

CURRICULUM VITAE

ALEXANDROS MAKRIYANNIS, Ph.D.

*George D. Behrakis Chair in Pharmaceutical Biotechnology,
Professor of Pharmaceutical Science, Chemistry and Chemical Biology
Director of the Center for Drug Discovery*

EDUCATION:

- 1960 B.Ph. Chem., University of Cairo
1967 Ph.D. (Medicinal Chemistry), University of Kansas (Supervisor E.E. Smissman)
1967-69 Post-doctoral Fellow (Synthetic Organic Chemistry), University of California, Berkeley, CA (Supervisor H. Rapoport)

PROFESSIONAL SUMMARY:

- 1969-70 Senior Chemist, *Smith, Kline and French Laboratories*, Philadelphia, PA (Supervisor J. Wilson)
1971-72 Research Associate, Department of Biochemistry and Pharmacology, *Tufts Medical School*, Boston, MA (Supervisor H. Mautner)
1972-74 Assistant Professor, Department of Biochemistry and Pharmacology, *Tufts Medical School*, Boston, MA
1974-80 Assistant Professor of Medicinal Chemistry, *University of Connecticut*, Storrs, CT
1980-86 Associate Professor of Medicinal Chemistry, *University of Connecticut*, Storrs, CT
1981-87 Head, Medicinal Chemistry and Pharmacognosy, School of Pharmacy, *University of Connecticut*, Storrs, CT
1983-96 Visiting Scientist, F. Bitter National Magnet Laboratory, *Massachusetts Institute of Technology*, Cambridge, MA
1985-91 Director and Founder, Institute of Organic and Pharmaceutical Chemistry, *National Hellenic Research Foundation* (Greece)
1986-04 Professor of Medicinal Chemistry and Pharmacognosy, *University of Connecticut*, Storrs, CT
Director of the Drug Design Program; Critical Technologies Initiative, *State of Connecticut*
1994-04 Professor of Molecular and Cell Biology (joint), *University of Connecticut*, Storrs, CT
1997-04 Director, Center for Drug Discovery, *University of Connecticut*, Storrs, CT
1997-04 Professor of Pharmacology (joint), *University of Connecticut Health Center*, Farmington, CT
1996-04 Board of Trustees' Distinguished Professor of Medicinal Chemistry and Molecular and Cell Biology, *University of Connecticut*, Storrs, CT
2003 Founder, *MAKScientific* (Drug Discovery Start-up)
2004- Adjunct Professor, Dept. Pharm. Sciences, *University of Connecticut*, Storrs, CT
2004- George D. Behrakis Chair in Pharmaceutical Biotechnology, Professor of Chemistry & Chemical Biology and Pharmaceutical Sciences, and Director of the Center for Drug Discovery, *Northeastern University*, Boston, MA
2006 Founder, *Pafos Pharmaceuticals* (Drug Discovery Start-up)

HONORS:

- McNeil Endowment Fellowship (1964-67)
Research Scientist Award, NIDA (1990-95; 1995-2000)
Fellow, American Association for the Advancement of Science (1993)
President, International Cannabinoid Research Society (ICRS) (1993)
Distinguished Scientist Award, University of Connecticut Alumni (1996)
Fellow, American Association of Pharmaceutical Sciences (1997)
National Institute of Health MERIT Awards (1997-2007, 2007-2017)
Senior Scientist NIDA Award (2000-2011)
Research Achievement Award in Drug Design and Discovery, American Association of

Pharmaceutical Scientists (AAPS) (2002)
 Honorary Doctorate of Philosophy, University of Athens, Greece (2005)
 Mechoulam Life Achievement Award in Cannabinoid Research (ICRS) (2006)
 Kenneth E. Avis Award in Medicinal Chemistry (2007)
 Marquis Who's Who in Science and Engineering (2007)
 ACS Research Lifetime Achievement Award in Medicinal Chemistry (2012)
 Annual NU Award for Excellence in Research and Creativity (2012)
 ACS Medicinal Chemistry Hall of Fame (2013)

FIELDS OF SPECIALIZATION:

Target-based drug design and synthesis; chemical biology; membrane and protein biophysics (LC/MS/MS-NMR); proteomic and metabolomic LC/MS technologies

RESEARCH INTERESTS:

Cannabinergic agents; drugs of abuse; structure and function of G-protein coupled receptors and enzymes; enzyme inhibitors; drug-membrane interactions; neurosteroids; endocannabinoid biomarkers

CONSULTING ACTIVITIES:

Glaxo Wellcome, Bristol Myers, Genaissance Pharmaceuticals (Co-Chair, Scientific Advisory Board), Medochemie (Cyprus), Pfizer, Synaptic Corporation, MAKScientific (Chairman Scientific Advisory Board), Forest Laboratories, Inc., Arqule Pharmaceuticals, Biogen Idec, Aileron Therapeutics, Nestle, Wyeth, Ischemix, Inc.

ADVISORY APPOINTMENTS:

Consultant Intramural NIAAA Biophysics Research Program (1985-87)
 Ad Hoc Member, NIDA Study Section (1985-89)
 Senior Advisor National Research Council of Greece (1985-present)
 NIDA Special Rev. Committee (1987-2000)
 Member of Ad Hoc Committee NIAID (1990-1992)
 Member, NIDA-L Medications Development Review Committee (1998-2004); Chair (2001-2004)
 Member, NIH MCDN-5 Review Committee (1998-2008)
 American Association of Pharmaceutical Scientists (AAPS)-Chair, Division of Medicinal Chemistry and Natural Products (1998-99); Chair, Division of Drug Design and Discovery (1999-00)
 Member, Nat. Advisory Council for the Center for Medicinal Cannabis Research (2001-present)
 Member, External Review Board, Institut de Recherches Cliniques de Montreal (2006-present)
 Member, Scientific Review Board of the Institute for the Study of Aging, Alzheimer's Drug Discovery Foundation (2007-present)
 Member, NIH Drug Discovery Scientific Study Section (2008-present)
 Member of Industry Consulting Board, Tufts Clinical and Translational Science Institute, Tufts Medical Center, Boston, MA (2009)
 Member, Drug Discovery for the Nervous System Review Group (2009-present)
 Member, Awards Committee, American Association of Pharmaceutical Scientists (AAPS) (2010-present)
 Consultanships with Pharm. Industries

EDITORIAL ACTIVITIES:

1999-04 PharmSci, Senior Associate Editor for Medicinal Chemistry
 2001-06 Member, Editorial Board, Il Farmaco

2002-07	Member, Editorial Board, Journal of Medicinal Chemistry
2002-	Member, Editorial Advisory Board, Letters in Drug Design and Discovery
2010-	Member, Editorial Board, Global Journal of Organic Chemistry

ACADEMIC ACTIVITIES:

