pharmacy Marseille, France July, 2018 – September, 2018
Ms. Ana Vanessa Nascimento	PhD Candidate	University of Porto, College of Pharmacy, Porto, Portugal August, 2012 – October, 2014
Ms. Minah Iqbal	MS in Biotechnology Student	Columbia University New York, NY January, 2015 – May, 2015
Dr. Sundus Tewfik	Professor	London Metropolitan University London, United Kingdom March, 2016 – April, 2016
Dr. Michelle Miyake	Clinical ENT Fellow	Faculdade de Ciências Médicas Santa Casa de São Paulo São Paulo, SP, Brazil

		January, 2017 – December 2017
Ms. Smrithi Padmakumar	PhD Candidate	Amrita Institute of Medical Sciences Kochi, Kerala, India September, 2017 – March, 2018
Ms. Sevde Altuntas	PhD Candidate	Tobb University of Economics and Technology Ankara, Turkey November, 2017 – August, 2018
Ms. Flavia Sousa	PhD Candidate	University of Porto, College of Pharmacy, Porto, Portugal February, 2018 – August, 2018
Dr. Alan D. Workman	Clinical ENT Fellow	University of Pennsylvania Perelman School of Medicine Philadelphia, Pennsylvania June, 2020 – December, 2021
Dr. Melis Debreli Coskun	Post-Doctoral Associate	University of Massachusetts at Lowell Zuckerberg College of Health Science Lowell, Massachusetts May, 2021 – March, 2023
Ms. Alicia Yang	Medical Student	Icahn School of Medicine at Mount Sinai New York, NY June, 2023 – August, 2023
Dr. Andy Chua	Clinical ENT Fellow	Sengkang General Hospital Singapore September, 2022 – August, 2023
Mr. Paulo Faria	PhD Candidate	University of Porto, College of Pharmacy, Porto, Portugal January, 2024 – July, 2024

Research Faculty and Post-Doctoral Associates

Dr. Curtis F. Crasto	Post-Doctoral Associate	July, 2002 – May, 2004, under the Nanomedicine Consortium
Dr. Dinesh B. Shenoy	Associate Research Scientist	June, 2003 – December, 2005
Dr. Sandip K. Tiwari	Post-Doctoral Associate	August, 2004 – June, 2006
Dr. Tushar K. Vyas	Post-Doctoral Associate	December, 2005 – December, 2006
Dr. Aliasgar Shahiwala	Post-Doctoral Associate	August, 2006 – August, 2007

Dr. Harikrishna Devalapally	Post-Doctoral Associate	November, 2005 – February, 2008
Dr. Christina Kriegel	Post-Doctoral Associate	September, 2008 – June, 2010
Dr. Srinivas Ganta	Post-Doctoral Associate Associate Research Scientist	April, 2008 – February, 2010 March, 2010 – November, 2010
Dr. Sampath Abeylath	Post-Doctoral Associate	March, 2010 – May, 2011
Dr. Tatyana Chernenko	Post-Doctoral Associate	May, 2010 – March, 2012
Dr. Ming Chen	Associate Research Scientist	July, 2011 – March, 2012
Dr. Qiong-Lin Zhou	Research Assistant Professor	December, 2010 – August, 2012
Dr. Srinivas Reddy Boreddy	Associate Research Scientist	August, 2012 – January, 2013
Dr. Dattatri Nagesha	Post-Doctoral Associate Coordinator of the IGERT Nanomedicine Program	July, 2004 – May, 2013
Dr. Arun K. Iyer	Post-Doctoral Associate Associate Research Scientist Research Assistant Professor	May, 2008 – December, 2008 December, 2010 – June, 2012 July, 2012 – January, 2014
Dr. Sanjib Bhattacharya	Post-Doctoral Associate	April, 2014 – June, 2014
Dr. Malav Trivedi	Post-Doctoral Associate	July, 2014 – December, 2014
Dr. Amit Singh	Associate Research Scientist	May, 2011 – January, 2015
Dr. Meghna Talekar	Post-Doctoral Associate	April, 2013 – April, 2015
Dr. Than-Huyen Tran	Post-Doctoral Associate	December, 2013 – October, 2015
Dr. George Matthiolampakis	Post-Doctoral Associate	August, 2014 – May, 2016
Dr. Gulzar Ahmad	Post-Doctoral Associate	December, 2015 – November, 2017
Dr. Neha Parayath	Post-Doctoral Associate	April, 2016 – May, 2018
Dr. Harkiranpreet Dhaliwal	Post-Doctoral Associate	August, 2016 – October, 2018
Dr. Maie Taha	Post-Doctoral Associate	June, 2019 – August, 2020
Dr. Renuka Khatik	Post-Doctoral Associate	December, 2020 – January, 2021
Dr. Smrithi Padmakumar	Post-Doctoral Associate	May, 2019 – April, 2021

Dr. Shallu Kutlehria	Post-Doctoral Associate	December, 2020 – October, 2021
Dr. Haneyeh Shahbazian	Post-Doctoral Associate	June, 2021 – October, 2021
Dr. Ahmed Radwan	Medical Fellow Visiting Scholar	March, 2016 – August, 2018 September, 2018 – December, 2021
Dr. Kohal Das	Academic-Industrial Postdoc Fellowship Supported by Takeda Vaccines	November, 2019 – May, 2022
Dr. Saeideh Nozohouri	Post-Doctoral Associate Collaborations with Eli Lilly on Mass Life Sciences Center Project	January, 2021 – October, 2022
Dr. Mir Javid Iqbal	Post-Doctoral Associate Fellowship Supported by Moderna Therapeutics	July, 2021 – April, 2023
Dr. Zhongkun Zhang	Post-Doctoral Associate Collaboration with Dr. Ken Anderson, Dana Farber Cancer Center	November, 2022 – December, 2023
Dr. Dimitrios Bitounis	Post-Doctoral Associate Fellowship Supported by Moderna Therapeutics	February, 2022 – October, 2023
Dr. Sindhu Pillai	Post-Doctoral Associate Collaboration with Dr. Ken Anderson, Dana Farber Cancer Center	November 2022 - Present
Dr. Di Huang	Post-Doctoral Associate Associate Research Scientist	April, 2020 – June, 2022 June, 2022 - Present
Dr. Anisha D'Souza	Post-Doctoral Associate	April, 2021 – Present
Dr. Valentina Di Francesco	Post-Doctoral Associate	February, 2022 – Present
Dr. Satveer Jagwani	Post-Doctoral Associate	May, 2023 – Present
Dr. Mohammad Abbasi	Post-Doctoral Associate Fellowship Supported by Moderna Therapeutics	January, 2024 - Present
Dr. Miao Zhang	Post-Doctoral Associate Fellowship Supported by Moderna Therapeutics	January, 2024 - Present
Dr. Robyn Novorolsky	Post-Doctoral Associate Fellowship Supported by Moderna Therapeutics	April, 2024 - Present
Dr. Beatrice Muriuki	Post-Doctoral Associate Fellowship Supported by Moderna Therapeutics	May, 2024 - Present

Doctoral Students

Mr. Radi Hejazi	Ph.D. in Pharmaceutical Science – Pharmaceutics and Drug Delivery (Graduated, May 2003)

Thesis Title: *Stomach-Specific Delivery of Tetracycline-Chitosan Microspheres for the Treatment of Helicobacter pylori Infection.*

Ms. Goldi Kaul — Ph.D. in Pharmaceutical Science – Pharmaceutics and Drug Delivery
(Graduated, August 2004)

Thesis Title: *Long-Circulating Poly(Ethylene Glycol)-Modified Gelatin Nanoparticles for Tumor-Targeted Gene Delivery.*

Ms. Sushma Kommareddy — Ph.D. in Pharmaceutical Science – Pharmaceutics and Drug Delivery
(Graduated, May 2006)

Thesis Title: *Gelatin-Based Nanoparticulate Vectors for Tumor-Targeted Therapeutic Gene Delivery*

Mr. Mayank Bhavsar — Ph.D. in Pharmaceutical Science – Pharmaceutics and Drug Delivery
(Graduated, August 2007)

Thesis Title: *Oral Gene Therapy for Inflammatory Bowel Disease Using Nanoparticles-in-Microsphere Hybrid Delivery System*

Ms. Lilian van Vlerken — Ph.D. in Pharmaceutical Science – Pharmaceutics and Drug Delivery
IGERT Nanomedicine Fellow
(Graduated, February 2008)

Thesis Title: *Modulation of Multidrug Resistance in Cancer Using Polymer-Blend Nanoparticles*

Mr. Luis Brito — Ph.D. in Pharmaceutical Science – Pharmaceutics and Drug Delivery
IGERT Nanomedicine Fellow
(Graduated, December 2008)

Thesis Title: *Local Endothelial Nitric Oxide Synthase Gene Delivery and Transfection with Lipopolyplexes for the Treatment of Coronary Restenosis*

Ms. Lara Jabr-Milane — Ph.D. in Pharmaceutical Science – Pharmaceutics and Drug Delivery
IGERT Nanomedicine Fellow
(Graduated, June 2010)

Thesis Title: *Tumor Hypoxia, Warburg's Effect, and Drug Resistance: Modulation of Aerobic Glycolysis Using Combination Paclitaxel/Lonidamine Therapy Delivered in Targeted Polymeric Nanoparticles*

Mr. Mayur Kalariya — Ph.D. in Pharmaceutical Science – Pharmaceutics and Drug Delivery
Experiential (Industrial) PhD Fellow supported by Alkermes
(Graduated, July 2012)

Thesis Title: *Multi-Compartmental Delivery Systems for Peptide and DNA Vaccines for Melanoma Immunotherapy*

Ms. Shanthi Ganesh — Ph.D. in Pharmaceutical Science – Pharmaceutics and Drug Delivery
Experiential (Industrial) PhD Fellow supported by Novartis
(Graduated, August 2012)

Thesis Title: *Hyaluronic Acid-Based Self-Assembled Multifunctional Nanosystems to Overcome Drug Resistance in Lung Cancer*

Ms. Lipa Shah — Ph.D. in Pharmaceutical Science – Pharmaceutics and Drug Delivery
Experiential (Industrial) PhD Fellow supported by Novartis
(Graduated, May 2013)

Thesis Title: *Multifunctional Nanoemulsions for Systemic Delivery of Analgesic Peptides to the CNS*

Ms. Jing Xu — Ph.D. in Pharmaceutical Science - Interdisciplinary Option
(Graduated, June 2013)

