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EDUCATION

Sept. 1992-Aug. 1997	Ph.D. in Medicinal Chemistry, Faculty of Pharmacy, University of Alberta (Drs. L. I. Wiebe, E. E. Knaus, Supervisors)
Jan. 1984-Jan. 1989	Pharm.D., Faculty of Pharmacy, University of Tehran (Dr. A. Shafiee, Supervisor)

RESEARCH EXPERIENCE

July 2013-Present	**Associate Dean of Research, Graduate Studies and Global Affairs**, **Full Professor**, School of Pharmacy, Chapman University
Sept. 2013-Present	**Member**, Chao Family Comprehensive Cancer Center, University of California, Irvine
Nov. 2012-Present	**Adjunct Faculty,** Department of Molecular Pharmacology, Physiology and Biotechnology, Brown University
July 2013-Present	**Research Professor**, Department of Biomedical and Pharmaceutical Sciences, College of Pharmacy, University of Rhode Island
July 2008-June 2013	**Full Professor**, Department of Biomedical and Pharmaceutical Sciences, College of Pharmacy, University of Rhode Island
March 2013-Present	**Adjunct Faculty,** International Center for Chemical and Biological Sciences, University of Karachi

May 2012-June 2013 **Program Coordinator,** Rhode Island IDeA Network of Biomedical Research Excellence (INBRE) sponsored by NIH

January 2010-Dec. 2010 **Sabbatical Research**, Department of Molecular Pharmacology, Physiology and Biotechnology, Brown University

Nov. 1, 2000-Present **Visiting scientist (Scholar)**, Department of Pharmacology and Molecular Sciences, School of Medicine, Johns Hopkins University

April 2006-July 2008 **Associate professor**, Department of Biomedical and Pharmaceutical Sciences, College of Pharmacy, University of Rhode Island

Oct. 2000-April 2006 **Assistant professor**, Department of Biomedical and Pharmaceutical Sciences, College of Pharmacy, University of Rhode Island

1. Designing self-assembled peptide nanomaterials for drug delivery and tissue engineering.
2. Designing protein kinase inhibitors through target-based strategies using molecular modeling, synthetic, and biochemical tools.
3. Novel approaches in designing bifunctional anti-infective agents. Currently our focus is to design prodrugs of antifungal agents and HIV microbicides.
4. Novel strategies in the solid-phase synthesis.
5. Polymer-based drug delivery
6. Synthesis and evaluation of modified nucleotides and nucleic acids
7. Anticancer drug design

July 1999-Oct. 2000 **Postdoctoral fellow**, Department of Pharmacology and Molecular Sciences, **School of Medicine, Johns Hopkins University (Burrough Welcome Fund) (Dr. Philip A. Cole)**

Chemical cross-linking agents for identification of substrates for protein kinases, Bisubstrate ATP-peptide inhibitors of tyrosine kinases.

Jan. 1999-July 1999 **Postdoctoral fellow**, Department of Bioorganic Chemistry, Rockefeller University (Dr. Philip A. Cole)

Tyrosine analogs as alternative substrates for protein kinase Csk.

Sept. 1997-Jan. 1999 **Postdoctoral fellow**, Department of Chemistry, University of Alberta (Dr. Ole Hindsgaul)

Sulfation and phosphorylation of carbohydrates and nucleosides using solid phase organic synthesis.

Sept. 1992-Aug. 1997 **Ph.D.**, Faculty of Pharmacy, University of Alberta (Drs. L. I. Wiebe, E. E. Knaus, Supervisors)

1. Synthesis, biodistribution, pharmacokinetic, and biological evaluation of 5'-*O*-myristoyl derivatives of 3'-azido-3'-deoxythymidine (AZT) and 3'-fluoro-3'-deoxythymidine (FLT) as prodrugs for the treatment of AIDS and hepatitis B.
2. Synthesis, antifungal and antiviral activities of myristic acid analogs.
   This research project involved the design and synthesis of double-barreled myristoyl, and heteroatom-modified myristoyl, derivatives of nucleoside analogs for the treatment of AIDS and Hepatitis B.
3. Synthesis of derivatives of 2-fluoromethyl and 3-fluoromethyl tyrosine.
4. Synthesis of 4-hydroxymethyl-2-nitro-1-trityl-imidazole.
5. Synthesis of 1'- and 2,2'-deuterated nucleosides.

Jan. 1992-Sept. 1992 **Sabbatical leave**, Faculty of Pharmacy, University of Alberta
(Drs. L. I. Wiebe, E. E. Knaus, Supervisors)

Jan. 1989-Dec. 1991 **Ph.D. student**, Faculty of Pharmacy, University of Tehran
(Dr. A. Shafiee, Supervisor)

Synthesis of derivatives of 1-phenylethyl substituted 1,2,4-triazoles and imidazoles as spermicides.