1976-04	Member, Institute of Materials Science, University of Connecticut, Storrs, CT
1980-87	Member, Polymer Science Program, University of Connecticut, Storrs, CT
1983-11	Chairman, Organizing Committee for 1st through 12th Cyprus Conference on "New Methods in Drug Research"
1987-98	Member, Biomolecular and Structural Analysis Center, University of Connecticut Health Center, Farmington, CT
2007-08	Member, Research Policy Oversight Committee, Northeastern University, Boston, MA
2011-12	Member, Research Policy Oversight Committee, Northeastern University, Boston, MA

PROFESSIONAL MEMBERSHIPS:

American Chemical Society (ACS), American College of Neuropsychopharmacology (ACNP), The Protein Society, American Association for the Advancement of Science (AAAS; Science), American Association of Colleges of Pharmacy (AAP), The Society of Neuroscience (SfN), American Society for Pharmacology and Experimental Therapeutics (ASPET), College on Problems of Drug Dependence (CPDD), The New York Academy of Science, Molecular Neuropharmacology and Signaling Study Section (MNPS)

PUBLICATIONS:

1. Smissman E.E., **A. Makriyannis**, (1970), Solvent effects in the NMR spectra of cyano compounds. *J. Pharm. Sci.*, **59**, 1186. PMID: 5457343
2. Smissman E.E., **A. Makriyannis**, E.J. Walaszek, (1970), Synthesis and pharmacology of N-Cyano-(β -Arylethyl) amines. *J. Med. Chem.*, **13**, 640. PMID: 5466125
3. **Makriyannis A.**, R.F. Sullivan, H.G. Mautner, (1972), Conformational relationships between analogs of acetylcholine and those of local anesthetics in solution. *Proc. Natl. Acad. Sci.*, **69**, 3416. PMID: 4508331
4. **Makriyannis A.**, J.S. Frazee, J.W. Wilson, (1972), 3-Phenyl-5-quinolinemethanol antimalarials. *J. Med. Chem.*, **16**, 118-122. PMID: 4566626
5. **Makriyannis A.**, W.H.H. Gunther, H.G. Mautner, (1973), Selenol esters as specific reagents for the acylation of thiol groups. *J. Am. Chem. Soc.*, **95**, 8403-8406.
6. Smissman E.E., **A. Makriyannis**, (1973), Azodicarboxylic acid esters as dealkylating agents. *J. Org. Chem.*, **38**, 1652. PMID: 4709670
7. Feinstein M.B., M. Volpi, S. Perrie, **A. Makriyannis**, R.I. Sha'afi, (1977), Mechanisms of local anesthetic action on the permeability of erythrocytes, leukocytes and liposomes containing the erythrocyte anion channel protein. *Mol. Pharmacol.*, **13**, 840-851. PMID: 897520
8. **Makriyannis A.**, J. Knittel, (1978), Conformational studies on phenethylamine hallucinogens: The role of α -alkyl substitution. *NIDA Research Monograph Series*, **22**, 464-481. PMID: 101888
9. **Makriyannis A.**, J. Knittel, (1979), The conformational analysis of aromatic methoxyl groups from carbon-13 chemical shifts and spin lattice relaxation times. *Tet. Lett.*, **20**, 2753-2756.
10. **Makriyannis A.**, J. Theard, H.G. Mautner, (1979), A direct approach to the determination of the rotational barriers of the acetylcholine and choline molecules. *Biochem. Pharmacol.*, **28**, 1911-1915. PMID: 454463
11. **Makriyannis A.**, G. Hite, (1979), Nortropacocaine hydrochloride conformation in aqueous and hydrophobic media. *J. Pharm. Sci.*, **68**, 788-790. PMID: 458585

12. **Makriyannis A.** J.B. Anderson, J. DiPiro, E. Kostiner, G. Hite, (1979), Steric requirements for adrenergic activity. I. The crystal structure of β - (2-hydroxy-phenyl) ethanolamine hydrochloride. *Acta. Crystal. B.*, **35**, 2247-2250.
13. Williams D.A., **A. Makriyannis**, (1979), Carbon-13 and proton magnetic resonance spectra of 2, 4-disubstituted 3, 3-diphenyltetrahydrofurans derived from isomethadone and isomethadol. *J. Hetero. Chem.*, **16**, 1223-1226.
14. **Makriyannis A.**, S.W. Fesik, (1980), Effects of anesthetics on sulfate transport in the red cell. *J. Neurosci. Res.*, **5**, 25-33. PMID: 7381978
15. Weintraub J.R., D.E. Nichols, **A. Makriyannis**, S. W. Fesik, (1980), Conformational energy differences between side chain-alkylated analogues of the hallucinogen DOM. *J. Med. Chem.*, **23**, 339- 341. PMID: 7365752
16. Henkel J.G., N. Sikand, **A. Makriyannis**, (1981), Synthesis and adrenoreceptor affinity of some highly polar β -substituted catecholamines. *J. Med. Chem.*, **24**, 1258-1260. PMID: 7328588
17. Knittel J., **A. Makriyannis**, (1981), Studies on phenethylamine hallucinogens. 2. Conformations of arylmethoxyl groups using ^{13}C NMR. *J. Med. Chem.*, **24**, 906-909. PMID: 7277405
18. **Makriyannis A.**, J. Knittel, (1981), The conformational analysis of amphetamine in solution based on the unambiguous assignment of diastereotopic benzylic protons in the ^1H NMR spectra. *Tet. Lett.*, **22**, 4631-4634.
19. de Jong A.P., S.W. Fesik, **A. Makriyannis**, (1982), Conformational requirements for norepinephrine uptake inhibition by phenethylamines in brain synaptosomes. Effects of α -alkyl substitution. *J. Med. Chem.*, **25**, 1438-1441. PMID: 7154004
20. de Jong A.P., F. Huggins, D. Fournier, **A. Makriyannis**, (1982), Inhibition of [^3H]5-HT binding to rat brain membranes by psychotomimetic amphetamines. *Eur. J. Pharmacol.*, **83**, 305-308. PMID: 7173311
21. **Makriyannis A.**, S.W. Fesik, (1982), Methoxy group conformations of phenyl methyl ethers in solution. *J. Am. Chem. Soc.*, **104**, 6462-6463.
22. **Makriyannis A.**, D. Bowerman, P.Y. Sze, D. Fournier, A.P. de Jong, (1982), Structure activity correlations in the inhibition of brain synaptosomal ^3H -norepinephrine uptake by phenethylamine analogs: The role of α -alkyl side chain and methoxyl ring substitutions. *Eur. J. Pharmacol.*, **81**, 337-340. PMID: 7117379
23. Naccache P., M. Volpi, E.L. Becker, **A. Makriyannis**, R.I. Sha'afi, (1982), Cannabinoid induced degranulation of rabbit neutrophils. *Biochem. Biophys. Res. Commun.*, **104**, 6462. PMID: 6288043
24. **Makriyannis A.**, J.L. Nilsson, (1983), Designing new drugs. *Pharmacy International*, **4**, 193.
25. **Makriyannis A.**, S.W. Fesik, (1983), Mechanism of steroid anesthetic action: interactions of alphaxalone and Δ^{16} -alphaxalone with bilayer vesicles. *J. Med. Chem.*, **26**, 463-465. PMID: 6834378
26. Fesik S.W., **A. Makriyannis**, (1985), Geometric requirements for membrane perturbation and anesthetic activity. Conformational analysis of alphaxalone and Δ^{16} -alphaxalone and ^2H NMR studies on their interactions with model membranes. *Mol. Pharmacol.*, **27**, 624-629. PMID: 4000106
27. **Makriyannis A.**, S. Fesik, R. Kriwacki, (1985), Nuclear magnetic resonance in drug research. New methods in drug research. *J.R. Prous Science Publishers*, **1**, 19-43.
28. Ruocco M.T., **A. Makriyannis**, D.J. Siminovitch, S. Das Gupta, R.G. Griffin, (1985), Deuterium NMR study of ether and ester-linked phosphatidylcholines. *Biochemistry*, **24**, 4844-4851. PMID: 4074662
29. **Makriyannis A.** D.J. Siminovitch, S.K. Das Gupta, R.G. Griffin, (1986), Studies on the interactions of anesthetic steroids with phosphatidylcholine using ^2H and ^{13}C solid-state NMR. *Biochim. Biophys. Acta.*, **859**, 49-55. PMID: 3755060
30. Banijamali A., **A. Makriyannis** (1987), Separation of tetrahydrocannabinol isomers by reverse-phase high pressure liquid chromatography. *J. Liq. Chromatogr.*, **10**, 2931-2938.