Thesis Title: *Multimodal Therapeutic Strategy for Pancreatic Cancer: EGFR-targeted Gelatin-Based Nanovectors for Combination Wild-Type p53 Gene and Cytotoxic Drug Delivery*

Ms. Dipti Deshpande — Ph.D. in Pharmaceutical Science – Pharmaceutics and Drug Delivery
(Graduated, July 2013)

Thesis Title: *Multimodal Omega-3 Fatty Acid Oil-Containing Nanoemulsion-Based Therapeutic Strategy for the Treatment of Endothelial Dysfunction in Coronary Artery Disease*

Ms. Aziza Jamal-Alial — Ph.D. in Pharmaceutical Science - Interdisciplinary Option
(Graduated, August 2013)

Thesis Title: *Serum 25(OH)-Vitamin D Concentrations and Cardiovascular Disease Risk Associations among Older Puerto Ricans*

Mr. Shardool Jain — Ph.D. in Pharmaceutical Science – Pharmaceutics and Drug Delivery
(Graduated, December 2013)

Thesis Title: *Macrophage-Targeted Tuftsin-Modified Non-Condensing Alginate Nanoparticles for Anti-Inflammatory Gene Therapy in Rheumatoid Arthritis*

Ms. Sunita Yadav — Ph.D. in Pharmaceutical Science – Pharmaceutics and Drug Delivery
Experiential (Industrial) PhD Fellow supported by Novartis
(Graduated, November 2014)

Thesis Title: *Intranasal Delivery of Peptide and siRNA Therapeutics Encapsulated in Lipid Nanocarriers to the Brain for the Treatment of Neuro-Inflammation*

Ms. Verbena Kosovrasti — Ph.D. in Pharmaceutical Science – Pharmaceutics and Drug Delivery
Experiential (Industrial) PhD Fellow supported by Alnylam
(Graduated, April 2015)

Thesis Title: *Hyaluronic Acid Nanoparticles for Systemic RNA Interference Therapy of Advanced Sepsis*

Ms. Ruchi Shah — Ph.D. in Pharmaceutical Science – Pharmaceutics and Drug Delivery
Novartis/GSK Vaccines - Industrial Graduate Fellow
(Graduated, March 2016)

Thesis Title: *Evaluation and Optimization of Novel Self-Emulsifying Squalene Oil Emulsion Adjuvant Formulations for Potent Immune Response with Model Antigens*

Mr. Husain Attarwala — Ph.D. in Pharmaceutical Science – Pharmaceutics and Drug Delivery
Experiential (Industrial) PhD Fellow supported by Alnylam Pharmaceuticals
(Graduated, March 2016)

Thesis Title: *Multi-Compartmental Oral Delivery Systems for TG-2 and IL-15 Gene Silencing in the Treatment of Celiac Disease*

Ms. Ekta Kadakia — Ph.D. in Pharmaceutical Science – Pharmaceutics and Drug Delivery
Experiential (Industrial) PhD Fellow supported by Takeda Pharmaceuticals
(Graduated, December 2018)

Thesis Title: *Experimental Investigation and Mathematical Modeling for Nanoemulsion-Based Drug Delivery to the Central Nervous System*

Mr. Rushit Lodaya — PhD in Pharmaceutical Sciences – Pharmaceutics and Drug Delivery
GSK Vaccines - Industrial Graduate Fellow
(Graduated, June 2019)

Thesis Title: *Self-Emulsifying Adjuvant Systems Containing Alpha-Tocopherol for Subunit Vaccines*

Ms. Dongyu Chen — PhD in Pharmaceutical Sciences – Pharmaceutics and Drug Delivery
Dicerna Pharmaceuticals - Industrial Graduate Fellow
(Graduated, June 2019)

Thesis Title: *Role of Protein Corona on Tumor-Targeted Delivery of dsiRNA using Lipid Nanoparticles*

Ms. Grishma Pawar — PhD in Pharmaceutical Sciences – Pharmaceutics and Drug Delivery
(Graduated, June 2019)

Thesis Title: *"Trans-nasal Mucosal Delivery of BDNF AntagoNAT Oligonucleotides Using Heterotopic Mucosal Engrafting for Parkinson's Disease"*

Mr. Christopher Francis — Ph.D. in Pharmaceutical Science – Pharmaceutics and Drug Delivery
Experiential (Industrial) PhD Fellow supported by Pfizer
(Graduated, April 2020)

Thesis Title: *Non-Viral CRISPR/Cas9 Based Gene Editing in Hepatocytes for Wilson's Disease*

Mr. Aatman Doshi — Ph.D. in Pharmaceutical Science – Pharmaceutics and Drug Delivery
Experiential (Industrial) PhD Fellow supported by Astra Zeneca
(Graduated, July 2021)

Thesis Title: *Targeted Delivery of Low-Dose Liposomal STING Agonist to CD103+ Dendritic Cells in Tumor Immunotherapy*

Mr. Srujan Gandham — Ph.D. in Pharmaceutical Science – Pharmaceutics and Drug Delivery
Experiential (Industrial) PhD Fellow supported by Moderna
(Graduated, July 2021)

Thesis Title: *Modulation of Extracellular Vesicular microRNA in Multidrug Resistant Ovarian Cancer*

Ms. Archita Menon — Ph.D. in Pharmaceutical Science – Pharmaceutics and Drug Delivery
American Heart Association Graduate Fellowship Recipient
(Graduated, July 2021)

Thesis Title: *The Role of Iron in Doxorubicin-Induced Cardiotoxicity – Risk Factors and Therapeutic Strategies*

Mr. Kevin Craig — Ph.D. in Pharmaceutical Science – Pharmaceutics and Drug Delivery
Experiential (Industrial) PhD Fellow supported by Dicerna Pharmaceuticals
(Graduated, August 2021)

Thesis Title: *Macrophage-Targeted Oligonucleotide Therapeutics to Downregulate Inflammatory Cytokines in Non-Alcoholic Steatohepatitis (NASH)*

Ms. Angela Nocera — Ph.D. in Pharmaceutical Science – Pharmaceutics and Drug Delivery
(Graduated, January 2022)

Thesis Title: *Role of Cystatins in the Formation and Maintenance of Chronic Rhinosinusitis with Nasal Polyps: Mechanistic Understanding and RNAi Therapeutic Strategy*

Mr. Gregory Jones — Ph.D. in Pharmaceutical Science – Pharmaceutics and Drug Delivery
Experiential (Industrial) PhD Fellow supported by Frequency Therapeutics
(Graduated, July 2022)

Thesis Title: *Pharmacokinetic and Pharmacodynamic Modeling of Iron Transport to Guide the Rational Development of Novel Nano-Chelator Formulations for the Treatment of Iron Overload Disorders*

Ms. Lauren Gauthier — Ph.D. in Pharmaceutical Science – Pharmaceutics and Drug Delivery
Experiential (Industrial) PhD Fellow supported by Takeda Pharmaceuticals
(Graduated, April 2023)

Thesis Title: *Investigating Relevant Nonclinical Toxicity Species for Immune-Modulatory Drugs*

Ms. Kanika Suri — Ph.D. in Bioengineering
Experiential (Industrial) PhD Fellow supported by Takeda Pharmaceuticals
(Graduated, September 2023)

Thesis Title: *Lipid Nanoparticle Mediated Oral Delivery of RNA for Inflammatory Bowel Disease*

Mr. Dhaval Oza — Ph.D. in Pharmaceutical Science – Pharmaceutics and Drug Delivery
Experiential (Industrial) PhD Fellow supported by Alnylam Pharmaceuticals
(Graduated, October 2023)

Thesis Title: *Peritoneal Macrophage Tropism and Migration in Acute Injury Models and the Treatment Strategy for Acetaminophen-Induced Liver Toxicity*

Ms. Shwetha Iyer — Ph.D. in Pharmaceutical Science – Pharmaceutics and Drug Delivery
Experiential (Industrial) PhD Fellow supported by Novartis
(Graduated, October 2023)

Thesis Title: *Sustained Intraocular Delivery of Anti-VEGF Antibody for Age-Related Macular Degeneration*

Mr. Shashank Bhangde — Ph.D. in Pharmaceutical Science – Pharmaceutics and Drug Delivery
GSK Vaccines - Industrial Graduate Fellow

Thesis Title: *Novel Self-Emulsifying Vaccine Adjuvant and Immunomodulator Combination for Rapid Pandemic Response*

Ms. Megha Suresh — Ph.D. in Pharmaceutical Science – Pharmaceutics and Drug Delivery
Experiential (Industrial) PhD Fellow supported by Abbvie

Thesis Title: *Myeloid Cell-Targeted Delivery of Immunomodulators for the Treatment of Idiopathic Pulmonary Fibrosis*

Mr. Apurva Krishna — Ph.D. in Bioengineering
GSK Vaccines - Industrial Graduate Fellow

Thesis Title: *Development and Evaluation of STING Agonist Adjuvants for Systemic and Mucosal Vaccination*

Ms. Taylor Hickman — PhD in Pharmaceutical Sciences – Biomedical Sciences
Experiential (Industrial) PhD Fellow supported by Takeda Pharmaceuticals

Thesis Title: *Critical Understanding and Mitigation Strategies for Cellular Immunotherapy-Associated Neurotoxicities*

(CANS) in Cancer

Mr. Prashant Agarwal — Interdisciplinary Ph.D. in the College of Engineering/Chemical Engineering
Experiential (Industrial) PhD Fellow supported by Amgen Pharmaceuticals

Thesis Title: *CNS Delivery of EGFR Targeted PROTACS in Glioblastoma Treatment*

Ms. Raquel Sevilla — PhD in Pharmaceutical Sciences – Biomedical Sciences
Experiential (Industrial) PhD Fellow supported by Merck

Thesis Title: *Role of Intercellular Communication through Tunneling Nanotubes in Triple Negative Breast Cancer Metastasis and Resistance*

Ms. Anna Pryzbyla — PhD in Pharmaceutical Sciences – Biomedical Sciences
Experiential (Industrial) PhD Fellow supported by Astra-Zeneca

Thesis Title: *Fc-Receptor-Mediated Bystander Effects Mechanism of Action with Antibody-Drug Conjugates*

Mr. Matthew Chang — PhD in Bioengineering
Experiential (Industrial) PhD Fellow supported by Dana Farber

Thesis Title: *Engineering CASS B Cells for the Treatment of Non-Small Cell Lung Cancer*

Ms. Anika Pavis — PhD in Bioengineering
Experiential (Industrial) PhD Fellow supported by Ascidian

Thesis Title: *Macrophage Polarization towards Pro- and Anti-Inflammatory Phenotypes by Exon Editing*

Ms. Kavita Iyer — PhD in Chemical Engineering
Experiential (Industrial) PhD Fellow supported by Alnylam Pharmaceuticals

Thesis Title: *Macrophage-Targeted RNA Interference Therapy for Autoimmune Encephalitis*

Master's Students

Mr. Vijaykumar R. Patel — M.S. in Biomedical Sciences – Pharmaceutics Specialization
(Graduated, September 1995).