Jan. 1984-Jan. 1989 **Pharm.D. thesis**, Faculty of Pharmacy, University of Tehran
(Dr. A. Shafiee, Supervisor)

Synthesis of substituted 2-(1-methyl-5-nitro-2-imidazolyl)quinolines, effective drugs against tropical diseases.

MEMBERSHIP IN PROFESSIONAL SOCIETIES

1. American Chemical Society (1996-Present)
2. American Association for the Advancement of Science (1999-present)
3. American Association of Pharmaceutical Scientists (AAPS) (1993-1995) (2004-Present)
4. The Johns Hopkins Medical and Surgical Association (2002-Present)
5. American Diabetes Association (2004-Present)
6. American Association of Colleges of Pharmacy (February 2001-2008)
7. SIGMA XI (The Scientific Research Society) (November 2000-November 2001)
8. Distinguished member of PIRE Advisory Board, NSF, University of Rhode Island Partnership in International Research and Education (PIRE) (2008)

SCIENTIFIC JOURNAL EDITOR OR EDITORIAL ADVISORY BOARD

1. The Executive Guest Editor of "*Current Pharmaceutical Design*" (2001-Present).

2. Editorial Advisory Board "*Current Medicinal Chemistry, Central Nervous System Agents*" (June 2004-Present).

3. Editorial Advisory Board of "*Recent Patent Reviews on CNS Drug Discovery*" (March 2005-Present).

4. Editorial Board member of "*Perspectives in Medicinal Chemistry*" (January 2007-Present).

5. Editorial Board Member of *"Open Biochemistry Journal"* (June 2007-Present).

6. Editorial Board Member of "*Daru Journal of Pharmaceutical Sciences*" (Aug. 2008-Present).

7. Editorial Board Member of Associate Editors, *"The Beilstein Journal of Organic Chemistry"* (December 2008-Present).

8. Editorial Board Member, "*Journal of Herbal Drugs*" (Aug. 2009-Present).

9. Editorial Advisory Board, "*Chemistry Biology Interface*" (September 2011-Present).

10. Honorary Editorial Board, "*Research and Reports in Transdermal Drug Delivery*" (Dec. 2011-Present)

11. Editorial Board Member of "*Journal of Pharmacological & Biomedical Analysis*" (June 2012-Present)

PEER REVIEW ACTIVITY AND GRANT REVIEW ACTIVITY

- Reviewer for *Organic Letters, Bioorganic Medicinal Chemistry Letters, Bioorganic Medicinal Chemistry, Journal of Combinatorial Chemistry, Current Pharmaceutical Design, Tetrahedron Letters, Journal of Organic Chemistry, Chemistry and Biology, and Journal of Medicinal Chemistry, ChemMedChem*.

- Center For Scientific Review, NIH, *Microbicidal Preclinical Development Program*, ZRG1 AARR-1, August 7-9, 2001

- Center For Scientific Review, NIH, *Microbicidal Preclinical Development Program* ZRG1 AARR-1, December 9, 2002.

- Center For Scientific Review, NIH, *Microbicidal Preclinical Development Program*, ZRG1 AARR-1, July 9, 2003.

- Center For Scientific Review, NIH, *Drug Delivery & Drug Discovery SBIR/STTR Panel*, ZRG1 SSS-L (10), June 30, 2003- July 01, 2003.

- Center For Scientific Review, NIH, *Microbicidal Preclinical Development Program*, ZRG1 AARR-A 51, December 8-9, 2003.

- Center For Scientific Review, NIH, *Microbicide Innovation R21/R33 program*, ZAI1 BLG-A (S1), May 23-24, 2006.

- Ad Hoc Reviewer, INSF, *Development of COX-2 Inhibitors*, December 2006.

- Reviewer, *2006 Assessment of Research Doctorate Programs*, National Research Council (NRC), December 2006.

- *The Estonian Science Foundation*, Evaluation of proposals, July 2008.

- *Organic and Macromolecular Chemistry CAREER Panel*, National Science Foundation (NSF), October 6-7, 2008.

- Center For Scientific Review, NIH, *Microbicide Innovation R21/R33 program (MIP IV)*, ZAI1 RB-A (J1) 2, November 20-21, 2008.

- Center For Scientific Review, NIH, *Microbicide Innovation R21/R33 program (MIP VI)*, ZAI1 RB-A (J1), December 2-3, 2010.

- Cancer Drug Discovery Peer Review Committee, *American Cancer Society,* June 23-24, 2011.

- Cancer Drug Discovery Peer Review Committee, American Cancer Society, January 19-20, 2012.

- Cancer Drug Discovery Peer Review Committee, American Cancer Society, June 14-16, 2012.

- City University of New York, Cuny Collaborative Research Grant Proposal Review, April 6, 2013.

- **Permanent member**, Cancer Drug Discovery Peer Review Committee, American Cancer Society, August 1, 2012-Present.