31. Banijamali A., A. Charalambous, C.J. Van der Schyf, **A. Makriyannis**, (1987), Specific deuteration of phenols and aromatic ethers using borontrifluoride and deuterium oxide. *J. Label. Compounds*, **24**, 1479-1482.
32. **Makriyannis A.**, A. Banijamali, H. Jarrell, C.J. Van der Shyf, (1987), Interactions of cannabinoids with membranes: The role of the cannabinoid stereochemistry and absolute configuration and orientation of Δ^9 -THC in the cannabinoid bilayer. *NIDA Research Monograph Series*, **79**, 123-133. PMID: 2830533
33. Siminovitch D.J., M. Ruocco, **A. Makriyannis**, R.G. Griffin, (1987), The effect of cholesterol on lipid dynamics and packing in diether phosphatidylcholine bilayers. X-ray diffraction and 2H-NMR study. *Biochim. Biophys. Acta.*, **901**, 191-200. PMID: 3607045
34. Banijamali A., N. Abou Taleb, A. Charalambous, C.J. Van der Schyf, **A. Makriyannis**, (1988), Synthesis of deuterium labeled cannabinoids. *J. Label. Compounds*, **25**, 73-82.
35. **Makriyannis A.**, A. Banijamali, (1988), A novel synthesis of (-)-trans- $\Delta^{9,11}$ -tetrahydrocannabinol. *J. Heterocyclic Chem.*, **25**, 823-825.
36. Van der Schyf C.J., T. Mavromoustakos, **A. Makriyannis** (1988), The conformation of (-) 8α and (-) 8β -hydroxy- Δ^9 -tetrahydrocannabinols and their interactions with model membranes. *Life Sci.*, **42**, 2231-2239. PMID: 2836679
37. Abdelmageed O., D. Siminovitch, M. Ruocco, R.I. Duclos Jr., R.G. Griffin, **A. Makriyannis**, (1989), Syntheses of ^2H - and ^{13}C -labeled 1,2-di-O-hexadecyl-sn-glycero-3-phosphoethanolamines and 1,2-di-O-hexadecyl-sn-glycero-3-phosphocholines. *Chem. Phys. Lipids*, **50**, 163-169.
38. Kriwacki R.W., **A. Makriyannis**, (1989), The conformational analysis of Δ^9 - and $\Delta^{9,11}$ -tetrahydrocannabinols in solution using high resolution nuclear magnetic resonance spectroscopy. *Mol. Pharmacol.*, **35**, 495-503. PMID: 2539557
39. Lee C.W., G.S. Das, J. Mattai, G.G. Shipley, M.O. Abdel, **A. Makriyannis**, R.G. Griffin, (1989), Characterization of the L- phase in trehalose-stabilized dry membranes by solid-state NMR and X-ray diffraction. *Biochemistry*, **28**, 5000-5009. PMID: 2765521
40. **Makriyannis A.**, A. Banijamali, H.C. Jarrell, D.P. Yang, (1989), The orientation of (-)- Δ^9 -tetrahydrocannabinol in DPPC bilayers as determined from solid-state 2H-NMR. *Biochim. Biophys. Acta.*, **986**, 141-145. PMID: 2554980
41. **Makriyannis A.**, T. Mavromoustakos, (1989), Studies on drug membrane interactions using solid state NMR, small angle X-ray diffraction and differential scanning calorimetry. *Rev. Clin. Pharmacol. Pharmacokinetics, Int. Ed.*, **3**, 95-114. PMID: 1753995
42. Abdelmageed O.H. R.I. Duclos Jr., E. Abushanab, **A. Makriyannis**, (1990), Chiroselective syntheses of ^2H - and ^{13}C -labeled 1-O-alkyl-2-O-alkyl'-sn-glycero-3-phosphoethanolamines and 1-O-alkyl-2-O-alkyl'-sn-glycero-3-phosphocholines. *Chem. Phys. Lipids*, **54**(1), 49-59. PMID: 2361232
43. **Makriyannis A.** R.S. Rapaka, (1990), The molecular basis of cannabinoid activity. *Life. Sci.*, **47**, 2173-2184. PMID: 2266785
44. **Makriyannis A.** D.P. Yang, R.G. Griffin, G.S. Das, (1990), The perturbation of model membranes by (-)- Δ^9 -tetrahydrocannabinol. Studies using solid-state ^2H - and ^{13}C -NMR. *Biochim. Biophys. Acta.*, **1028**(1), 31-42. PMID: 2169880
45. Mavromoustakos T.M., D.P. Yang, A. Charalambous, L.G. Herbette, **A. Makriyannis**, (1990), Study of the topography of cannabinoids in model membranes using x-ray diffraction. *Biochim. Biophys. Acta.*, **1024**(2), 336-344. PMID: 2162206
46. Melchior D.L., A. Carruthers, **A. Makriyannis**, R.I. Duclos Jr., M.O. Abdel, (1990), Alterations in red blood cell sugar transport by nanomolar concentrations of alkyl lysophospholipid. *Biochim. Biophys. Acta.*, **1028**(1), 1-8. PMID: 2207116
47. Burstein S.H., C.A. Audette, A. Charalambous, S.A. Doyle, G. Yan, S.A. Hunter, **A. Makriyannis**, (1991), Detection of cannabinoid receptors by photoaffinity labeling. *Biochem. Biophys. Res. Commun.*, **176**(1), 492-497. PMID: 1850270