Thesis Title: *Chitosan-Poly(Ethylene Oxide) Semi-Interpenetrating Polymer Network as a pH-Sensitive Drug Delivery System.*

Ms. Amira Ahmed — M.S. in Biomedical Sciences – Pharmaceutics Specialization
(Graduated, September 1997).

Project Title: *Novel Drug Delivery Systems for the Treatment of H. pylori Infection.*

Ms. Sweta Shah — M.S. in Biomedical Sciences – Pharmaceutics Specialization
(Graduated, September 1999).

Project Title: *Stomach-Specific Antibiotic Therapy for H. pylori Infection.*

Ms. Sarah Nsereko — M.S. in Biomedical Sciences – Pharmaceutics Specialization
(Graduated, June 2001).

Thesis Title: *Chitin Microparticles for Localized Delivery of Paclitaxel: In Vitro and In Vivo Studies.*

Mr. Jugminder S. Chawla — M.S. in Biomedical Sciences – Pharmaceutics Specialization
(Graduated, April 2002).

Thesis Title: *Poly(epsilon-caprolactone) Nanoparticles for Tumor-Targeted Delivery of Tamoxifen: In Vitro Studies.*

Mr. Ehab Taqieddin — M.S. in Biomedical Sciences – Pharmaceutics Specialization
(Graduated, April 2002).

Thesis Title: *Enzyme Immobilization in Perm-selective Chitosan-Alginate Hybrid Microcapsules.*

Ms. Anupama Potineni — M.S. in Biomedical Sciences – Pharmaceutics Specialization
(Graduated, April 2002).

Project Title: *Poly(Ethylene Oxide)-Modified Poly(Beta-Amino Ester) Nanoparticles: Long-Circulating pH Sensitive Biodegradable System for Paclitaxel Delivery.*

Mr. Srinivasan Namala — M.S. in Biomedical Sciences – Pharmaceutics Specialization
(Graduated, June 2003).

Project Title: *Iontophoresis: A Tool to Enhance Transdermal Drug Delivery*

Ms. Pallavi Devurkar — M.S. in Biomedical Sciences – Pharmaceutics Specialization
(Graduated, June 2003).

Project Title: *In Vitro Evaluation of Chitosan Microspheres for Stomach-Specific Drug Delivery*

Ms. Lilian van Vlerken — M.S. in Pharmaceutical Sciences – Pharmaceutics Specialization
(Graduated, April 2005; Matriculated into the PhD program)

Project Title: *Combination Therapy of Ceramide and Paclitaxel Delivered in Poly(Ethylene Oxide)-Modified Poly(Epsilon-Caprolactone) Nanoparticles as a Potential Strategy for Overcoming Tumor Multidrug Resistance*

Mr. Gurinder S. Saini — M.S. in Interdisciplinary Studies – Materials Science Specialization
(Co-Advisor, under the Nanomedicine Consortium)
(Graduated, January 2006)

Thesis Title: *Preparation and Characterization of Superparamagnetic Iron Oxide-Gold Core-Shell Nanoparticles for Biomedical Applications*

Ms. Lipa Shah — M.S. in Pharmaceutical Sciences – Pharmaceutics Specialization
(Graduated, December 2006, Matriculated into the PhD program)

Thesis Title: *Biodegradable Polymeric Nanoparticles for Intracellular Saquinavir Delivery in HIV/AIDS*

Ms. Ankita Desai — M.S. in Biotechnology – Pharmaceutical Science Track
(Graduated, December 2006)

Project Title: *In Vitro Evaluations of Multi-functional Nanoemulsion Formulations for Brain Tumor Therapy*

Ms. Jasneet Oberai — M.S. in Pharmaceutical Sciences – Pharmaceutics Specialization
(Graduated, May 2007)

Project Title: *Novel Nanoemulsions with Temperature-Responsive Drug Delivery*

Ms. Shraddha Babaria — M.S. in Biotechnology – Pharmaceutical Science Track
(Graduated, August 2007)

Project Title: *Cationic Liposomes for Intranasal Gene Delivery to the Brain*

Ms. Sunita Yadav — M.S. in Pharmaceutical Sciences – Pharmaceutics Specialization
(Graduated, December 2007, Matriculated into the PhD program)

Thesis Title: *Multifunctional Nanotherapeutic Strategy for MDR-1 Gene Silencing and Chemotherapy Administration to Overcome Multidrug Resistance in Cancer*

Ms. Dipti Deshpande — M.S. in Pharmaceutical Sciences – Pharmaceutics Specialization
(Graduated, December 2007, Matriculated into the PhD program)

Thesis Title: *Biodegradable Nanoparticle System for Intracellular Administration of Paclitaxel and Ceramide in Coronary Restenosis*

Ms. Aparna Chavali — M.S. in Biotechnology – Pharmaceutical Science Track
(Graduated, May 2008)

Project Title: *p53 Gene Therapy for Cancer*

Ms. Sunaina Pai — M.S. in Pharmaceutical Sciences – Pharmaceutics Specialization
(Graduated, August 2008)

Thesis Title: *In Vitro Evaluations of Multifunctional Nanoparticles for Simultaneous EGFR Gene Silencing and Drug Delivery in Pancreatic Cancer*

Ms. Sindhura Ganga — M.S. in Pharmaceutical Sciences – Pharmaceutics Specialization
(Graduated, August 2008)

Thesis Title: *Multifunctional Nanoemulsion System for Combination Paclitaxel and Curcumin Delivery for Enhancement in Therapeutic Efficacy in Human Glioblastoma Cells*

Mr. Shardool Jain — M.S. in Pharmaceutical Sciences – Pharmaceutics Specialization
(Graduated, August 2008; Matriculated into the PhD program)

Thesis Title: *Non-Condensing Calcium Alginate Microspheres for Gene Delivery and Transfection in Macrophages*

Ms. Padmaja Magadala — M.S. in Pharmaceutical Sciences – Pharmaceutics Specialization
(Graduated, October 2008)

Project Title: *Epidermal Growth Factor Receptor-Targeted Gelatin-Based Nanovectors for Gene Therapy in Pancreatic Cancer Cells*

Ms. Pooja Sane — M.S. in Pharmaceutical Sciences – Pharmaceutics Specialization
(Graduated, May 2009)

Project Title: *Down-Regulation of MDR-1 and MRP-1 by Curcumin Using Nanoemulsion Formulations in Drug Resistant Tumor Cells*

Ms. Saradha Chandrasekhar — M.S. in Biotechnology – Pharmaceutical Science Track
(Graduated, May 2009)

Project Title: *DNA Delivery in Aortic Smooth Muscle and Endothelial Cells using Cationic Lipopolyplexes from Gelatin-Coated Stainless Steel Meshes*

Mr. Niraj Patel — M.S. in Pharmaceutical Sciences – Pharmaceutics Specialization
(Graduated, July 2009)

Thesis Title: *Targeted Methylene Blue-Containing Polymeric Nanoparticle Formulations for Oral Antimicrobial Photodynamic Therapy*

Mr. Chinmay Bakshi — M.S. in Pharmaceutical Sciences – Pharmaceutics Specialization
(Graduated, July 2009)

Thesis Title: *Temperature-Sensitive Nanoemulsions made with Oils Rich in Polyunstaturated Fatty Acid in Enhancing Cytotoxicity and Apoptosis in Multidrug Resistant Tumor Cells*

Ms. Sandra Chadwick — M.S. in Pharmaceutical Sciences – Pharmaceutics Specialization
(Graduated, August 2009)

Project Title: *Mucosal Delivery of Tuberculosis DNA Vaccination using Ovalbumin Nanoparticle-Containing W/O/W Multiple Emulsion-Based Hybrid Delivery System*

Ms. Anisha Korde — M.S. in Pharmaceutical Sciences – Pharmaceutics Specialization
(Graduated, August 2010, Matriculated into the PhD program)

Project Title: *Stomach-Specific Chitosan-PEO Hydrogel Delivery Systems for H. pylori Infection*

Ms. Pei-Chin Tsai — M.S. in Biotechnology – Pharmaceutical Science Track
(Graduated, December 2010)

Project Title: *In Vitro Evaluations of EGFR-Targeted Gold-Coated Microspheres and Gold Nano-Rods for Imaging Oral Pre-cancerous Lesions*

Ms. Shruti Shah — M.S. in Pharmaceutical Sciences – Pharmaceutics Specialization
(Graduated, December 2010)

Thesis Title: *Hypoxia in Tumor Angiogenesis and Metastasis: Evaluation of VEGF and MMP Over-expression and Down-Regulation of HIF-1α with RNAi in Hypoxic Tumor Cells*

Mr. Husain Attarwala — M.S. in Pharmaceutical Sciences – Pharmaceutics Specialization
(Graduated, December 2010, Matriculated into the PhD program)

Thesis Title: *In Vitro Evaluations of Macrophage-Targeted Anti-Inflammatory Gene Delivery and Transfection using Nanoparticle-in-Emulsion Formulations*

Mr. Milind Chalishazar — M.S. in Pharmaceutical Sciences – Pharmaceutics Specialization
(Graduated, May 2011)

Project Title: *Isolation and Evaluation of Human Melanoma Exosomes in Multiple Emulsion Formulation for Prophylactic and Therapeutic Vaccination*

Ms. Ruchi Shah — M.S. in Pharmaceutical Sciences – Pharmaceutics Specialization
(Graduated, August 2011, Matriculated into the PhD program)

Project Title: *Inhibition of Hypoxia-Inducible Factor-1 Activation in Pancreatic Tumor Spheroids with 2-Methoxyestradiol-Containing Polymeric Nanoparticles*

Mr. Hardip Gopani — M.S. in Pharmaceutical Sciences – Pharmaceutics Specialization
(Graduated, August 2011)