AWARDS AND HONORS

Year	Award	Awarding Agency/Institution	Nature of Award
2014	Outstanding Intellectual Property Development	University of Rhode Island	Efficient Synthesis of CN2097 and RC7 and Their Analogs
2014	Outstanding Intellectual Property Development	University of Rhode Island	Synthesis of Maplexin J
2014	Outstanding Intellectual Property Development	University of Rhode Island	Phenolic Compounds with Antioxidant and Anti-Cancer Properties
2014	Outstanding Intellectual Property Development	University of Rhode Island	Antibacterial Peptides Containing Arginine and Tryptophan Residues
2013	Outstanding Intellectual Property Development	University of Rhode Island	Solid-phase synthesis of modified oligonucleotides containing diphosphodiester inter-nucleotide linkages.
2013	Outstanding Intellectual Property Development	University of Rhode Island	Preparation of quebecol and its analogs as anti-cancer agents.
2012	**Research Excellence Award**	**College of Pharmacy University of Rhode Island**	**Recognition**
2012	M2012 Travel Scholarship	Microbicides: From Discovery to Delivery	Travel scholarship and invitation for giving an oral presentation
2011	**Outstanding Researcher**	**University of Rhode Island**	**Recognition**
2011	The Rho Chi Society The Academic Honor Society in Pharmacy Beta Pi Chapter	University of Rhode Island	Honorary Member
2010	M2010 Travel Scholarship	Microbicide: Building Bridges in HIV Prevention Organizing Committee	Travel scholarship and invitation for giving an oral presentation

2009	Harry and Elsa Jiler—American Cancer Society Professors Meeting Travel Scholarship	American Cancer Society	Travel scholarship and invitation for giving an oral presentation
2009	Honorary Fellow of the Indian Society Chemists and Biologists (ISCB)	Indian Society Chemists and Biologists	Honorary Fellow
2004	Outstanding Intellectual Property Development	University of Rhode Island	Research: Recognition for Discovery of the Docking Site of Tyrosine Kinases
2004	Outstanding Intellectual Property Development	University of Rhode Island	Research: Recognition for Discovery of Bisubstrate Inhibitors of Protein Tyrosine Kinases as Anticancer Agents
2004	Outstanding Intellectual Property Development	University of Rhode Island	Research: Recognition for Discovery of Novel Bisubstrate Antifungal Derivatives
2003	Listed in Marquis Who's Who in America	Marquis Who's Who	Honor
2001	Commercial Innovation Award	Slater Center For Biomedical Technology	Research: Industrial Innovation Research
1998	American Chemical Society Travel Grant	American Chemical Society	Research Travel Award
1997-1999	Alberta Heritage Foundation for Medical Research Postdoctoral Fellowship	Alberta Heritage Foundation for Medical Research	Postdoctoral Fellowship Scholarship
1997	The Most Positive Influence Award	University of Alberta	Service Honorary Award
1996	Golden Bulb Light Award	University of Alberta	Service
1994-1996	Alberta Heritage Foundation for Medical Research Studentship Scholarship	Alberta Heritage Foundation for Medical Research	Ph.D. Student Scholarship
1995	J. Gordon Graduate Student Award	University of Alberta	Research
1994	Dr. Wu Hong Fund Poster Prize	University of Alberta	Research, Poster Prize
1993	Mike Wolowyk Graduate Scholarship	University of Alberta	Research
1993	Myer Horowitz Graduate Scholarship	University of Alberta	Research

PROFESSIONAL AND TECHNICAL EXPERIENCE

1. Medicinal chemistry.
2. Nano-based drug design and drug delivery tools.
3. Peptide synthesis and application as enzyme inhibitors and drug delivery tools.
4. Biomaterials characterization using Transmission Electron Microscopy (TEM), Scanning Electron Microscopy (SEM), and Dynamic Light Scattering (DLS)
5. Cell-based assays and imaging techniques (flow cytometry, fluorescence microscopy, confocal microscopy).
6. Solid-phase organic synthesis and combinatorial chemistry.
7. Synthetic organic chemistry of lipids, peptides, nucleosides, nucleic acids, carbohydrates, and heteroaromatics.
8. Analytical and spectroscopy methods like HPLC, NMR, IR, UV and MS.
9. Enzymatic reactions.
10. Molecular modeling and quantitative structure-activity relationship (QSAR) using Insight II, Biosym, Hyperchem, Rasmol, ViewerLite, ChemPro. Software.
11. *In vivo* biodistribution and pharmacokinetic studies.
12. Techniques in molecular biology (electrophoresis, cloning of DNA, hybridization, gene transfection).
13. Enzyme kinetic studies.
14. Using radioactive compounds for biological assays like enzymatic studies.

PUBLICATIONS

1. Shafiee, A., Pirouzzadeh, B., Ghasemian, F., **Parang, K.** Synthesis of 2-acetyl-1-methyl -5-nitroimidazole. *J. Heter. Chem.* **(1992)** *29*, 1021-1023 and *Cheminform* **(1992)** *23*, 50.

2. Shafiee, A., **Parang, K.**, Khazen, M., Ghasemian, F. Synthesis of substituted 2-(1-methyl-5- nitro-2-imidazolyl)quinolines. *J. Heter. Chem.* **(1992)** *29*, 1859-1861.

3. Sharifan, A., **Parang, K.**, Zorrieh-Amirian, H., Nazarinia, M., Shafiee, A. Synthesis of 1-substituted 1,2,4-triazoles, imidazoles and benzimidazoles. *J. Heter. Chem.* **(1994)** *31*, 1421-1423.

4. **Parang, K.**, Knaus, E. E., Wiebe, L. I., Sardari, S., Daneshtalab, M., Csizmadia, F. Synthesis and antifungal activities of myristic acid analogs. *Arch. Pharm.-Pharm. Med. Chem.* **(1996)** *329*, 475-482.

5. **Parang, K.**, Wiebe, L. I., Knaus, E. E., Huang, J. S., Tyrrell, D. L., Csizmadia, F. *In vitro* antiviral activities of myristic acid analogs against human immunodeficiency and hepatitis viruses. *Antiviral Research* **(1997)** *34*, 75-90.

6. **Parang, K.**, Wiebe, L. I., Knaus, E. E. Syntheses and biological evaluation of 5′-*O*-myristoyl derivatives of thymidine against human immunodeficiency virus (HIV-1). *Antiviral. Chem. Chemother.* **(1997)** *8*, 417-427.

7. **Parang, K.**, Knaus, E. E., Wiebe, L. I. Synthesis, *in vitro* anti-HIV structure-activity relationships and stability of 5′-*O*-myristoyl analogue derivatives of 3′-azido-2′,3′-dideoxythymidine as potential prodrugs of 3′-azido-2′,3′-dideoxythymidine (AZT). *Antiviral. Chem. Chemother.* **(1998)** *9*, 311-323.

8. **Parang, K.**, Wiebe, L. I., Knaus, E. E. *In vivo* pharmacokinetic parameters, liver and brain uptake of (±)-3′-azido-2′,3′-dideoxy-5′-*O*-(2-bromomyristoyl)thymidine as potential prodrug of 3′-azido-3′-deoxythymidine. *J. Pharm. Pharmacol.* **(1998)** *50*, 989-996.

9. **Parang, K.**, Knaus, E. E., Wiebe, L. I. Synthesis, *in vitro* anti-HIV activity, and biological stability of 5′-*O*-myristoyl analogue derivatives of 3′-fluoro-2′,3′-dideoxythymidine (FLT) as potential prodrugs of FLT. *Nucleosides & Nucleotides* **(1998)** *17*, 987-1008.

10. **Parang, K.**, Wiebe, L. I., Knaus, E. E., Huang, J. S., Tyrrell, D. L. *In vitro* anti-hepatitis B virus activities of 5′-*O*-myristoyl analogue derivatives of 3′-fluoro-2′,3′-dideoxythymidine (FLT) and 3′-azido-2′,3′-dideoxythymidine (AZT). *J. Pharm. Pharmaceut. Sci.* **(1998)** *1*, 107-113.

11. Ablooglu, A. J., Till, J. K., Kim, K., **Parang, K.**, Cole, P. A., Hubbard, S. R., Kohanski, R. A. Probing the catalytic mechanism of the insulin receptor kinase with a tetrafluorotyrosine-containing peptide substrate. *J. Biol. Chem.* **(2000)** *275*, 30394-30398.

12. Kim, K., **Parang, K.,** Lau, O. D., Cole, P. A. Tyrosine analogs as alternative substrates for protein tyrosine kinase Csk: insights into substrate selectivity and catalytic mechanism. *Bioorg. Med. Chem.* **(2000)** *8*, 1263-1268.

13. **Parang, K.**, Wiebe, L. I., Knaus, E. E. Novel approaches in designing prodrugs of AZT. *Current Med. Chem.* (**2000)** *7*, 995-1039.

14. **Parang, K.**, Till, J. H., Ablooglu, A. J., Kohanski, R. A., Hubbard, S. R., Cole, P. A. Mechanism-based design of a protein kinase inhibitor. *Nature Structural Biology* **(2001)** *8*, 37-41.

15. **Parang, K.,** Fournier, E. J.-L., Hindsgaul, O. A solid phase reagent for the capture phosphorylation of carbohydrate and nucleosides. *Org. Lett.* **(2001)** *3*, 307-309.

16. **Parang, K.**, Preface, Anti-HIV design, Bentham Science Publishers, Hilversum, *Current Pharmaceutical Design* **(2002)** *8*, 8.