48. Charalambous A., G. Marciniak, C.Y. Shiue, S.L. Dewey, D.J. Schlyer, A.P. Wolf, **A. Makriyannis**, (1991), PET studies in the primate brain and biodistribution in mice using (-)-5'-¹⁸F- Δ^8 -THC. *Pharmacol. Biochem. Behav.*, **40**(3), 503-507. PMID: 1666914
49. Charalambous A., S.Y. Lin, G. Marciniak, A. Banijamali, F.L. Friend, D.R. Compton, B.R. Martin, **A. Makriyannis**, (1991), Pharmacological evaluation of halogenated Δ^8 -THC analogs. *Pharmacol. Biochem. Behav.*, **40**(3), 509-512. PMID: 1666915
50. **Makriyannis A.**, C.M. DiMeglio, S.W. Fesik, (1991), Anesthetic steroid mobility in model membrane preparations as examined by high-resolution ¹H and ²H NMR spectroscopy. *J. Med. Chem.*, **34**(5), 1700-1703. PMID: 2033593
51. Marciniak G., A. Charalambous, C.Y. Shiue, S.L. Dewey, D.J. Schlyer, **A. Makriyannis**, A.P. Wolf, (1991), ¹⁸F-labeled tetrahydrocannabinol: Synthesis and PET studies in a baboon. *J. Lab. Comp. Radiophys.*, **30**, 413-415.
52. Mavromoustakos T., D.P. Yang, W. Broderick, D. Fournier, **A. Makriyannis**, (1991), Small angle x-ray diffraction studies on the topography of cannabinoids in synaptic plasma membranes. *Pharmacol. Biochem. Behav.*, **40**(3), 547-552. PMID: 1666918
53. Yang D.P., A. Banijamali, A. Charalambous, G. Marciniak, **A. Makriyannis**, (1991), Solid state ²H-NMR as a method for determining the orientation of cannabinoid analogs in membranes. *Pharmacol. Biochem. Behav.*, **40**(3), 553-557. PMID: 1806945
54. Charalambous A., Y. Guo, D.B. Huston, A.C. Howlett, D.R. Compton, B.R. Martin, **A. Makriyannis**, (1992), (-)-5'-azido- Δ^8 -THC: A novel photoaffinity label for the cannabinoid receptor. *J. Med. Chem.*, **35**(16), 3076-3079. PMID: 1323683
55. Duclos Jr. R.I., **A. Makriyannis**, (1992), Syntheses of all four stereoisomers which are conformationally constrained 1, 4-dioxanyl analogs of the antineoplastic ether lipid ET-18-OCH₃. *J. Org. Chem.*, **57**(23), 6156-6163.
56. Froimowitz M., C.M. DiMeglio, **A. Makriyannis**, (1992), Conformational preferences of the kappa-selective opioid agonist U50488. A combined molecular mechanics and nuclear magnetic resonance study. *J. Med. Chem.*, **35**(17), 3085-3094. PMID: 1324314
57. Yang D.P., T. Mavromoustakos, K. Beshah, **A. Makriyannis**, (1992), Amphipathic interactions of cannabinoids with membranes. A comparison between Δ^8 -THC and its o-methyl analog using differential scanning calorimetry, x-ray diffraction and solid-state ²H-NMR. *Biochim. Biophys. Acta.*, **1103**(1), 25-36. PMID: 1309660
58. DiMeglio C.M., M. Froimowitz, **A. Makriyannis**, (1993), Conformational analysis of the opioid phenylmorphane and its 9-methyl analogue in solution using high-resolution nuclear magnetic resonance spectroscopy. *Pharm. Res.*, **10**(8), 1200-1205. PMID: 8415408
59. **Makriyannis A.**, C.M. DiMeglio, A.P. de Jong, S. El-Khateeb, (1993), Hallucinogenic receptor models: Interaction of imidazolium chloride with amphetamine analogs. *Mol. Pharmacol.*, **43**(1), 78-83. PMID: 8423771
60. Martel P., **A. Makriyannis**, T. Mavromoustakos, K. Kelly, K.R. Jeffrey, (1993), Topography of tetrahydrocannabinols in model membranes using neutron diffraction. *Biochim. Biophys. Acta.*, **1151**(1), 51-58. PMID: 8395214
61. Martin B.R., D.R. Compton, S.F. Semus, S.Y. Lin, G. Marciniak, J. Grzybowska, A. Charalambous, **A. Makriyannis**, (1993), Pharmacological evaluation of iodo and nitro analogs of Δ^8 -THC and Δ^9 -THC. *Pharmacol. Biochem. Behav.*, **46**(2), 295-301. PMID: 8265683
62. Mavromoustakos T., E. Theodoropoulou, M. Koufaki, D.P. Yang, S.Y. Lin, M. Zerbou, T. Kalogeropoulou, **A. Makriyannis**, (1993), Conformational analysis of 1-thiohexadecyl-2-O-methyl-rac-glycero-3-phosphocholine. *Rev. Clin. Pharmacol.*, **11**, 178-187.
63. Mavromoustakos T., **A. Makriyannis**, (1993), Studies of drug induced changes on the thermotropic properties of model membranes using differential scanning calorimetry. *Rev. Clin. Pharmacol. Pharmacokin.*, **11**, 13-21.
64. Yang D.P., T. Mavromoustakos, **A. Makriyannis**, (1993), Small angle x-ray diffraction studies of (-)- Δ^8 -tetrahydrocannabinol and its O-methyl analog in membranes. *Life Sci.*, **53**(7), 117-122. PMID: 8394487

65. Abadji V., S.Y. Lin, G. Taha, G. Griffin, L.A. Stevenson, R.G. Pertwee, **A. Makriyannis**, (1994), (R)-methanandamide: A chiral novel anandamide possessing higher potency and metabolic stability. *J. Med. Chem.*, **37**(12), 1889-1893. PMID: 8021930
66. Duclos Jr. R.I., H.H. Chia, O.H. Abdelmageed, H. Esber, D.J. Fournier, **A. Makriyannis**, (1994), Syntheses of racemic and nearly optically pure ether lipids and evaluation of in vitro antineoplastic activities. *J. Med. Chem.*, **37**(24), 4147-4154. PMID: 7990114
67. Guo Y., V. Abadji, K.L. Morse, D.J. Fournier, X. Li, **A. Makriyannis**, (1994), (-)-11-hydroxy-7'-isothiocyanato-1',1'-dimethylheptyl- Δ^8 -THC: A novel, high-affinity irreversible probe for the cannabinoid receptor in the brain. *J. Med. Chem.*, **37**(23), 3867-3870. PMID: 7966145
68. Matsoukas J.M., J. Hondrelis, M. Keramida, T. Mavromoustakos, **A. Makriyannis**, R. Yamdazni, Q. Wu, G.J. Moore, (1994), Role of the NH₂-terminal domain of angiotensin II (ANG II) and [Sar¹]angiotensin II on conformation and activity. NMR evidence for aromatic ring clustering and peptide backbone folding comparing to [des-1,2,3] angiotensin II. *J. Biol. Chem.*, **269**(7), 5303-5312. PMID: 8106515
69. Mavromoustakos T., D.P. Yang, **A. Makriyannis**, (1994), Topography of alphaxalone and Δ^{16} -alphaxalone in membrane bilayers containing cholesterol. *Biochim. Biophys. Acta.*, **1194**(1), 69-74. PMID: 8075143
70. Mavromoustakos T., E. Theodoropoulou, **A. Makriyannis**, (1994), Use of ¹³C-CP/MASS techniques to study the dynamic properties of anesthetic steroids in membrane bilayers. *Pharmac. J.*, **7**, 129-139.
71. Smith R., F. Separovic, T.J. Milne, A. Whittaker, F.M. Bennett, B.A. Cornell, **A. Makriyannis**, (1994), Structure and orientation of the pore-forming peptide, melittin, in lipid Bilayers. *J. Mol. Biol.*, **241**(3), 456-466. PMID: 8064858
72. Tius M.A., **A. Makriyannis**, X. Long Zou, V. Abadji, (1994), Conformationally restricted hybrids of CP-55,940 and HHC: Stereoselective synthesis and activity. *Tetrahedron*, **50**(9), 2671-2680.
73. Xie X.Q., D.P. Yang, L.S. Melvin, **A. Makriyannis**, (1994), Conformational analysis of the prototype nonclassical cannabinoid CP-47,497, using 2D NMR and computer molecular modeling. *J. Med. Chem.*, **37**(10), 1418-1426. PMID: 8182700
74. Yan G., D. Yin, A.D. Khanolkar, D.R. Compton, B.R. Martin, **A. Makriyannis**, (1994), Synthesis and pharmacological properties of 11-hydroxy-3-(1',1'-dimethylheptyl) hexahydrocannabinol: A high-affinity cannabinoid agonist. *J. Med. Chem.*, **37**(16), 2619-2622. PMID: 8057304
75. Yin D., A.D. Khanolkar, **A. Makriyannis**, M. Froimowitz, (1994), Chiral resolution of 1, 3-dimethyl-4-phenylpiperidine derivatives using high-performance liquid chromatography with a chiral stationary phase. *J. Chrom. A.*, **678**(1), 176-179. PMID: 7921191
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ACTIVE RESEARCH FUNDING:

FEDERAL GRANTS (Active)

(PI) *Supplementation of Omega-3 Fatty Acids during Pregnancy* (12/1/11-11/30/14)

R21 DA030209 (PI) *Structural Basis for Cannabinoid Receptor 2 Signaling* (7/15/10-6/30/13)

R01 DA031020 (PI) *Candidate Medications for Cannabis Addiction: FAAH Inhibitors* (9/30/10-8/31/15)

R37 DA023142 (PI) *Cannabinergic Medications for Methamphetamine Addiction* (5/1/07-4/30/17)

P01 DA09158 (PI) *Endocannabinoid Active Sites as Therapeutic Targets* (9/30/94-4/30/13)

R01 DA07215 (PI) *Cannabimimetic Ligands and Drugs* (9/1/96-4/30/13)

T32 DA07312 **(PI)** *Training Program in Medications Development for Drugs of Abuse (7/1/99-6/30/13)*

R01 DA026795-01 **(PI)** *Novel Medications for Cannabis Dependence (5/1/09-4/30/13)*

INDUSTRIAL GRANTS

Endo Pharmaceuticals *CB2 Selective Agonists*

Glaxo Wellcome *Design and Synthesis of Antineoplastic Alkyl Lysophospholipids*

Glaxo Wellcome *Antineoplastic Ether Lipids Molecular Mechanisms of Action*

WHO *World Health Organization Research Award*

Pfizer Central Research *Development of Porcine Somatotropin Receptor Binding Assays*

UNITED STATES ISSUED PATENTS (First Author):

1. *Cannabinergic lipid ligands.* US 8202893 (June 19, 2012)
2. *Antiprotozoal ring-substituted phospholipids.* US 8097752 (January 17, 2012).
3. *Novel Heteropyrrole Analogs Acting on Cannabinoid Receptors.* US 8084451 (December 27, 2011)
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9. *Heteroindanes: a new class of potent cannabimimetic ligands.* US 7666867 (February 23, 2010).
10. *Inhibitors of the anandamide transporter.* US 7589220 (September 15, 2009)
11. *Bicyclic cannabinoids.* US 7446229 (November 4, 2008)
12. *Pyrazole analogs acting on cannabinoid receptors.* US 7393842 (July 1, 2008)
13. *Bicyclic cannabinoid agonists for the cannabinoid receptor.* US 7335688 (February 26, 2008)
14. *Cannabimimetic ligands.* US 7329651 (February 12, 2008)
15. *Bicyclic and tricyclic cannabinoids.* US 7285683 (October 23, 2007)
16. *Retro-anandamides, high affinity and stability cannabinoid receptor ligands.* US 7276613 (October 2, 2007)
17. *Cannabimimetic indole derivatives.* US 7241799 (July 10, 2007)
18. *Keto cannabinoids with therapeutic indications.* US 7183313 (February 27, 2007)
19. *Receptor selective cannabimimetic aminoalkylindoles.* US 7173027 (February 6, 2007)
20. *Cannabimimetic lipid amides as useful medications.* US 7161016 (January 9, 2007)
21. *Pyrazole derivatives as cannabinoid receptor antagonists.* US 7119108 (October 10, 2006)
22. *Bifunctional agents possessing antioxidant and antiarrhythmic activity.* US 7115657 (October 3, 2006)
23. *GABA A modulating neurosteroids.* US 7064116 (June 20, 2006)
24. *Bicyclic and tricyclic cannabinoids.* US 7057076 (June 6, 2006)
25. *Peripheral cannabinoid receptor (CB2) selective ligands.* US 6995187 (February 7, 2006)
26. *Analgesic and immunomodulatory cannabinoids.* US 6939977 (September 6, 2005)
27. *Cannabimimetic indole derivatives.* US 6900236 (May 31, 2005)
28. *Anandamide inhibitors as analgesic agents.* US 6391909 (May 21, 2002)
29. *Bicyclic cannabinoid agonists for the cannabinoid receptor.* US 6943266 (September 13, 2005)
30. *Anandamide amidase inhibitors as analgesic agents.* US 6579900 (June 17, 2003)
31. *Cannabinoids selective for the CB2 receptor.* US 6166066 (December 26, 2000)

32. *Anandamide amidase inhibitors as analgesic agents*. US 5874459 (February 23, 1999)
33. *Compositions useful as a cannabinoid receptor probe*. US 5872148 (February 16, 1999)
34. *Phospholipid compounds and use thereof*. US 5744459 (April 28, 1998)
35. *Anandamide amidase inhibitors as analgesic agents*. US 5688825 (November 18, 1997)
36. *Phospholipid compounds and use thereof*. US 5489580 (February 6, 1996)
37. *Compositions useful as a cannabinoid receptor probe*. US 5440052 (August 8, 1995)

INVITED LECTURES SINCE 1998:

- 1998 American Assoc. of Pharma. Scientists' Eastern Regional Meeting, Parsippany, NJ (**Keynote**)
 Regional American Chemical Society Meeting, Middlebury, CT (**Keynote**)
 Boston University, School of Medicine, Boston, MA
 Virginia Commonwealth University NIDA Seminar Series, Richmond, VA
 National Neuroscience Meeting, Los Angeles, CA
 Fudan University, Shanghai, China
 College of Pharmacy, Second Military Medical University, Shanghai, China
 Shanghai Institute of Organic Chemistry, Chinese Academy of Science, China
 Institute of Materia Medica- Chinese Academy of Medicine, Shanghai, China
 Qing Hua University, Shanghai, China
 International Cannabinoid Research Society, Palais des Congres, La Grande Motte, France
- 1999 University of Cyprus, Nicosia, Cyprus
 Boston University, School of Medicine, Boston, MA
 8th Cyprus Conference on New Methods in Drug Research, Limassol, Cyprus
 American Association of Pharmaceutical Scientists Annual Meeting, New Orleans, LA
 FASEB Summer Research Conference, Copper Mountain, CO
 2nd Annual BEACON SYMPOSIUM Drug Discovery, Design and Delivery Symposium (**Keynote**)
 NIDA IRP Special Seminar, Bethesda, MD
 American Chemical Society Regional Meeting, Boston, MA
 University of Connecticut Health Center, Farmington, CT
 Harvard Medical School-McLean Hospital, Belmont, MA
- 2000 RBI Sigma, Natick, MA
 American Chemical Society National Meeting, San Francisco, CA
 Yale Psychosis Research Seminar Series, New Haven, CT
 University of Connecticut Health Center, Farmington, CT
 University of Connecticut, Physiology and Neurobiology, Storrs, CT
 Synaptic Pharmaceutical Corporation, Paramus, NJ
 New Perspectives in the Therapeutic Uses of Endocannabinoids, Madrid, Spain
 University of Minnesota, Minneapolis, MN
 University of Connecticut, School of Pharmacy All-School Seminar Series, Storrs, CT
 Pacificchem Joint American and Japanese Chemical Society 2000 Conference, Honolulu, HI
- 2001 Harvard Medical School-McLean Hospital, Belmont, MA
 Wayne State University, Detroit, MI
 University of Connecticut Chemistry Colloquium, Storrs, CT
 Abbott Laboratories, Chicago, IL
 American Chemical Society National Meeting, Chicago, IL
 NIDA Symposium on Cannabinoids: Chemistry and Biology Meeting, Bethesda, MD
 AstraZeneca R&D, Montreal, Canada
- 2002 National Institute of Mental Health, Bethesda, MD
 Purdue University, Indianapolis, IN
 University of Louisville, Louisville, KY

NIDA Symposium on Structural Biology & Structural Genomics/Proteomics, Bethesda, MD
 International Behavioral Neuroscience Society 11th Annual Meeting, Capri, Italy
 International Symposium on Medicinal Chemistry, Barcelona, Spain
 Scientific Seminar Series at the University of Connecticut, Groton, CT
 Mini-Symposium on Current Trends in Drug Abuse Research, Storrs, CT **(Keynote)**
 American Association of Pharmaceutical Scientists Annual Meeting, Toronto, Ontario, Canada
 Marine Sciences, University of Connecticut, Groton, CT
 Center for Genetics and Molecular Medicine, University of Louisville, Louisville, KY

- 2003 National Institute on Drug Abuse, Rockville, MD
 Northeastern University, Boston, MA
 University of Connecticut School of Pharmacy Advisory Board, Storrs, CT
 American Society for Pharmacology and Experimental Therapeutics, San Diego, CA
 Crompton Corporation Chapter of Sigma Xi, Middlebury, CT **(Keynote)**
 NIDA's Southern Africa Initiative, Cape Town, South Africa
 Center for Vascular Biology, University of Connecticut Health Center, Farmington, CT
 National Hellenic Research Foundation, Athens, Greece **(Keynote)**
 4th International Symposium on Pharmaceutical Chemistry, Istanbul, Turkey
 Institute of Living Neuroscience Rounds, Hartford, CT
- 2004 Virginia Commonwealth University, Richmond, VA
 Signaling Lipids and Drugs of Abuse for the National Institute on Drug Abuse, Washington, D.C.
 NIDA on Medications Development for Cannabis Dependence, Rockville, MD
 National Institute on Drug Abuse and the American Psychiatric Association, New York, NY
 10th Cyprus Conference on New Methods in Drug Research, Limassol, Cyprus
 Meeting for the College on Problems of Drug Dependence (CPDD), San Juan, Puerto Rico
 International Cannabinoid Research Society (ICRS) Satellite Meeting, Paestum, Italy
 CMCR Conference: Future Directions in Cannabinoid Therapeutics, Paestum, Italy
 American Chemical Society National Meeting, Philadelphia, PA
 AAPS-NIDA Symposium, Bethesda, MD
 Northeastern University, Boston, MA
 Northeastern University, Massachusetts Council of Biotechnology, Boston, MA **(Keynote)**
 1st Hellenic Symposium ORGANIC SYNTHESIS, U. of Athens, Greece **(Keynote)**
 Institute of Montreal Pfizer Lecture Series, Montreal, Canada
 NIDA for the American College of Neuropsychopharmacology, San Juan, Puerto Rico
- 2005 Symposium Chair for the Center for Drug Discovery and Northeastern University, Boston, MA
 Provost's Innovations in Research, Northeastern University, Boston, MA
 Washington University, St. Louis, MO
 15th Noordwijkerhout-Camerino Symposium, Amsterdam, Netherlands
 Boehringer-Ingelheim Pharmaceutical, Ridgefield, CT
 XV Annual International Cannabinoid Research Society Symposium, Clearwater, FL
 Moderator for AAPS National Biotechnology Conference, San Francisco, CA
 NIDA SPIRDAP Special Emphasis Panel, Bethesda, MD
 Columbia University, Department of Medicine and Sanofi-Aventis, New York, NY
 Panel Moderator and Presenter, ACNP Annual Meeting, Waikoloa, HI
- 2006 NIDA, Bethesda, MD
 ICRS 16th Annual Symposium on the Cannabinoids, Tihany, Hungary
 GRASP, Northeastern University, Boston, MA **(Keynote)**
 SBIR, Governor's Office of Workforce Competitiveness, East Hartford, CT **(Keynote)**

- 2007 10th IBN Sina International Conference on Pure and Applied Heterocyclic Chemistry, Luxor, Egypt
The Threat of Obesity, Northeastern University, Boston, MA **(Keynote)**
Kenneth E. Avis Distinguished Visiting Professor Lecture, Memphis, TN **(Keynote)**
ASPET, Washington, D.C.
Camerino Lectures, Camerino, Italy
NU Today Event, Northeastern University, Boston, MA
American Chemical Society National Meeting, Boston, MA
NIDA/NIH, Rockville, MD
ECSN Scientific Forum, Boca Raton, FL
- 2008 Medications Development for Treatment of Cannabis-Related Disorders, NIDA/NIH, Bethesda, MD
National Hellenic Research Foundation, Athens, Greece **(Keynote)**
235th ACS Spring National Meeting and Burger Award, New Orleans, LA
American Society of Addiction Medicine, Toronto, Canada
11th Cyprus Conference on "New Methods in Drug Research", Limassol, Cyprus
NU Board of Trustees Annual Corporation Faculty Symposium, Boston, MA **(Keynote)**
- 2009 University of Hawaii, Honolulu, HI
Northeastern University Pharmaceutical Sciences Showcase, Boston, MA **(Keynote)**
Northeastern University Chemistry and Chemical Biology Retreat, Boston, MA
National Institute of Health, Bethesda, MD
The College on Problems of Drug Dependence Special Symposium, Reno, NV
American Association of Colleges of Pharmacy, Boston, MA
Gordon Research Conference: Cannabinoid Function in the CNS, Biddeford, ME
Biogen Idec, Cambridge, MA
- 2010 Northeastern University, Special Topics in Chemistry, Boston, MA
COST Chemistry: Free Radicals in Chemical Biology, Athens, Greece **(Keynote)**
Alnylam Biotherapeutics, Cambridge, MA, March 2010
28th Camerino-Cyprus-Noordwijkerhout Symposium, Camerino, Italy
International Narcotics Research Conference, Malmö, Sweden
Beijing Institute of Materia Medica, Chinese Academy of Medical Sciences, Beijing, China
International Symposium, Nanjing University, Nanjing, China **(Keynote)**
Shanghai Institute of Materia Medica, Chinese Academy of Sciences, Shanghai, China
Fudan University, School of Pharmacy, Shanghai, China
Shanghai Institute of Organic Chemistry, Shanghai, China
Behavior, Biology, and Chemistry: Translational Research in Addiction, San Antonio, TX **(Keynote)**
- 2011 The Royal Danish Academy of Sciences and Letters, Copenhagen, Denmark
Philip S. Portoghese Symposium, University of Minnesota, Minneapolis, MN
Drug Discovery, Delivery & Development, Northeastern University, Boston, MA
12th Cyprus Conference on "New Methods in Drug Research", Limassol, Cyprus
NIDA Training Grant Symposium, University of Kentucky, Lexington, KY
Northeastern University Pharmaceutical Sciences Research Showcase, Boston, MA
Behavior, Biology, and Chemistry: Translational Research in Addiction Conference, San Antonio, TX
Brigham and Women's Hospital Presentation, Harvard University, Cambridge, MA
- 2012 Department of Pharmaceutical Sciences Seminar, University of Pittsburgh, Pittsburgh, PA
18th Society on Neuroimmune Pharmacology Scientific Conference, Honolulu, HI
33rd National Medicinal Chemistry Symposium, University of Arizona, Tucson, AZ
Arcade Conference on Chemistry for Health, Athens, Greece
The Foundation for Research and Technology- Hellas 30th Anniversary Celebration, Heraklion, Crete
Northeastern University Honors Special Topics in Health Care, Boston, MA

MENTORING ACTIVITIES:

Graduate and Post-Doctoral Students Directly Advised Since 1995 (University of Connecticut and Northeastern University)

1. S. Lin, M.Sc., Ph.D., 1988-1995.
2. X. Li, Ph.D., 1990-1995.
3. V. Abadji, Postdoctoral, 1992-1995.
4. A. Khanolkar, Postdoctoral, 1992-1998.
5. A. Goutopoulos, M.Sc., Ph.D., 1992-1999.
6. X. Xie, Ph.D., Postdoctoral, 1993-1995.
7. W. Lang, Postdoctoral, 1993-1996.
8. X. Tian, Ph.D., 1993-2005; Postdoctoral, 2006-2011.
9. A. Z. Khaled, Ph.D., 1994-1995.
10. W.A.G. Hill, Postdoctoral, 1994-1997.
11. S. Lin, Postdoctoral, 1994-1998.
12. D. Lu, Ph.D., 1994-2006.
13. C. Qin, M.Sc., Ph.D., 1994-1997.
14. A.J. Lotsikas, Graduate Student, 1995-1996.
15. R. Lan, Postdoctoral, 1995-1997.
16. H.F. Deng, M.Sc., Ph.D., 1995-2000.
17. R. Picone, Ph.D., 1995-2001; Postdoctoral, 2002-2004.
18. Y. Yang, M.Sc., 1995-1996.
19. J. Zhao, M.Sc., 1995-1998.
20. J. Negreira, Visiting Scholar (Spain), 1996-1997.
21. S. Pavlopoulos, Postdoctoral, 1996-1998.
22. T. Kourouli, Visiting Scholar (Greece), 1996-2001.
23. X.Z. Lai, Ph.D., 1996-2004.
24. J. Guo, Ph.D., 1996-2005.
25. Q. Liu, M.Sc., 1996-2002.
26. J. Kawakami, Postdoctoral, 1997-1998.
27. Y. Sha, Visiting Scholar (China), 1997-1998.
28. W. Yang, Visiting Scholar (China), 1997-1998.
29. S. Krishnaswami, M.Sc., 1997-1998.
30. R. Chari, Ph.D., 1998-2005.
31. A. Ramamurthy, M.Sc., 1998-2001.
32. T. Mavromoustakos, Visiting Scholar (Greece), 1999.
33. A.K. Singh, M.Sc., 1999-2001.
34. S. Palmer, Postdoctoral, 1999-2002.
35. M. Sommer, Postdoctoral, 1999-2000.
36. C. Souli, Postdoctoral, 1999-2000.
37. F.M. Yao, Postdoctoral, 1999-2001.
38. Y. Zhuang, Postdoctoral, 1999-2001.
39. A. Zvonok, Postdoctoral, 1999-2002.
40. S. Nikas, Postdoctoral, 1999-2003.
41. R. Mercier, Postdoctoral, 2000-2006.
42. T. Neelands, Postdoctoral, 2000-2001.
43. H. Hu, Postdoctoral, 2000-2001.
44. G. Thakur, Postdoctoral, 2000-2003.
45. W. Xu, Ph.D., 2000-2006.
46. C. Li, M.Sc., 2001-2004.
47. C.R. Ramanathan, Postdoctoral, 2001-2004.
48. R. Thotapally, Postdoctoral, 2001-2004.
49. Y.C. Leung, Postdoctoral, 2001-2004.
50. P. McLaughlin, Postdoctoral, 2001-2005.
51. J. Anday, Ph.D., 2001-2006.
52. K. Winston, Ph.D., 2001-2006.
53. S. Filppula, Postdoctoral, 2001-2006.
54. S. Yaddanapudi, Ph.D., 2001-2007.
55. P. Fan, Visiting Scholar (China), 2001-2007; 2009-2010; 2011-.
56. Y. Mao, Postdoctoral, 2002-2003.
57. L. Pandarinathan, Postdoctoral, 2002-2003.
58. G. Choi, Postdoctoral, 2002-2004.
59. J. Zhao, M.Sc., 2002-2005.
60. Y. Pei, Ph.D., 2002-2007.
61. S. Kazolias, M.Sc., 2002-2005.
62. C. Rajan, M.Sc., 2002-2005.
63. J. Wood, Postdoctoral, 2002-2005.
64. S. Varadarajan, Postdoctoral, 2003-2004.
65. L. Bizeta, Postdoctoral, 2003-2004.
66. V. Veerappan, Postdoctoral, 2003-2004.
67. T. Olszewska, Postdoctoral, 2003-2005.
68. K.V. Subramanian, Postdoctoral, 2003-2005.
69. J. Zhang, M.Sc., 2003-2006.
70. D. Fortin, Ph.D., 2003-2006.
71. Y. Peng, M.Sc., 2003-2007; 2008-2009.
72. J. Guo, Postdoctoral, 2004-2005.
73. C. Hale, Postdoctoral, 2004-2005.
74. J. Williams, Ph.D., 2004-2007.
75. K.R. Vemuri, Postdoctoral, 2004-2007.
76. O.S. Alapafuja, Ph.D., 2004-2009.
77. J. Zhai, Postdoctoral, 2005-2006.
78. P. Holmberg, Postdoctoral, 2005-2006.
79. E. Jutkiewicz, Postdoctoral, 2005-2006.
80. K. Dzenko, Postdoctoral, 2005-2006.

81. D. Karanian, Postdoctoral, 2005-2007.
 82. S. Divakaramenon, Postdoctoral, 2005-2007.
 83. T. Parkkari, Visiting Scholar (Finland), 2005-2007.
 84. V. Magriotti, Visiting Scholar (Greece), 2006.
 85. P. Salgaonkar, Postdoctoral, 2006-2007.
 86. X. Han, Visiting Scholar (China), 2006-2007.
 87. P.W. Qin, Graduate Student, 2006-2008.
 88. A. Kastal, Graduate Student, 2006-2009.
 89. J. Zhuang, Postdoctoral, 2006-2009.
 90. R. Sharma, Ph.D., 2006-2011.
 91. M. Johnston, Ph.D. Candidate, 2006-.
 92. I. Karageorgos, Ph.D. Candidate, 2006-.
 93. E. Shelnut, Ph.D. Candidate, 2006-.
 94. D. Szymanski, Ph.D. Candidate, 2006-2011.
 95. W. Aizu, Postdoctoral, 2006-2007.
 96. L. Song, Postdoctoral, 2006-2007.
 97. V. Shukla, Postdoctoral, 2006-2009.
 98. H. Teng, Ph.D., 2006-2011.
 99. D. Anagnostopoulos, Visiting Scholar (Greece), 2007.
 100. F. Desarnaud, Postdoctoral, 2007.
 101. H. Jang, Postdoctoral, 2007.
 102. S. Tyukhtenko, Postdoctoral, 2007-2010.
 103. C. Freni, M.Sc., 2007-2008.
 104. C. Kearn, Postdoctoral, 2007-2008.
 105. S. Gopalakrishnan, M.Sc., 2007-2008.
 106. S. Cararas, Postdoctoral, 2007-2008.
 107. A. Bowman, Postdoctoral, 2007-2009.
 108. I. Kendrick, Ph.D., 2007-.
 109. M. Papanastasiou, Postdoctoral, 2007-2010.
 110. P. LeBeaume, Ph.D., 2007-2010.
 111. M. D'Souza, Ph.D. Candidate, 2007-.
 112. S. Bajaj, Ph.D. Candidate, 2007-.
 113. S. Tai, Ph.D. Candidate, 2007-.
 114. P. Yin, Ph.D., 2007.
 115. H. Zhou, Ph.D. Candidate, 2007-.
 116. H. Li, Postdoctoral, 2007-2009.
 117. R. Serbanescu, M.Sc., 2008-2010.
 118. R. Tichkule, Ph.D. Candidate, 2008-.
 119. M. Nasr, Ph.D. Candidate, 2008-.
 120. K. Whitten, Ph.D. Candidate, 2008-.
 121. C. Sallum, Postdoctoral, 2008-2009.
 122. D. Smith, Postdoctoral, 2008-2010.
 123. A. Rafalko, Ph.D., 2008-2011.
 124. S. Sanghavi, M.Sc., 2008-2009.
 125. S. Marathe, M.Sc., 2008-2009.
 126. V. Kodumuru, Postdoctoral, 2008-2010.
 127. S. Bhatt, M.Sc., 2009-2010.
 128. M. Johnson, Ph.D. Candidate, 2009-.
 129. S.H. Chalasani, M.Sc., 2009-2010.
 130. B. Patel, M.Sc., 2009-2010.
 131. C. Mushti, Postdoctoral, 2009-2010.
 132. D. Finnegan, Postdoctoral, 2009-2011.
 133. S. Ganguly, Ph.D. Candidate, 2010-.
 134. G. Rajarshi, Ph.D. Candidate, 2010-.
 135. F. Sekyere, M.Sc., 2010.
 136. Y. Jmeian, Postdoctoral, 2010.
 137. C. Habrukowich, Postdoctoral, 2010-.
 138. A. Kulkarni, Ph.D. Candidate, 2010-2011.
 139. J. Garcia, Postdoctoral, 2010-.
 140. L. Shen, Postdoctoral, 2010-2011.
 141. B. Zhang, Postdoctoral, 2010-2011.
 142. D. DeFilippo, Ph.D. Candidate, 2011-.
 143. A. Korde, Ph.D. Candidate, 2011-.

MINORITY ACTIVITIES:

Majority-Minority Interactive Research Program; Collaboration between the University of Connecticut, Florida A&M University; Special Summer Internship Program; NIDA Sponsored Collaboration with North Carolina A&T University (NCAT); Member, External Scientific Advisory Committee of the Minority Biomedical Research Program at NIH, Florida A&M; NIH Special Populations Research Development Effort

MINORITY INDIVIDUALS ADVISED SINCE 1996:

Student	University Attended	Dates Sponsored
Theresa Josef	University of Connecticut	1996-1998
Joel Kawakami	University of Hawaii	1997-1999
Wang Zhang	Florida A & M University	Summers 1997, 1998
Bereket Mochona	Florida A & M University	Summer 1999
Tefamichael Gebrekidan	Florida A & M University	Summer 1999
Mufeed Basti	North Carolina A&T	Summers 2000, 2001,

	Associate Professor	2003, 2004
Carl Engmann	University of Connecticut Undergraduate Student	Summer 2000
Sonya Palmer	University of Connecticut Post Doctoral Fellow	2000-2003
Keisha Winston	University of Connecticut Graduate Student	2001-2005
Jenine Anday	University of Connecticut Graduate Student	2001-2007
Sherrica Tai	Northeastern University Graduate Student	2007-
Elvis Tiburu	Northeastern University Assistant Research Professor	2007-
Joseph Allen	Northeastern University Undergraduate Student	2009-
Jessica Garcia	Northeastern University Post Doctoral Fellow	2010-