Thesis Title: *Combination Chemo- and Hyperoxia Therapy using Nanoemulsion Delivery Systems*

Mr. Deep Shah — M.S. in Pharmaceutical Sciences – Pharmaceutics Specialization
(Graduated, May 2012)

Project Title: *Establishment and Characterization of an Adjuvant Arthritis Model in Lewis Rats*

Ms. Kinjal Sankhe — M.S. in Pharmaceutical Sciences– Pharmaceutics Specialization (Graduated, May, 2012)

Project Title: *In Vivo Evaluations of Endothelial Regenerative Effects of Estradiol-Encapsulated Nanoemulsions in Wild-type C57BL/6J and ApoE$^{-/-}$ Knockout Mice*

Ms. Lavanya Thapa — M.S. in Pharmaceutical Sciences – Pharmaceutics Specialization (Graduated, May 2012)

Project Title: *Evaluation of Melanoma Exosomes-Containing W/O/W Multiple Emulsion Vaccine Formulation in B16F10-Tumor Bearing C57BL6/J Mice*

Mr. Kamaljeet Singh Sandhu — M.S. in Pharmaceutical Sciences – Pharmaceutics Specialization (Graduated, August 2012)

Project Title: *TNF-α Gene Silencing using Hyaluronic Acid-Based Self-Assembled Nanoparticles in Macrophages for the Treatment of Inflammatory Conditions Associated with Type 1 Diabetes*

Ms. Darshna Patel — M.S. in Pharmaceutical Sciences – Pharmaceutics Specialization (Graduated, August 2012)

Thesis Title: *In Vitro Evaluations of Ceramide Co-Therapy in Non-Targeted and EGFR-Targeted Biodegradable Polymeric Nanoparticles for Enhancing Therapeutic Efficacy in Ovarian Cancer*

Ms. Sravani Kathireddy — M.S. in Pharmaceutical Sciences – Pharmaceutics Specialization (Graduated, May 2013)

Project Title: *Multi-functional Nanoemulsions for Targeted Estradiol Delivery in the Treatment of Endothelial Dysfunction in Atherosclerosis*

Mr. Ganesan Venkatesan — M.S. in Pharmaceutical Sciences – Pharmaceutics Specialization (Graduated, May 2013)

Project Title: *"Click" Synthesis and Characterization of Functionalized Hyaluronic Acid-Based Macrostructures for Self-Assembled Nanoparticles*

Ms. Ankita Raikar — M.S. in Pharmaceutical Sciences – Pharmaceutics Specialization (Graduated, August 2013)

Thesis Title: *HIF-1α Activation in 3D Tumor Spheroids and Evaluation of 2-Methoxyestradiol Therapy using Targeted Nanoparticle Formulations*

Mr. Aatman Doshi — M.S. in Pharmaceutical Sciences – Pharmaceutics Specialization (Graduated, August 2013)

Thesis Title: *In Vitro Evaluations of Control and Lyp-1 Peptide-Modified Nano-Particulate Bisphosphonate Delivery for Ablation of Tumor-Associated Macrophages (TAMs)*

Mr. Srujan Gandham — M.S. in Pharmaceutical Sciences – Pharmaceutics Specialization (Graduated, December 2014)

Thesis Title: *In Vitro Evaluations of Hexokinase-2 Inhibition with 2-Bromopyruvate Encapsulated in Targeted Nanocarrier Formulations using 3D Spheroid Models of Aerobic Glycolysis*

Mr. Adwait Oka — M.S. in Pharmaceutical Sciences – Pharmaceutics Specialization (Graduated, December 2014)

Thesis Title: *Targeted siRNA Delivery Strategy with Water-in-Oil-in-Water Multiple Emulsion for Modulation of*

Tumor-Associated Macrophage Polarity in Immunotherapy of Cancer

Mr. Qijun (Oscar) Ouyang — M.S. in Pharmaceutical Sciences – Pharmaceutics Specialization
(Graduated, May 2015)

Project Title: *Re-Polarization of Tumor Associated Macrophages with MicroRNA Nanovectors*

Ms. Grishma Pawar — M.S. in Pharmaceutical Sciences – Pharmacology Specialization
(Graduated, May 2015 – Matriculated into the PhD program)

Project Title: *CNS Delivery of BDNF in Thermogelling Polymer Depot in Sprague-Dawley Rats*

Mr. Parin Shah — M.S. in Pharmaceutical Sciences – Pharmacology Specialization
(Graduated, May 2015)

Project Title: *MicroRNA-Based Transfection and Epigenetic Changes in Lung Tumor Model*

Ms. Mei-Ju Su — M.S. in Pharmaceutical Sciences – Pharmaceutics Specialization
(Graduated, December 2015).

Thesis Title: *Tumor Exosome-Mediated Macrophage Reprogramming in a Co-Culture Model and Evaluation of MicroRNA Delivery with Hyaluronic Acid-Based Nanoparticles*

Ms. Dandan Ling — M.S. in Pharmaceutical Sciences – Pharmaceutics Specialization
(Graduated, May 2016).

Project Title: *miR-34a/Let-7a Combination Therapy in Refractory Lung Cancer using Targeted Hyaluronic Acid Nanoparticles*

Ms. Megha Suresh — M.S. in Pharmaceutical Sciences – Pharmaceutics Specialization
(Graduated, May 2016, Matriculated into the PhD program).

Thesis Title: *Hetero-Cellular 3-D Spheroids of Pancreatic Tumor Cells for MicroRNA-34 Delivery using Hyaluronic Acid-Based Nanoparticles*

Ms. Charul Avachat — M.S. in Pharmaceutical Sciences – Pharmaceutics Specialization
(Graduated, December 2017)

Thesis Title: *In Vitro Evaluations of BDNF Plasmid DNA Delivery and Transfection using Cationic Liposomes in Parkinson's Disease Model*

Ms. Krina Shah — M.S. in Pharmaceutical Sciences – Pharmaceutics Specialization
(Graduated, December 2017)

Thesis Title: *Pancreatic Tumor Cell-Fibroblast Heterocellular 3D Spheroid as a Model of Hypoxia and the Role of Nanoparticle-Mediated MicroRNA Therapy*

Ms. Tanjeela Jahan — M.S. in Pharmaceutical Sciences – Pharmaceutics Specialization
(Graduated, May 2020)

Project Title: *Mitochondrial Network Density in Regulating Apoptosis and Neuronal Cell Death in Neurodegenerative Diseases*

Mr. Saket Dolare — M.S. in Pharmaceutical Sciences – Pharmaceutics Specialization
(Graduated, December 2021)

Thesis Title: *Mitochondrial Network Density and Cellular Apoptosis Modulation in Drug Resistant Triple Negative Breast Cancer Cells*

Ms. Rutuja Dighe — M.S. in Pharmaceutical Sciences – Pharmaceutics Specialization (Graduated, December 2021)

Thesis Title: *Role of Intercellular Communication through Tunneling Nanotubes in Ovarian Cancer Cells and Therapeutic Resistance*

Mr. Hongyu Li — M.S. in Pharmaceutical Sciences – Pharmaceutics Specialization (Graduated, August 2023)

Thesis Title: *Inhibition of Extracellular Vesicle Release from Triple Negative Breast Cancer Cells using Anti-SNARE Peptide Encapsulated Liposomes*

Ms. Sophia Cabellon — BS/MS PlusOne Program – Bioengineering Department (Graduated, April 2024)

Thesis Title: *The Use of Nanoparticles to Deliver Vitamin A for the Treatment of Chronic Rhinosinusitis in an In Vitro Model*

Ms. Allison Rogers — BS/MS PlusOne Program – Bioengineering Department (Graduated, April 2024)

Thesis Title: *Formulation and Evaluation of Mitochondrial Network Enhancing Nanomedicine to Increase Mitochondrial Fusion in Neurodegenerative Disease*

Ms. Narela Magrassi — M.S. in Pharmaceutical Sciences – Pharmaceutics Specialization

Thesis Title: *Inhibition of Tunneling Nanotubes and Extracellular Vesicles in Multidrug Resistance Cancer Cells*

Membership in Graduate Students Thesis Advisory Committees

Mr. Mukur Gupta	M.S. in Industrial Pharmacy, Massachusetts College of Pharmacy and Health Sciences (Graduated, June 2001). Ph.D. in Industrial Pharmacy, Massachusetts College of Pharmacy and Health Sciences (Graduated, February, 2004)
Mr. Anurag Singhal	M.S. in Pharmaceutics (Graduated, June 2002)
Ms. Prachi Parulkar	M.S. in Pharmaceutics (Graduated, August 2004)
Ms. Solani Bhardwaj	M.S. in Chemical Engineering (Graduated, December 2007)
Ms. Shweta Raini	M.S. in Pharmaceutics (Graduated, May 2009)
Ms. Aditi Jhaveri	M.S. in Pharmaceutics (Graduated, May 2009)
Mr. Kelton Barnsley	M.S. in Chemistry (Graduated, November 2014)
Ms. Roshani Patil	M.S. in Biomedical Engineering (Graduated, May 2019)
Ms. Chia-Yu Wang	M.S. in Chemical Engineering (Graduated, May 2020)
Ms. Bhavya Singh	M.S. in Chemical Engineering (Graduated, May 2021)
Mr. Liam Bingham-Maas	M.S. in Chemical Engineering (Graduated, April, 2023)
Mr. Jayesh Vora	Ph.D. in Pharmaceutics (Graduated, June 1994)
Ms. Kamelia Behnia	Ph.D. in Pharmaceutics (Graduated, September 1996)
Mr. Daniel J. Magiera, III	Ph.D. in Biomedical Sciences (Graduated, June 1997)
Ms. Sandhya Ramanathan	Ph.D. in Pharmaceutics (Graduated, September 1997)
Ms. Imran Vural	Ph.D. in Biomedical Sciences (Graduated, June 1998)
Ms. Sujata Vaidyanathan	Ph.D. in Pharmaceutics (Graduated, September 1998)
Mr. Ramin Darvari	Ph.D. in Pharmaceutics (Graduated, December 2001)

Mr. Ram Rammohan	Ph.D. in Biomedical Sciences (Graduated, June 2002)
Mr. Jose DaSilva	Ph.D. in Biomedical Sciences (Graduated, June 2002)
Mr. Ananth Srinivas Chakilam	Ph.D. in Pharmaceutics (Graduated, December 2004)
Mr. Sarathi Vijay Bodapatti	Ph.D. in Pharmaceutics (Graduated, August 2007)
Ms. Suman Dandamudi	Ph.D. in Pharmaceutics (Graduated, January 2008)
Ms. Mattia Migliore	Ph.D. in Pharmacology/Nanomedicine (Graduated, May 2008)
Ms. Paula Lampton	Ph.D. in Biology/Nanomedicine (Graduated, December 2008)
Ms. Heather Brodkin	Ph.D. in Chemistry/Nanomedicine (Graduated, May 2009)
Ms. D. Ece Gamsiz	Ph.D. in Chemical Engineering (Graduated, December 2009)
Mr. J. Adam Hendricks	Ph.D. in Chemistry/Nanomedicine (Graduated, December 2009)
Ms. Shifalika Tangutoori	Ph.D. in Pharmaceutics (Graduated, April 2010)
Ms. Tatyana Chernenko	Ph.D. in Chemistry/Nanomedicine (Graduated, April 2010)
Ms. Agnes Rafalko	Ph.D. in Chemistry/Nanomedicine (Graduated, May 2011)
Ms. Tao Wang	Ph.D. in Pharmaceutics (Graduated, December 2011)
Mr. Claudio Falcao	Ph.D. in Pharmaceutics (Graduated, December 2011)
Ms. Fulden Buyukozturk	Ph.D. in Chemical Engineering (Graduated, August 2012)
Mr. Robert Riehle	Ph.D. in Pharmaceutics/Nanomedicine (Graduated, May 2013)
Mr. Sean Essex	Ph.D. in Pharmaceutics (Graduated, August 2013)
Ms. Mary Katharine Balaconis	Ph.D. in Bioengineering (Graduated, December 2013)
Ms. Jennifer Monahan-Fore	Ph.D. in Chemistry/Nanomedicine (Graduated, December 2013)
Mr. Michael Cuccarese	Ph.D. in Chemistry/Nanomedicine (Graduated, March 2014)
Ms. Jennifer Woodring	Ph.D. in Chemistry/Nanomedicine (Graduated, December 2014)
Mr. Helal Al-Suleimani	Ph.D. in Pharmaceutical Science (Graduated, December 2017)
Ms. Loraine Speciner	Ph.D. in Bioengineering (Graduated, March 2018)
Ms. Jennifer Morales	Ph.D. in Bioengineering (Graduated, December 2018)
Mr. Bumjun Kim	Ph.D. in Chemical Engineering (Graduated, November 2018)
Ms. Murui Han	Ph.D. in Pharmaceutical Science (Graduated, December 2018)
Ms. JuOae Chang	Ph.D. in Pharmaceutical Science (Graduated, May 2019)
Ms. Wenjun De	Ph.D. in Pharmaceutical Science (Graduated, July 2019)
Mr. Armin Vedadghavami	Ph.D. in Bioengineering (Graduated, February 2022)
Mr. Jacob Hebert	Ph.D. in Chemical Engineering (Graduated, July 2022)
Mr. Fernando Ivich	Ph.D. in Bioengineering (Graduated, September 2023)
Mr. Ian Smith	Ph.D. in Chemical Engineering (Graduated, June 2024)
Mr. Ronodeep Mitra	Ph.D. in Chemical Engineering (Graduated, August 2024)
Ms. Tanvi Pathrikar	Ph.D. in Bioengineering (Graduated, September 2024)
Mr. Jose Estevam	Ph.D. in Pharmaceutical Sciences (Graduated, November 2024)
Ms. Sadiqua Shadbar	Ph.D. in Chemistry and Chemical Biology
Mr. Bryce Johnson	Ph.D. in Pharmaceutical Sciences
Mr. Joshua Pace	Ph.D. in Bioengineering
Ms. Sabrina Marnoto	Ph.D. in Chemical Engineering
Ms. Naira Keshishian	Ph.D. in Chemical Engineering
Ms. Anjali Chauhan	Ph.D. in Pharmaceutical Sciences
Mr. Victus Kordorwu	Ph.D. in Bioengineering

Research Advising to Undergraduate Honors Students

Mr. Man-Hon (Johny) Lam (B.S., Class of 1994)
Mr. Joseph M. Goreham (B.S., Class of 1995)
Mr. Peter B. Ng (B.S., Class of 1995)
Ms. Rakhee H. Tailor (B.S., Class of 1995)

Ms. Mai-Ki Ly (B.S., Class of 1995)
Mr. Ketankumar Patel (B.S., Class of 1996)
Ms. Susanne Verrico (B.S., Class of 1996)
Ms. Laurie Galvin (B.S., Class of 1996)
Ms. Fiona Duncan (B.S., Class of 1997)
Ms. Ekata V. Shah (Pharm.D., Class of 1997)
- Recipient of Dean's Undergraduate Research Achievement Award, April 1995

Ms. Rina Qaqish (Pharm.D., Class of 1997)
Ms. Gity Roostai-Mills (B.S., Class of 1998)
Ms. Roula Qaqish (Pharm.D., Class of 1998)
- Recipient of Dean's Undergraduate Research Achievement Award, April 1996
- Currently Clinical Science Manager, Abbott Laboratories Eastern Division, Baltimore, Maryland

Ms. Phung-Kim Lai (B.S., Class of 1999)
- Recipient of Dean's Undergraduate Research Achievement Award, April 1996
- Recipient of the PhRMA Foundation's Undergraduate Research Fellowship, January 1999

Ms. Tragiang Nguyen (B.S., Class of 1999)
Ms. Trinh Tran (B.S., Class of 1999)
Ms. Bich-Thuy Tran (B.S., Class of 1999)
Mr. Chad McQueen (Pharm.D., Class of 2000)
- Recipient of Dean's Undergraduate Research Achievement Award, April 1999

Ms. Angela L. Silvia (Pharm.D., Class of 2000)
- Recipient of Dean's Undergraduate Research Achievement Award, April 1999

Mr. Kristian Jackson (B.S., Class of 2000)
- Recipient of the University of Connecticut Research Fellowship, June 1998

Mr. Pulin Patel (B.S., Class of 2000)
- Pursued graduate studies in Pharmaceutical Chemistry at the University of Kansas, Lawrence, KS

Mr. Derick Anderson (Pharm.D., Class of 2001)
- Recipient of Dean's Undergraduate Research Achievement Award, April 2000

Ms. Kwai-Dzy Mak (Pharm.D., Class of 2001)

Mr. Chi-Sing Nip (Pharm.D., Class of 2001)
- Recipient of the AAPS-AFPE "Gateway" Research Scholarship, June 2000

Ms. Erica J. Waugh (Pharm.D., Class of 2002)
- Recipient of the PhRMA Foundation's Undergraduate Research Fellowship, January 2001
- Recipient of Dean's Undergraduate Research Achievement Award, April 2002

Ms. Nikita Mody (Pharm.D., Class of 2004)
- Recipient of Northeastern University Provost's Undergraduate Research Award, January 2002
- Recipient of Dean's Undergraduate Research Achievement Award, April 2003

Ms. Stephanie Whalen (Pharm.D., Class of 2006)
- Recipient of the AFPE "Gateway" Research Scholarship, June 2004
- Recipient of Northeastern University Provost's Undergraduate Research Award, November 2004

Ms. Sarah Rogers (Pharm.D., Class of 2008)
- Recipient of Northeastern University Provost's Undergraduate Research Award, November 2004

Mr. Zeu Hong Tzeng (Pharm.D., Class of 2007)
- Recipient of the AFPE "Gateway" Research Scholarship, July 2005
- Recipient of Northeastern University Provost's Undergraduate Research Award, January 2007

Ms. Michelle Drown (Pharm.D., Class of 2009)
- Recipient of Northeastern University's Undergraduate Research Award, August 2005

Ms. Erin Curran (Pharm.D., Class of 2007)
Ms. Christina Guerra (Pharm.D., Class of 2012)
- Recipient of Northeastern University Provost's Undergraduate Research Award, September 2007

Ms. Shubha Bhat (Pharm.D., Class of 2012)
Mr. Ravi Patel (BS, Chemistry, Class of 2014)
Ms. Erica Diamantides (Pharm.D., Class of 2015)
Ms. Kristin Hong (Pharm.D., Class of 2015)
Ms. Faryal Mir (BS, Biology/Pre-Med Program, Class of 2014)
Ms. Kendall Donohoe (Pharm.D., Class of 2018)
Ms. Rachael Heiss (BS, Mechanical Engineering., Class of 2019)
Ms. Sneha Hingorany (BS, Biology/Pre-Med Program, Class of 2019)
Ms. Reema Patel (Pharm.D., Class of 2020)
Ms. Mina Nayeri (Pharm.D., Class of 2019)
Ms. Priyanka Talagadadeevi (BS, Biomed Engr and Physics, Class of 2020)
Ms. Alyssa Bilotta (BS, Chemistry, Class of 2017)
Mr. Youngwoo Cho (Pharm.D., Class of 2020)
- Recipient of Northeastern University Provost's Undergraduate Research Award, September 2018

Ms. Casey Spellman (BS, Biochemistry, Class of 2020)
Ms. Suha Yacoob (BS, Chemical Engineering, Class of 2021)
Ms. Alicia Sobeneau (BS, Molecular and Cell Biology, Class of 2022)
Ms. Molly Haag (BS, Biochemistry, Class of 2022)
Ms. Hiba Hussein (BS, Biology/Pre-Med Program, Class of 2024)
Ms. Ira Hysi (BS, Chemical Engineering, Class of 2025)
Ms. Leia Hockstein (BS, Behavioral Psychology/Pre-Med Program, Class of 2025)
Ms. Lavanya Senthil, (BS, Biology/Pre-Med Program, Class of 2026)

High School Summer Research Scholars

Ms. Phung-Kim Lai (Summer, 1994)
Ms. Luoisy Raymond (Summer, 1995)
Mr. Bao-Tuan Nguyen (Summer, 1995)
Mr. Kong-Jie Kah (Summer, 1997)
- Through Research Science Institute, Center for Excellence in Education, McLean, VA

Mr. Jeremy L. England (Summer, 1998)
- Research Science Institute, Center for Excellence in Education, McLean, VA
- Semi-Finalist in 1999 Intel High School Talent Search Competition

Ms. Iris Wei (Summer, 1999)
- Research Science Institute, Center for Excellence in Education, McLean, VA
- Semi-Finalist in the 2000 Intel High School Talent Search Competition

Mr. Brad M. Rosen (Summer, 2000)
- Research Science Institute, Center for Excellence in Education, McLean, VA
- Semi-Finalist in the 2001 Intel High School Talent Search Competition

Ms. Natalie Karabel (Summer, 2001)
- Research Science Institute, Center for Excellence in Education, McLean, VA

Ms. Feng Tu (Summer, 2002)
- Research Science Institute, Center for Excellence in Education, McLean, VA
- Semi-Finalist in the 2002 Siemens-Westinghouse High School Talent Search Competition

Ms. Maria Elena DeObaldia (Summer, 2003)
- Research Science Institute, Center for Excellence in Education, McLean, VA

- Winner of 2004 USA TODAY's All-USA High School Academic First Team

Ms. Joline Fan (Summer, 2004)
- Research Science Institute, Center for Excellence in Education, McLean, VA
- Finalist in the 2004 Siemens-Westinghouse High School Talent Search Competition

Mr. Harold Au (Summer, 2004)
- Research Science Institute, Center for Excellence in Education, McLean, VA
- Gold Award Winner at the 2005 Singapore Science and Engineering Fair.
- Award Winner at the 2005 Shanghai Science Expo, Shanghai, China.

Ms. Yi-Meng (Sally) Tan (Summer, 2005)
- Research Science Institute, Center for Excellence in Education, McLean, VA
- Semi-Finalist in the 2005 Siemens-Westinghouse High School Talent Search Competition

Ms. Thilini Ariyawansa (Summer, 2006)
- Research Science Institute, Center for Excellence in Education, McLean, VA
- Winner of 2007 USA TODAY's All-USA High School Academic First Team

Ms. Elizabeth Lawler (Summer, 2006)
- Young Scholars Program, Center for STEM Education, Northeastern University, Boston, Massachusetts

Ms. Lili Ge (Summer, 2006)
- Young Scholars Program, Center for STEM Education, Northeastern University, Boston, Massachusetts

Ms. Ana Lyons (Summer, 2007)
- Research Science Institute, Center for Excellence in Education, McLean, VA

Mr. Zhi-Guang Ng (Summer, 2007)
- Research Science Institute, Center for Excellence in Education, McLean, VA

Ms. Jamie Kang (Summer, 2007)
- Young Scholars Program, Center for STEM Education, Northeastern University, Boston, Massachusetts

Ms. Marissa Dickson (Summer, 2007)
- Young Scholars Program, Center for STEM Education, Northeastern University, Boston, Massachusetts

Mr. Jia-Wei Lim (Summer, 2008)
- Research Science Institute, Center for Excellence in Education, McLean, VA

Mr. Mark-Alex Espanol (Summer, 2008)
- Young Scholars Program, Center for STEM Education, Northeastern University, Boston, Massachusetts

Ms. Rachael Le (Summer, 2008)
- Young Scholars Program, Center for STEM Education, Northeastern University, Boston, Massachusetts

Ms. Xiaojun Chen (Summer, 2009)
- Young Scholars Program, Center for STEM Education, Northeastern University, Boston, Massachusetts

Ms. Tien An (Summer, 2009)
- Young Scholars Program, Center for STEM Education, Northeastern University, Boston, Massachusetts

Mr. Gary Lee Lim (Summer, 2010)
- Research Science Institute, Center for Excellence in Education, McLean, VA

Ms. Manasi Malik (Summer, 2010)
- Young Scholars Program, Center for STEM Education, Northeastern University, Boston, Massachusetts

Ms. Fay Khudairi (Summer, 2010)
- Young Scholars Program, Center for STEM Education, Northeastern University, Boston, Massachusetts

Ms. Debra Van Egeren (Summer, 2011)
- Research Science Institute, Center for Excellence in Education, McLean, VA

Mr. Rahul Shankar (Summer, 2011)
- Research Science Institute, Center for Excellence in Education, McLean, VA

Ms. Kruti Vora (Summer, 2011)
- Young Scholars Program, Center for STEM Education, Northeastern University, Boston, Massachusetts

Ms. Jennifer Makovkina (Summer, 2011)
- Young Scholars Program, Center for STEM Education, Northeastern University, Boston, Massachusetts

Ms. Ruiyi Gao (Summer, 2012)
- Young Scholars Program, Center for STEM Education, Northeastern University, Boston, Massachusetts

Ms. Jennifer Flaherty (Summer, 2012)
- Young Scholars Program, Center for STEM Education, Northeastern University, Boston, Massachusetts

Mr. Nathan Kondamuri (Summer, 2012)
- Research Science Institute, Center for Excellence in Education, McLean, VA

Ms. Minerva Tili (Summer, 2013)
- Young Scholars Program, Center for STEM Education, Northeastern University, Boston, Massachusetts

Mr. Juan Paniagua (Summer, 2013)
- Young Scholars Program, Center for STEM Education, Northeastern University, Boston, Massachusetts

Ms. Sejal Batra (Summer, 2013)

Mr. Rachit Singh (Summer, 2013)
- Research Science Institute, Center for Excellence in Education, McLean, VA
- Semi Finalist in the 2014 Intel Talent Search Competition

Ms. Batelhem Gemechu (Summer, 2014)
- Young Scholars Program, Center for STEM Education, Northeastern University, Boston, Massachusetts

Mr. Nathan Pan-Doh (Summer, 2014)
- Young Scholars Program, Center for STEM Education, Northeastern University, Boston, Massachusetts

Ms. Michelle Campeau (Summer, 2014)
- Research Science Institute, Center for Excellence in Education, McLean, VA

Mr. Ruchir Rastogi (Summer, 2014)
- Research Science Institute, Center for Excellence in Education, McLean, VA
- Semi Finalist in the 2014 Intel Talent Search Competition

Ms. Michelle Gee (Summer, 2015)
- Young Scholars Program, Center for STEM Education, Northeastern University, Boston, Massachusetts

Ms. Yasmeen Elaywan (Summer, 2015)
- Young Scholars Program, Center for STEM Education, Northeastern University, Boston, Massachusetts

Mr. Anirudh Jain (Summer, 2015)
- Research Science Institute, Center for Excellence in Education, McLean, VA

Mr. Yue (Jerry) Zhang (Summer, 2015)
- Research Science Institute, Center for Excellence in Education, McLean, VA

Ms. Caroline Quinn (Summer, 2016)
- Young Scholars Program, Center for STEM Education, Northeastern University, Boston, Massachusetts

Mr. Fred Eberstadt (Summer, 2016)
- Young Scholars Program, Center for STEM Education, Northeastern University, Boston, Massachusetts

Ms. Dina Shehata (Summer, 2016)
- Research Science Institute, Center for Excellence in Education, McLean, VA

Mr. Yilin (Alan) Huang (Summer, 2016)
- Research Science Institute, Center for Excellence in Education, McLean, VA

Ms. Sophia Luo (Summer, 2017)
- Research Science Institute, Center for Excellence in Education, McLean, VA

Mr. Timothy Tran (Summer, 2017)
- Research Science Institute, Center for Excellence in Education, McLean, VA

Ms. Junyi (Michelle) He (Summer, 2017)
- Young Scholars Program, Center for STEM Education, Northeastern University, Boston, Massachusetts

Ms. Sreenikitha (Nikki) Emani, (Summer, 2017)
- Young Scholars Program, Center for STEM Education, Northeastern University, Boston, Massachusetts

Mr. Hassan Osman (Summer, 2018)
- Research Science Institute, Center for Excellence in Education, McLean, VA

Mr. Yi-Yong Tan (Summer, 2018)
- Research Science Institute, Center for Excellence in Education, McLean, VA

Mr. Dinesh Sangadi (Summer, 2018)
- Young Scholars Program, Center for STEM Education, Northeastern University, Boston, Massachusetts

Ms. Pamina Meija (Summer, 2018)
- Young Scholars Program, Center for STEM Education, Northeastern University, Boston, Massachusetts

Mr. Roc Bellostas (Summer, 2019)
- Research Science Institute, Center for Excellence in Education, McLean, VA

Mr. Edward Pham (Summer, 2019)
- Young Scholars Program, Center for STEM Education, Northeastern University, Boston, Massachusetts

Ms. Lauren Murphy (Summer, 2019)
- Young Scholars Program, Center for STEM Education, Northeastern University, Boston, Massachusetts

Mr. Felix Xu (Summer, 2020)
- Young Scholars Program, Center for STEM Education, Northeastern University, Boston, Massachusetts

Ms. Raina Alshawabkeh (Summer, 2020)
- Young Scholars Program, Center for STEM Education, Northeastern University, Boston, Massachusetts

Me. Daniel Becker (Summer, 2021)
- Young Scholars Program, Center for STEM Education, Northeastern University, Boston, Massachusetts

Ms. Alice Han (Summer, 2021)
- Young Scholars Program, Center for STEM Education, Northeastern University, Boston, Massachusetts

Mr. Murtaza Khalil (Summer, 2022)
- Young Scholars Program, Center for STEM Education, Northeastern University, Boston, Massachusetts

Mr. Sarper Paker (Summer, 2022)
- Young Scholars Program, Center for STEM Education, Northeastern University, Boston, Massachusetts

Ms. Puja Chopade (Summer, 2022)
- Research Science Institute, Center for Excellence in Education, McLean, VA

Ms. Josephine Hibou (Summer, 2022)
- Research Science Institute, Center for Excellence in Education, McLean, VA

Mr. Neil Patel (Summer, 2023)
- Young Scholars Program, Center for STEM Education, Northeastern University, Boston, Massachusetts

Ms. Mary Callon (Summer, 2023)
- Young Scholars Program, Center for STEM Education, Northeastern University, Boston, Massachusetts

Ms. Livia Behnisch (Summer, 2023)
- Research Science Institute, Center for Excellence in Education, McLean, VA

Ms. Kah Shuen Gan (Summer, 2023)
- Research Science Institute, Center for Excellence in Education, McLean, VA

SERVICE

Professional

- Membership in Professional and Scientific Societies:

  - American Association for the Advancement of Science (2022-Present)

  - American Association of Pharmaceutical Scientists (1987-Present).
    Member of the Polymers in Drug Delivery SIG
    Member of the Nanotechnology SIG

  - American Association of Colleges of Pharmacy (1993-Present).
    Member of the Council of Faculties.
    Member of the Pharmaceutics SIG
    Member of the Laboratory Instructors SIG

  - American Society for Cell and Gene Therapy (2022-Present)

  - The Controlled Release Society (1993-Present).
    Scientific Advisory Board Member (2012-2014)
    Member of Polymeric Biomaterial Discussion Group

  - The Society for Biomaterials (1989-2010).
    Member of the Task Force on the Impact of Biomaterials on Graduate Education.
    Member of the Polymeric Materials Special Interest Group.

- Grant Reviewer:

  - National Institutes of Health (Partial List)
    National Heart, Lung, and Blood Diseases Institute (NHLBI) 2004 Program of Excellence in Nanotechnology – Special Emphasis Panel [ZHL1-CSR-K (F1)(R)].
    Center for Scientific Review (CSR) November 2004 Gene and Drug Delivery (GDD) Study Section – SBIR/STTR Programs Special Emphasis Panel [ZRG1-BST-Z (10)].
    National Institute of Allergy and Infectious Diseases (NIAID) 2005 Challenge Grants: Biodefense Product Development – Special Emphasis Panel [ZA11-TS-M (M5)(R)].
    Center for Scientific Review (CSR) July 2005 Gene and Drug Delivery (GDD) Study Section Meeting – Temporary Member.
    National Heart, Lung, and Blood Diseases Institute (NHLBI) October 2005 – Special Review Committee for P01 Program Proposals.
    Center for Scientific Review (CSR), November 2005 Gene and Drug Delivery (GDD) Study Section – SBIR/STTR Programs Special Emphasis Panel [ZRG1 BST-Z 10(B)].
    National Cancer Institute (NCI), March 2006 - Ruth L. Kirschstein NRSA Fellowships (F32/F33) in Cancer Nanotechnology Research (RFA-California-06-010) Special Emphasis Panel [ZCA1 RTRB-Z(M1)(R)].
    Center for Scientific Review (CSR), April, 2006 Gene and Drug Delivery (GDD) Study Section – SBIR/STTR Programs Special Emphasis Panel [ZRG1 BST-Z (10) (B)].
    National Heart, Lung, and Blood Diseases Institute (NHLBI) May, 2006 – Special Review Committee for P01 Program Proposals.
    Center for Scientific Review (CSR), June, 2006 – Special Emphasis Panel on Proposals in Response to RFA "Biology of RNA Interference" [2006/10 ZRG1 BST-Z (52) (R)].
    Center for Scientific Review (CSR), March, 2007 – Special Emphasis Panel on Proposals in Response to RFA "Small Business: Orthopedics" [ZRG1 MOSS (10)].
    Center for Scientific Review (CSR), July, 2007 – Cancer Drug Development and Therapeutics SBIR/STTR ONC-V (13) [2007/10 ZRG1 ONC-V (13) B].
    Center for Scientific Review (CSR), October 2007 – ZRG1 NANO-M (01) "Nanotechnology" Study Section – Temporary Member.
    National Institute of Biomedical Engineering and Bioimaging (NIBIB), July 2008 - ZEB1 OSR-E (O1) S "Special Emphasis Panel/Scientific Review Group 2008/10 on T32/K99/K01 Training Grants".
    National Institute of General Medical Sciences (NIGMS), August 2008 2008/10 ZGM1 MBRS-0 (NP) "Support of Competitive Research (SCORE) Minority Biomedical Research Support in Neurophysics" Special Emphasis Panel.
    National Cancer Institute (NCI), October, 2008, 2009/01 ZRG1 ONC-X (14) B "Experimental Cancer Therapeutics SBIR/STTR" Special Emphasis Panel.

National Institute of Biomedical Imaging and Bioengineering (NIBIB) Special Emphasis Panel. 2009/01 ZEB1 OSR-B (J1) S. November 2008 Support for Scientific Conference (R13) Grant Application Review Panel.
Center for Scientific Review (CSR), January, 2009 – Cancer Immunopathology and Immunotherapy Study Section (CII), *Ad Hoc* Reviewer.
Center for Scientific Review (CSR), April, 2009 – 2009/05 ZRG1 BST-G (10) B - Assays, Detectors, and Devices SBIR/STTR Panel, *Ad Hoc* Reviewer.
Center for Scientific Review (CSR), June 2009 - 2009/10 ZRG1 BST-M (58) R, RFA OD-09-003 Challenge Grants Panel 4, *Ad Hoc* Reviewer.
National Cancer Institute (NCI), July 2009, 2009/01 ZRG1 OTC-X 14 B, Experimental Cancer Therapeutics, SBIR Special Emphasis Panel.
Center for Scientific Review (CSR), October, 2009, 2010/01 BTSS Bioengineering Technology and Surgical Sciences Study Section. *Ad Hoc* Reviewer.
Center for Scientific Review (CSR), February, 2010, 2010/05 BTSS Bioengineering Technology and Surgical Sciences Study Section. *Ad Hoc* Reviewer.
National Cancer Institute (NCI), June 2010 ZCA1 SRLB-Q C1 B, Multifunctional Therapeutics Phase II Special Emphasis Panel, Reviewer.
National Institute of Drugs of Abuse (NIDA), July, 2010 ZDA1 JXR-D (10) Special Emphasis Panel, Reviewer.
Center for Scientific Review (CSR), September 2010, 2011/01 ZRG1 BST-N (03) Member Conflicts: Bioengineering Sciences and Technologies, *Ad Hoc* Reviewer.
Center for Scientific Review (CSR), September 2010, 2011/01 ZRG1 IMST-K (03) Member Conflict: Enabling Bioanalytical and Imaging Technologies, *Ad Hoc* Reviewer.
Center for Scientific Review (CSR), February, 2011, 2011/01 BTSS Bioengineering Technology and Surgical Sciences Study Section. *Ad Hoc* Reviewer.
Center for Scientific Review (CSR), September, 2011, 2011/01 BTSS Bioengineering Technology and Surgical Sciences Study Section. *Permanent Member.*
Center for Scientific Review (CSR), May, 2012, 2012/10 PAR11-301-303: Pediatric Drug Formulations and Drug Delivery (ZRG1 ETTN-S (50) R) Special Emphasis Panel, *Co-Chair.*
National Institute of Biomedical Imaging and Bioengineering (NIBIB), July 2013, 2013/10 ZEB1 OSR-E (O1) S. NIBIB K Training Meeting (Teleconference) Special Emphasis Panel, *Member.*
Center for Scientific Review (CSR), June, 2016 and Feb, 2017 – Cancer Immunopathology and Immunotherapy Study Section (CII), *Ad Hoc* Reviewer.

- Department of Defense, United States Army Medical Research and Material Command, Congressionally-Directed Medical Research Program
  Traumatic Brain Injury, Drug Development Program (2022)
  Breast Cancer Research Program Review Panel (2006-Present)
  Breast Cancer Concept Award Review Panel (2010-Present)
  Breast Cancer Training Program Review Panel (2010-2012)
  Peer Reviewed Medical Research Program – Pre-applications for Inflammatory Bowel Disease-1 (2013)

- United States Department of Agriculture
  Investigator Initiated Proposals.
  SBIR/STTR Proposals.

- United States Food and Drug Administration
  Intramural Proposals on Nanotechnology

- American Chemical Society, Washington, DC
  Petroleum Research Funds

- Susan G. Komen Foundation for Breast Cancer Grant Program, Dallas, Texas

- American Association for Advancement of Science, Life Sciences Discovery Fund, Washington, DC

- Georgia Cancer Coalition Grant Program, Atlanta, Georgia

- University of Missouri Intramural Grant Program, Columbia, MO

- University of Kansas Intramural Grant Program, Lawrence, KS

- Medical Research Council of United Kingdom, London, UK

- The Wellcome Trust of United Kingdom, London, UK
- The Leenaards Foundation Prize, Lausanne, Switzerland
- The Netherlands Organisation for Scientific Research – The Netherlands
- National Medical Research Council, Ministry of Health, Singapore
- Singapore Science and Engineering Research Council (SERC) – an Agency of Science, Technology and Research Singapore (A*STAR), Singapore City
- Israel Science Foundation, Tel Aviv, Israel
- Czech Science Foundation, Prague, Czech Republic
- Hong Kong Innovation and Technology Support Programme, Wanchai, Hong Kong
- Hong Kong Research Grants Council, Wanchai, Hong Kong
- Skolkovo Foundation, Moscow, Russia
- Danish Research Council, Copenhagen, Denmark
- Kuwait Foundation for the Advancement of Science, Kuwait City, Kuwait
- Omani Research Council, Muscat, Oman
- South African Medical Research Council, Durban, South Africa
- Scientific Foundation of Ireland, Dublin, Ireland
- Saudi Arabian Research, Development and Innovation Authority, Riyadh, Saudi Arabia

- Membership in Industrial and Academic Scientific Advisory Boards:
  - Perosomer Therapeutics, Inc., Boston, Massachusetts (Founder and Scientific Advisor)
  - Bessor Pharma, Inc., Framingham, Massachusetts (Scientific Advisor)
  - Targagenix, Inc., Stony Brook, New York (Scientific Advisor)
  - Nemucore Medical Innovations, Wellesley, Massachusetts (Founder and Scientific Advisor)
  - Blue Ocean Biomanufacturing, Inc., Worcester, Massachusetts (Founder and Scientific Advisor)
  - OnSite Therapeutics, Inc., Lowell, Massachusetts (Scientific Advisor)
  - Cerulean Pharmaceuticals, Inc., Cambridge, Massachusetts (Scientific Advisor)
  - Aten Porus Life Sciences Private, LTD, Bangalore, Karnataka State, India (Scientific Advisor)
  - Controlled Release Society (Scientific Advisor)
  - Center for Nanomedicine and Drug Delivery, Xavier University of Louisiana, New Orleans, Louisiana (Scientific Advisor)
  - International Symposium on Recent Advances in Drug Delivery Systems, University of Utah, Salt Lake City, Utah (Scientific Advisor)

- Journal Editorships:
  - Editor for the Americas, *Drug Delivery and Translational Research* (An Official Journal of the CRS, Springer)
  - Associate Editor, *International Journal of Green Nanotechnology: Biomedicine* (Taylor & Francis)
  - Associate Editor, *Nanomedicine: Nanotechnology, Biology, and Medicine* (Elsevier) (2008-2015)

- Membership in Journal Editorial Boards:
  - Bioengineering
  - Drug Design, Development and Therapy
  - Expert Opinion on Drug Delivery

- Journal of Biopharmaceutics and Biotechnology
- Journal of Controlled Release
- Journal of Nano Education
- Nature Scientific Reports
- Nanotechnology, Science and Applications
- OpenNano
- Pharmaceutical Formulations and Quality
- Recent Advances in Drug Delivery and Formulations
- Recent Patents on Drug Delivery and Formulations
- Synthesis and Reactivity in Inorganic, Metal-Organic, and Nano-Metal Chemistry
- The Open Drug Delivery Journal
- Tissue Barriers

- Reviewer for Scientific Journals (Partial List):
  - ACS Nano
  - Advanced Drug Delivery Reviews
  - Angewandte Chemie, International Edition
  - Bioconjugate Chemistry
  - Biomacromolecules
  - Biomaterials
  - Cancer Chemotherapy and Pharmacology
  - Cancer Letters
  - Cancer Research
  - Carbohydrate Polymers
  - European Polymer Journal
  - European Journal of Pharmaceutics and Biopharmaceutics
  - European Journal of Pharmaceutical Sciences
  - Expert Opinion on Drug Delivery
  - Expert Opinion on Biological Therapy
  - Gene Therapy
  - International Journal of Cancer
  - International Journal of Pharmaceutics
  - Journal of Applied Polymer Sciences
  - Journal of the American Chemical Society
  - Journal of Biomaterial Science, Polymer Edition
  - Journal of Biomedical Materials Research
  - Journal of Controlled Release
  - Journal of Liposome Research
  - Journal of Pharmacy and Pharmacology
  - Journal of Pharmaceutical Sciences
  - Journal of Pharmacology and Experimental Therapeutics
  - Life Sciences
  - Macromolecular Biosciences
  - Molecular Cancer Therapeutics
  - Molecular Pharmaceutics
  - Nature Biomedical Engineering
  - Nature Communications
  - Nature Nanotechnology
  - Nature Reviews Drug Discovery

- Pharmaceutics
- Pharmaceutical Research
- Polymer International
- Science
- Science Advances
- Science Translational Medicine
- Small
- STP Pharma Sciences

- Participation in Short Courses:

  - Scanning Probe Microscopy Seminar and Workshop. Woburn, Massachusetts.
  - Particle Technology Seminar and Workshop. Natick, Massachusetts.
  - Application of HTML for Developing Instructional Materials. Boston, Massachusetts.
  - Absolute Macromolecular Characterization with Light Scattering. Boston, Massachusetts.
  - Scientific and Engineering Applications of Macintosh® Computers. Boston, Massachusetts.
  - Surface Characterization of Biomedical Materials. Phoenix, AZ.
  - Hydrogels in Medicine and Pharmacy. Indianapolis, IN.

- American Association of Pharmaceutical Scientists (AAPS), Northeast Regional Discussion Group Planning Committee Member (2001-2005).

- Organizer of the National Cancer Institute/Nano Science and Technology Institute Special Symposium on *"Nanotechnology for Cancer Prevention, Diagnosis, and Treatment"* (2005-Present).

- Instructor for Nano Science and Technology Institute's Tutorial Session on *"Nanotechnology for Medical Imaging and Therapy"* (2005 – Present).

- Scientific Organizing Committee Member and Session Chair of the *"Cancer Nanotech Conference: Detecting and Treating Cancer*". Paris, France. (2005-2007).

- Organizer of the "*2009 Indo-US Cancer Nanotechnology Symposium"*, sponsored by the Indo-US Science and Technology Forum, New Delhi, India. February 2009.

- Organizer of the Materials Research Society, Spring 2012 Meeting, San Francisco, California. Symposium on *"Nanomedicine for Molecular Imaging and Therapy"* March, 2012.

University, College, School, & Departments

- Faculty Delegate to the United States Pharmacopeia (USP) Convention (2003-Present).

- Faculty Advisor – American Association of Pharmaceutical Scientist – Northeastern University Student Chapter (2009-2015)

- Faculty Advisor - Beta Tau Chapter, Rho Chi Pharmaceutical Honor Society (1993-1999).

- Coordinator of the American Association of Pharmaceutical Scientists, Visiting Scientist Program (1993-1999).

- Presentations for Pharmacy Continuing Education Programs.
  - *Helicobacter pylori* and Peptic Ulcer Disease

- Advances in Drug Delivery Systems: A Primer for Pharmacists
- Nanomedicine: Realizing the Potential of Targeted and Molecular Therapies
- Pharmaceutical Calculations: A Primer for Pharmacists and Pharmacy Technicians

- Participation in School of Pharmacy/Department Open Houses and Student Orientations.

- Participation in Pharmacy Alumni Activities.

- Pharmacy Student's Academic Advising/Portfolio Reviewer.

- Committee Assignments (Partial List):

University:

- Senate Committee for Department of Pharmacy and Health Systems Sciences Chair Search (2024-Present)
- Northeastern University's 125 Experience Campaign Champion (2023-Present)
- University Task Force on the Future of COVID Testing Facility (2020-2022)
- Provost's Excellence in Research and Creative Endeavor Award Committee (2020-2023)
- Senate Committee for the Department of Chemical Engineering Chair Search (2020-2021)
- Provost's Task Force on Promotion of Research Faculty (2020-2022)
- University Distinguished Professorship Committee (2016-2019)
- University Patent Committee (2002-2009, 2012-2018)
- Biotechnology Academic Steering Committee (2002-2010)
- Senate Search Committee for Bouve College Dean (2011-2012)
- Provost's Tenure Advisory Committee (2008-2010)
- Academic Computing Advisory Committee (2004-2006)
- Senate Library Advisory Committee (2001-2007)
- Education Technology Faculty Advisory Committee (2004-2006)
- Senate Committee for Evaluation of Dean of Nursing (2004-2006)
- Senate Committee for Evaluation of Dean of Libraries (2003-2004)
- Executive Committee of the Biotechnology Initiative (2002-2004)
- Senate Committee for the Department of Pharmacy Practice Chair Search (2001-2002)
- University Instructional Technology Task Force (2000-2001)
- Senate Committee for Department of Pharmaceutical Sciences Chair Search (1996-1997)

Bouvé College:

- Bouve Dean's Leadership Team (2011-2016).
- Bouve Administrative Committee (2005 – 2011).
- Associate Dean for Research Search Committee (2010-2011).
- George D. Behrakis Endowed Professor Search Committee (2002-2004).
- College Technology Committee (1998-2000).
- College Diversity Committee, (1994-1995).
- College Computer Advisory Committee, (1995-1998).
- Graduate Education and Research Task Force (1998-1999).
- Graduate Committee for Biomedical Sciences Program (1998-2000).

School of Pharmacy:

- Pharmacy Executive Committee (2008-2016, 2023-Present).
- Pharmacy Assessment Committee (2022-Present).
- Pharmacy Steering Committee (2001-2004, 2005-2016).

- Pharmacy Curriculum Committee (1998-2002, 2007-2016).
- Pharmacy Re-Accreditation/Self-Study Committee, (1995-1996, 2008-2010).
- Pharmacy Professional Affairs Committee (2006-2009, 2020-2022)
- Pharmacy Transfer Students Admission Committee, (1994-2001, 2003-2007).
- Graduate Committee of the School of Pharmacy (2002-2006).
- Pharmacy Honors and Awards Committee, (1994-2001).
- Pharmacy Progression Requirements Committee, (1996-2000).
- Pharmacy Laboratory Renovation Task Force (1997-1999).
- Doctor of Pharmacy Tracking Admission Committee (1998-2000).
- Doctor of Pharmacy Curriculum Working Group (1996-1999)*.

Departmental of Pharmaceutical Sciences:

- Merit Review Committees, (1994-1996, 1997-2000, 2002-2003, 2007-2008).
- Departmental Faculty Search Committees, (1994-1996, 1998-1999, 2002-2003*, 2007-2008, 2019-2020*, 2020-2021).
- Joint Faculty Search Committees (2019-2020*, 2020-2021, 2022-2023*, 2023-2024)
- Pharmaceutical Sciences Workload Policy Committee (2005-2007*)
- BS in Pharm. Sciences Program Evaluation Committee (2001-2003, 2009-2010).

* *Committee Chair*

Community

- Provide Math and Science Course Tutoring to Middle and High School Students.
- Discuss Pharmacy as a Career Choice to Middle and High School Students and Parents.
- Leading Fund-Raising Activities for Local Schools and Charitable Community Organizations.

AWARDS AND HONORS

- World's Top 2% Scientists by Stanford University for the years 2019-Present.
- Elected to the College of Fellows, American Institute for Medical and Biological Engineering (AIMBE) – 2024.
- Purdue University, College of Pharmacy, Distinguished Alumni Award – 2019.
- Clarivate Analytics/Web of Science Highly Cited Author (Top 1%) in Pharmacology & Toxicology – 2014 & 2018.
- Northeastern University, School of Pharmacy, Distinguished Alumni Award – 2016.
- Northeastern University, University Distinguished Professorship Award – 2016.
- Elected to the College of Fellows, Controlled Release Society – 2014.
- Phi Lambda Sigma, Pharmacy Leadership Society, Honorary Member – 2014.
- Controlled Release Society - Tsuneji Nagai Award – 2012.
- Elected to the College of Fellows, American Association of Pharmaceutical Scientists (AAPS), 2007.
- American Association of Pharmaceutical Scientists (AAPS) - Meritorious Manuscript Award, 2007.
- Nano Science and Technology Institute (NSTI) Fellowship Award for Outstanding Contributions towards the Advancement, in Nanotechnology, Microtechnology, and Biotechnology, 2006.
- Cited in Academic Pharmaceutical Scientists Who's Who, 2004.
- Eurand Award for Outstanding Research in Oral Drug Delivery, Third Prize, 2003.
- Special Faculty Recognition Award from the Doctor of Pharmacy Students, Class of 1999.
- Recipient of Rho Chi Honor Society Advisor Appreciation Award, 1997, 1998, & 1999.
- Recipient of Dean's Excellence in Teaching Award, 1996.
- Cited in Who's Who in Science and Engineering, 1996.
- Elected Member of Sigma Xi - The Scientific Research Society, 1996.
- Elected Member of Rho Chi - Pharmaceutical Honor Society, 1987.
- Recipient of College of Pharmacy Dean's Undergraduate Research Achievement Award, 1987.

- Recipient of Burroughs Wellcome Academic Scholarship Award, 1987.
- Recipient of Dean Leroy Keagle Memorial Scholarship Award, 1986.

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