17. **Parang, K.**, Miri, R. Review of Organic Chemistry Principals, Kushamehr Publications, First Edition, Shiraz, **2002**, Persian.

18. **Parang, K.**, Kohn, J. A., Saldahna, A., Cole, P. A. Development of photo-crosslinking reagents for protein kinase-substrate interactions. *Febs Letters* **(2002)** *520*, 156-160.

19. **Parang, K.** Polymer-supported reagents for methylphosphorylation and phosphorylation of Carbohydrates. *Bioorg. Med. Chem. Lett.* **(2002)** *12*, 1863-1866.

20. **Parang, K.**, Cole, P. A. Bisubstrate inhibitors of protein kinases. *Pharmacology and Therapeutics* **(2002)** *93*, 145-157.

21. Nam, N. H., **Parang, K.** Current Drug Targets for Anticancer Drug Discovery. *Current Drug Targets* **(2003)**, *4*, 159-179.

22. **Parang, K.**, Preface, Anti-HIV design, Bentham Science Publishers, Hilversum, *Current Pharmaceutical Design* **(2003)** *9*, 22.

23. Nam, N. H., Sardari, S., **Parang, K.** Reactions of solid supported reagents and solid supports with alcohols and phenols through their hydroxyl functional group. *J. Comb. Chem.* **(2003)** *5*, 479-546 and *ChemInform* **(2003)**, *34*, 49.

24. Sardari, S., Pourmorad, F., Tiemo, A., Nam, H., **Parang, K.** Protein kinases and their modulation in the central nervous system. *Current Medicinal Chemistry-CNS* **(2003)** *3*, 341-364.

25. Lee, S., Lin, X., Nam, N. H., **Parang, K.,** Sun G. Determination of the substrate-docking site of protein tyrosine kinase Csk. *Proc. Nat. Acad. Sci. U.S.A.* **(2003)** *100*, 14707-14712.

26. Force, T., Kuida, K., **Parang, K.**, Kyriakis, J. M. Inhibitors of protein kinase signaling pathways: emerging therapies for cardiovascular disease. *Circulation* **(2004)** *109*, 1196-1205.

27. Carballeira, N. M., Ortiz, D., **Parang, K.**, Sardari, S. Total synthesis and *in vitro* antifungal activity of 2-methoxytetradecanoic acid. *Arch. Pharm.-Pharm. Med. Chem.* **(2004)** *337*, 152-155.

28. Nam, N.-H., Ye, G., Sun, G., **Parang, K.** Conformationally constrained peptide analogues of pTyr-Glu-Glu-Ile as inhibitors of the Src SH2 domain binding. *J. Med. Chem.* **(2004)** *47*, 3131-3141.

29. Nam, N. H., Pitts, R., Sun, G., Sardari, S., Tiemo, A., Xie, M., Yan, B., **Parang, K**. Design of tetrapeptide ligands as inhibitors of the Src SH2 domain. *Bioorg. Med. Chem.* **(2004)** *12*, 779-787.

30. Schmidt, B., Jiricek, J., Titz, A., Ye, G., **Parang, K.** Copper dipicolinates as peptidomimetic ligands for the Src SH2 domain. *Bioorg. Med. Chem. Lett.* **(2004)** *14*, 4203-4206.

31. Nam, N. H., Sardari, S., Selecky, M., **Parang, K.** Carboxylic acids and phosphate ester derivatives of fluconazole: synthesis and antifungal activities. *Bioorg. Med. Chem.* **(2004)** *12*, 6255-6269.

32. Nam, N. H., Lee, S., Ye, G., Sun, G., **Parang, K.** ATP-phosphopeptide conjugates as inhibitors of Src tyrosine kinases. *Bioorg. Med. Chem.* **(2004)** *12*, 5753-5766.

33. **Parang, K.**, Sun, G. Design strategies for protein kinases inhibitors. *Current Opinions In Drug Discovery* **(2004)** *7*, 630-638.

34. Ahmadibeni, Y., **Parang, K.** Solid-phase reagents for selective monophosphorylation of carbohydrates and nucleosides. *J. Org. Chem.* **(2005**) *70*, 1100-1103.

35. **Parang, K.**, Sun, G. Protein kinase inhibitors in drug discovery. *Drug Discovery Handbook*, **2005**, Wiley-Interscience, New Jersey, Ed. Gad, S. C. 1191-1257.

36. Lin, X., Ayrapetov, M. K., Lee, S., **Parang, K.,** Sun G. Probing the communication between the regulatory and catalytic domains of a protein tyrosine kinase, Csk. *Biochemistry* **(2005)** *44*, 1561-1567.

37. Hines, A. C., **Parang, K.**, Kohanski, R. A., Hubbard, S. R., Cole, P. A. Bisubstrate analog probes for the insulin receptor protein tyrosine kinase: Molecular yardsticks for analyzing catalytic mechanism and inhibitor design. *Bioorg. Chem.* **(2005)** *33*, 285-297.

38. Carballeira, N. M., O'Neill, R., **Parang K.** Racemic and optically active 2-methoxy-4-oxatetradecanoic acids: Novel synthetic fatty acids with selective antifungal properties. *Chem. Phys. Lipids* **(2005**) *136*, 47-54.

39. Ahmadibeni, Y., **Parang, K.** Polymer-bound oxathiaphospholane: A solid-phase reagent for regioselective monothiophosphorylation and monophosphorylation of unprotected nucleosides and carbohydrates. *Org. Lett.* **(2005)** *7*, 1955-1958.

40. Ayrapetov, M. K., Nam, N. H., Ye, G. Kumar, A., **Parang, K.,** Sun, G. Functional diversity of Csk, Chk, and Src SH2 domains due to a single residue variation. *J. Biol. Chem.* **(2005)** *280*, 25780-25787.

41. Carballeira, N. M., O'Neill, R., **Parang, K.** Total synthesis and further scrutiny of the in vitro antifungal activity of 6-nonadecynoic acid. *Arch. Pharm.-Pharm. Med. Chem.* **(2005)** *338*, 441-443.

42. Ye, G., Ayrapetov, M., Nam, N. H., Sun, G., **Parang, K.** Solid-phase binding assays of peptides using EGFP-Src SH2 domain fusion protein and biotinylated Src SH2 domain. *Bioorg. Med. Chem. Lett.* **(2005)** *15*, 4994-4997.

43. **Parang, K.**, Sun, G. Recent advances in the discovery of Src kinases inhibitors. *Expert Opin. Ther. Patents* **(2005)** *15*, 1183-1207.

44. Ahmadibeni, Y., **Parang, K.** Selective diphosphorylation, dithiodiphosphorylation, triphosphorylation, and trithiotriphosphorylation of unprotected carbohydrates and nucleosides. *Org. Lett.* **(2005)** *7*, 5589-5592.

45. **Parang, K.** Editor. Novel approaches in designing anti-HIV microbicides and anti-HIV Agents. *Curr. Pharm. Des.* **(2005)** *11*, 123 pp.

46. Lin, X., Wang, Y., Ahmadibeni, Y., **Parang, K.,** Sun, G. Structural basis for domain-domain communication in a protein tyrosine kinase, Csk. *J. Mol. Biol.* **(2006)** *357*, 1263-1273.

47. Lee, S., Ayrapetov, M. K., Kemble, D., **Parang, K.,** Sun, G. Docking-based substrate recognition by the catalytic domain of a protein tyrosine kinase, the C-terminal Src kinase. *J. Biol. Chem.* **(2006)** *281*, 8183-8189.

48. Ahmadibeni, Y., **Parang, K.** Solid-phase synthesis of dinucleoside and nucleoside-carbohydrate phosphodiesters and thiophosphodiesters. *J. Org. Chem.* **(2006)** *71*, 6693-6696.

49. Ahmadibeni, Y., **Parang, K.** Application of a solid-phase *β*-triphosphitylating reagent in the synthesis of nucleoside *β*-triphosphates. *J. Org. Chem.* **(2006)** *71*, 5837-5839.

50. Kumar, A., Ye, G., Wang, Y., Lin, X., Sun, G., **Parang, K.** Synthesis and structure-activity relationships of linear and conformationally constrained peptide analogs of CIYKYY as Src tyrosine kinase inhibitors. *J. Med. Chem.* **(2006)** *49*, 3395-3401.

51. Carballeira, N. M., Sanabria, D., Cruz, C., **Parang, K.**, Wan, B., Franzblau, S. 2,6-Hexadecadiynoic acid and 2,6-nondecadiynoic acid – Novel synthesized acetylenic fatty acids as potent antifungal agents. *Lipids* **(2006)** *41*, 507-511.

52. Ayrapetov, M. K., Wang, Y.-H., Xiaofeng, L., Gu X., **Parang**, K., Sun G. Conformational basis for SH2-pTYR527 binding in SRC inactivation**.** *J. Biol. Chem.* **(2006)** *281*, 23776-23784.

53. Kumar, A., Ye, G., Ahmadibeni, Y., **Parang, K.** Synthesis of polymer-bound 4-acetoxy-3-phenylbenzaldehyde derivatives: Applications in solid-phase organic synthesis. *J. Org. Chem.* **(2006)** *71*, 7915-7918.

54. Gu, X., Wang, Y., Kumar, A., Ye, G., **Parang, K.**, Sun, G. Design and evaluation of hydroxamate derivatives as metal-mediated inhibitors of a protein tyrosine kinase. *J. Med. Chem.* **(2006)** *49*, 7532-7539.

55. Agarwal, H. K., **Parang, K.** Application of solid-phase chemistry for the synthesis of 3′-fluoro-3′-deoxythymidine. *Nucleosides, Nucleotides& Nucleic Acids* **(2007)** *26*, 317-322.

56. Ahmadibeni, Y., **Parang, K.**, Synthesis and evaluation of oligodeoxynucleotides containing diphosphodiester internucleotide linkages*. Angew. Chem. Int. Ed.* **(2007)** *46*, 4739-4743.

57. Kumar, A., Wang, Y., Lin, X., Sun, G., **Parang, K.** Synthesis and evaluation of 3-phenylpyrazolopyrimidine-peptide conjugates as Src tyrosine kinase inhibitors. *ChemMedChem* **(2007)** *2*, 1346-1360.

58. Carballeira, N. M., O'Neil, R., **Parang, K.** Synthesis and antifungal properties of alpha-methoxy and alpha-hydroxyl substituted 4-thiatetradecanoic acids. *Chem. Phys. Lipids* **(2007)** *150*, 82-88.

59. Ahmadibeni, Y., Hanley, M., White, M., Ayrapetov, M., Lin, X., Sun, G., **Parang, K.** Metal-binding properties of a dicysteine-containing motif in protein tyrosine kinases. *ChemBioChem* **(2007)** *8*, 1592-1605.

60. Ye, G., Nam, N. H., Saleh, A., Kumar, A., Sun, G., Shenoy, D. B., Amiji, M. M., **Parang, K.** Synthesis and evaluation of tripodal peptide analogues for cellular delivery of phosphopeptides. *J. Med. Chem.* **(2007)** *50*, 3604-3617.

61. Chimalakonda, C., Agarwal, H., Kumar, A., **Parang, K.**, Mehvar, R. Synthesis, analysis, in vitro characterization, and in vivo disposition of a lamivudine-dextran conjugate for selective antiviral delivery to the liver. *Bioconj. Chem.* **(2007)** *18*, 2097-2108.

62. Bhandari, R., Saiardi, A., Ahmadibeni, Y., Snowman, A. M., Resnick, A. C., Kristiansen, T. Z., Molina, H., Pandey, A., Werner, Jr. J. K., Juluri, K. R., Xu, Y., Prestwich, G. D., **Parang, K.**, **Snyder, S. H.** Protein pyrophosphorylation by inositol pyrophosphates is a posttranslational event. *Proc. Nat. Acad. Sci. U.S.A.* **(2007)** *104*, 15305-15310.

63. Ahmadibeni, Y., **Parang, K.** Solid-phase synthesis of symmetrical 5′,5′-dinucleoside mono-, di-, tri-, and tetraphosphodiesters. *Org. Lett.* **(2007)** *9*, 4483-4486.

64. Penugonda, S., Kumar, A., Agarwal, H. K., **Parang, K.**, Mehvar, R. Synthesis and *in vitro* characterization of novel dextran-methylprednisolone conjugates with peptide linkers: Effects of linker length on hydrolytic and enzymatic release of methylprednisolone and its peptidyl intermediates. *J. Pharm. Sci.* **(2008)** *97*, 2649-2664.

65. Ahmadibeni, Y., **Parang, K.** Solid-supported diphosphitylating and triphosphitylating reagents for nucleoside modification. *Current Protocols in Nucleic Acid Chemistry* **(2008)** Chapter 13:Unit13.8.1-13.8.29.

66. Ye, G., Tiwari, R., **Parang K.** Development of Src tyrosine kinase substrate binding site inhibitors. *Current Opinions Investigational Drugs* **(2008)** *9*, 605-613.

67. Agarwal, H. K., Doncel, G., **Parang, K.** Synthesis and anti-HIV activities of phosphate triester derivatives of 3′-fluoro-2′,3′-dideoxythymidine and 3′-azido-2′,3′-dideoxythymidine. *Tetrahedron Lett.* **(2008)** *49*, 4905-4907.

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85. **Parang, K.** Design and evaluation of bifunctional anti-HIV-1 agents as microbicides, *Trends in Microbicide Formulation*, Arlington, Virginia, January **2010**.

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99. Ahmadibeni, Y., Williams, T., Seeram, N., **Parang, K.** Triphenylmethanol Derivatives: Synthesis and Application as Acid-Base Indicators for Acid-Base Titrations. *63rd Southeast Regional Meeting of the American Chemical Society*, Richmond, VA, United States, October 26-29, **2011**, SERM-239.

100. Nasrolahi Shirazi, A. N.; Tiwari, R.; Mandal, D.; **Parang, K.** Enhanced drug delivery by linear and cyclic peptides containing trypotophan and lysine through capping of gold nanoparticles. *63rd Southeast Regional Meeting of the American Chemical Society*, Richmond, VA, United States, October 26-29, **2011**, SERM-23.

101. Northup, K., Oh, D., **Parang, K.** Cyclic polyarginine peptide-fatty acid conjugates: Synthesis and comparative cellular uptake studies. *2012 Rhode Island Summer Undergraduate Research Fellowship Conference*, University of Rhode Island, July 27, **2012**.

102. Nasrolahi Shirazi, A. N.; Tiwari, R.; Oh, D.; Ye, G.; **Parang, K.** Amphiphilc cyclic peptide $[WR]_4$ as an efficient transporter of negatively charged phosphopeptides. *43rd Middle Atlantic Regional Meeting of the American Chemical Society*, Baltimore, MD, United States, May 31-June 2, **2012**, MARM-343.

103. Nasrolahi Shirazi, A. N.; Tiwari, R.; Mandal, D.; **Parang, K.** Cyclic and linear homochiral decapeptides containing tryptophan and arginine/lysine residues as Src kinase inhibitors. *43rd Middle Atlantic Regional Meeting of the American Chemical Society*, Baltimore, MD, United States, May 31-June 2, **2012**, MARM-341.

104. Nahhas, A. F.; Tiwari, R. K.; **Parang, K.** Application of self-assembled amphiphilc peptides containing tryptophan, arginine, and glutamic acid for generation of gold nanoparticles. *43rd Middle Atlantic Regional Meeting of the American Chemical Society*, Baltimore, MD, United States, May 31-June 2, **2012**, MARM-264.

105. Oh, D.; LaPlante, K. L.; Bobcock, K. M.; **Parang, K.** Acylated cyclic polyarginine cell-penetrating peptides as molecular transporters and antibacterial agents. *244th ACS National Meeting & Exposition*, Philadelphia, PA, United States, August 19-23, **2012**, MEDI-356.

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109. Nahhas, A. F.; Tiwari, R. K.; **Parang, K.** Peptides containing tryptophan and arginine as Src kinase inhibitors. *244th ACS National Meeting & Exposition*, Philadelphia, PA, United States, August 19-23, **2012**, MEDI-54.

110. Darwish, S., Tiwari, R., Oh, D., **Parang, K.** An amphiphillic bicyclic peptide as a cellular delivery agent of phosphopeptides. *1st International Conference on Frontiers in Pharmaceutical Sciences: Global Perspectives*, Kingston, RI, Sept. 28-30, **2012**, C4.

111. Oh, D., Northup, K., **Parang, K.** Cyclic polyarginine peptide-fatty acid conjugates as cell-penetrating molecular transporters. *1st International Conference on Frontiers in Pharmaceutical Sciences: Global Perspectives*, Kingston, RI, Sept. 28-30, **2012**, C18.

112. Nasrolahi Shirazi, A., **Parang, K.** amphiphilic cyclic peptide-selenium nanoparticles: Synthesis and antiproliferative activity. *1st International Conference on Frontiers in Pharmaceutical Sciences: Global Perspectives*, Kingston, RI, Sept. 28-30, **2012**, C26.

113. Tiwari, R. K., Brown, A., Nasrolahi Shirazi, A., Boltan, J., Sun, G., **Parang, K.** Dasatinib-amino acid and dasatinib-fatty acid conjugates: Synthesis, comparative tyrosine kinase inhibition, and antiproliferative activity. *1st International Conference on Frontiers in Pharmaceutical Sciences: Global Perspectives*, Kingston, RI, Sept. 28-30, **2012**, C31.

114. Nasrolahi Shirazi, A., Mandal, D., Tiwari, R., Neira, K., Howlett, N., **Parang, K.** Synthesis of a new generation of cyclic peptides and their applications in biomedical sciences. *The Institute for Molecular and Nanoscale Innovation (IMNI)*, Brown University, November 9, **2012**.

115. Beni, Y. A.; Tiwari, R.; Parang, K. Synthesis of tris(cycloSaligenyl) pronucleotides containing three nucleosides from 4,4',4''-methanetriyltris(2-(hydroxymethyl)phenol). 245th ACS National Meeting & Exposition, New Orleans, LA, United States, April 7-11, **2013**, ORGN-808.

116. Nasrolahi Shirazi, A.; Neira, K.; Mandal, D.; Howlett, N.; Parang, K**.** Cyclic peptide-capped gold nanoparticles for enhanced siRNA delivery. 245th ACS National Meeting & Exposition, New Orleans, LA, United States, April 7-11, **2013**, MEDI-352.

117. Nasrolahi Shirazi, A., Parang, K. Peptide amphiphiles as new transporters for the delivery of phosphopeptides. 245th ACS National Meeting & Exposition, New Orleans, LA, United States, April 7-11, **2013**, MEDI-118.

118. Nasrolahi Shirazi, A., Parang, K. Cyclic peptide-capped selenium nanoparticles as molecular transporters. 246th ACS National Meeting & Exposition, Indianapolis, IN, United States, September 8-12, **2013**, BIOL-147.

119. