

SUMMARY

Doctor of Pharmaceutical Sciences with expertise in targeted drug delivery system development, a specialization in nanomedicine, and mastered insight of cellular biology and signaling pathways in health and in cancer. Has coined cancer as “survival of the fittest at its finest” and has distinguished three emerging hallmarks of cancer. Solid record of scholarship reflected in publications; 19 peer-reviewed journal publications, 5 book chapters, 3 white papers, and one textbook (co-editor). Intuitive cancer biologist with demonstrated excellence in communication, an innate aptitude for leadership, a passion for education and the advancement of science, and research interests in mitochondrial nanomedicine.

EDUCATION

PhD Pharmaceutical Sciences 2010 <i>Specializations in Drug Delivery Systems & Nanomedicine</i> □ Awarded the NCI/NSF-funded IGERT Pre-Doctoral Fellowship in Nanomedicine	Northeastern University, Boston, MA	September
MS Biology 2006 □ Awarded the NSF funded Graduate STEM Fellowship in K-12 Education	Northeastern University, Boston, MA	Spring,
BS Neuroscience	Northeastern University, Boston, MA	Spring, 2003
AA	John A. Logan College, Carterville, IL	Spring, 2000

EXPERIENCE

ASSISTANT TEACHING PROFESSOR, PHARMACEUTICAL SCIENCES <i>Department of Pharmaceutical Sciences, School of Pharmacy, Bouve College of Health Sciences, Northeastern University, Boston MA</i>	Dec 2017 – Current
ASSISTANT PROFESSOR OF PHARMACOLOGY, DIRECTOR OF ONLINE PROGRAMS 2017 <i>Department of Biomedical Sciences, Burrell College of Osteopathic Medicine, Las Cruces, NM</i>	Jan 2016 – Nov
ASSOCIATE RESEARCH SCIENTIST 2015 <i>Laboratory of Biomaterials and Advanced Nano-Delivery Systems, Northeastern University, Boston, MA</i>	June 2014 – Aug

LARA SCHEHERAZADE MILANE,
PhD

CONSULTANT; THE NANO DOCTOR November 2010 – Current
North Easton, MA

NCI/NSF IGERT NANOMEDICINE PRE-DOCTORAL FELLOW September 2006 – September 2010
NCI/NSF/ Northeastern University, Boston, MA

TEACHER, MEDICAL TECHNOLOGY September 2005 – June 2006
John D. O'Bryant School of Mathematics and Science, Roxbury, MA

NSF GRADUATE STEM FELLOW IN K-12 EDUCATION September 2005 – April
2006
Northeastern University, Boston, MA

CLINICAL RESEARCH ASSOCIATE September 2000 – January 2002
Worldcare Clinical Inc., Cambridge, MA

JOURNAL PUBLICATIONS

- Cho, Y., **Milane, L.**, Amiji, M. Genetic and epigenetic strategies for advancing ovarian cancer immunotherapy. *Expert Opin Biol Ther.* **6**, 547-560 (2019)
- **Milane, L.**, Singh, A., Mattheolabakis, G., Suresh, M. & Amiji, M. M. Exosome mediated communication within the tumor microenvironment. *J. Control. Release Off. J. Control. Release Soc.* **219**, 278–294 (2015).
- **Milane, L.**, Trivedi, M., Singh, A., Talekar, M. & Amiji, M. Mitochondrial biology, targets, and drug delivery. *J. Control. Release Off. J. Control. Release Soc.* **207**, 40–58 (2015).
- Mattheolabakis, G., **Milane, L.**, Singh, A. & Amiji, M. M. Hyaluronic acid targeting of CD44 for cancer therapy: from receptor biology to nanomedicine. *J. Drug Target.* **23**, 605–618 (2015).
- Gao, Y. *et al.* Targeted cancer therapy; nanotechnology approaches for overcoming drug resistance. *Curr. Med. Chem.* **22**, 1335–1347 (2015).
- Yang, X. *et al.* Cluster of Differentiation 44 Targeted Hyaluronic Acid Based Nanoparticles for MDR1 siRNA Delivery to Overcome Drug Resistance in Ovarian Cancer. *Pharm. Res.* **32**, 2097–2109 (2015).
- **Milane, L.**, Duan, Z. & Amiji, M. Therapeutic efficacy and safety of paclitaxel/Ionidamine loaded EGFR-targeted nanoparticles for the treatment of multi-drug resistant cancer. *PLoS One* **6**, e24075 (2011).
- **Milane, L.**, Duan, Z. & Amiji, M. Pharmacokinetics and biodistribution of Ionidamine/paclitaxel loaded, EGFR-targeted nanoparticles in an orthotopic animal model of multi-drug resistant breast cancer. *Nanomedicine Nanotechnol. Biol. Med.* **7**, 435–444 (2011).

LARA SCHEHERAZADE MILANE,
P h D

- **Milane, L.**, Duan, Z. & Amiji, 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 Int.* **11**, 3 (2011).
- **Milane, L.**, Ganesh, S., Shah, S., Duan, Z.-F. & Amiji, M. Multi-modal strategies for overcoming tumor drug resistance: hypoxia, the Warburg effect, stem cells, and multifunctional nanotechnology. *J. Control. Release Off. J. Control. Release Soc.* **155**, 237–247 (2011).
- **Milane, L.**, Duan, Z. & Amiji, M. Development of EGFR-targeted polymer blend nanocarriers for combination paclitaxel/Ironidamine delivery to treat multi-drug resistance in human breast and ovarian tumor cells. *Mol. Pharm.* **8**, 185–203 (2011).
- Susa, M. *et al.* Inhibition of ABCB1 (MDR1) expression by an siRNA nanoparticulate delivery system to overcome drug resistance in osteosarcoma. *PLoS One* **5**, e10764 (2010).
- Susa, M., **Milane, L.**, Amiji, M. M., Hornicek, F. J. & Duan, Z. Nanoparticles: a promising modality in the treatment of sarcomas. *Pharm. Res.* **28**, 260–272 (2011).
- Chernenko, T. *et al.* Label-free Raman spectral imaging of intracellular delivery and degradation of polymeric nanoparticle systems. *ACS Nano* **3**, 3552–3559 (2009).
- Matthäus, C., Chernenko, T., **Milane, L.**, Kale, K., Quintero, L., Amiji, M., Torchilin, V. & Diem, M. Raman Microscopy Imaging of Nanocarrier Systems for Cellular Uptake and Trafficking, *Controlled Release Society Newsletter* (26), 13-14 (2009).
- Matthäus, C., Chernenko, T., Quintero, L., **Milane, L.**, Kale, K., Amiji, M., Torchilin, V. & Diem, M. Raman Microscopic Imaging of Cells and Applications Monitoring the Uptake of Drug Delivery Systems, *Proc. SPIE* (6991), 699106 (2008).
- **Jabr-Milane, L.** *et al.* Multi-functional nanocarriers for targeted delivery of drugs and genes. *J. Controlled Release* **130**, 121–128 (2008).
- **Jabr-Milane, L.** S., van Vlerken, L. E., Yadav, S. & Amiji, M. M. Multi-functional nanocarriers to overcome tumor drug resistance. *Cancer Treat. Rev.* **34**, 592–602 (2008).
- Weissig, V., Boddapati, S. V., **Jabr, L.** & D'Souza, G. G. Mitochondria-specific nanotechnology. *Nanomed.* **2**, 275–285 (2007).

BOOKS, BOOKS CHAPTERS, AND WHITE PAPERS

- **Lara Milane** and Mansoor Amiji; Editors. *Nanomedicine for Inflammatory Diseases* (July 2017). Boca Raton, Florida CRC Press, Taylor & Francis Group.
- **Milane, L.** (2017) Translational Medicine. In L. Milane & M. Amiji (Eds.), *Nanomedicine for Inflammatory Diseases* (pp. 81-95). Boca Raton, Florida CRC Press, Taylor & Francis Group.
- **Milane, L.** (2017) Cancer. In L. Milane & M. Amiji (Eds.), *Nanomedicine for Inflammatory Diseases* (pp. 319-332). Boca Raton, Florida CRC Press, Taylor & Francis Group.
- **Milane, L.** & Amiji, M. (2015). Exosome-Mediated Communication in the Tumor Microenvironment and Metastasis. A White Paper in *National Cancer Institute's Alliance for Nanotechnology in Cancer: Cancer Nanotechnology Plan 2015*.
- **Milane, L.** & Amiji, M. (2015) Nanotechnology Solutions to Overcome Plasticity and Resistance Using Epigenetic and microRNA Reprogramming. A White Paper in *National Cancer Institute's Alliance for Nanotechnology in Cancer: Cancer Nanotechnology Plan 2015*.

LARA SCHEHERAZADE MILANE,
P h D

- Chernenko, T., **Milane, L.**, Matthäus, C., Diem, M. and Amiji, M. (2013) Raman microspectral imaging for label-free detection of nanoparticle-mediated cellular and subcellular drug delivery. In C. Li & M. Tian (Eds.), *Drug Delivery Applications of Noninvasive Imaging: Validation from Biodistribution to Sites of Action* (pp. 70-90). John Wiley & Sons, Inc, Hoboken, NJ.
- Iftimia, N., Amiji, M., **Milane, L.**, Oldenburg, A. (2010) Nanotechnology approaches for contrast enhancement in optical imaging and disease targeted therapy. In N.V. Iftimia (Ed.), *Advances in Optical Imaging for Clinical Medicine* (pp.455-504). Wiley: Hoboken.
- Matthäus, C., Chernenko, T., Quintero, L., Miljković, M., **Milane, L.**, Kale, A., Amiji, M., Torchilin, V., Diem, M. (2010) Raman micro-spectral imaging of cells and intracellular drug delivery using nanocarrier systems. In T.Dieing, O. Hollricher, and J. Toporski (Eds.), *Confocal Raman Microscopy* (pp. 137-163). Springer: Heidelberg.
- **Milane, L** & Amiji, M. (2010) Nanotechnology to Overcome Tumor Drug Resistance. A White Paper in *National Cancer Institute's Alliance for Nanotechnology in Cancer: Cancer Nanotechnology Plan 2010*.

PROFESSIONAL MEMBERSHIPS

- Controlled Release Society
- American Association of Pharmaceutical Scientists
- International Society for Pharmaceutical Engineering
- Mitochondria Interest Group of National Institute of Health
- American Association for the Advancement of Science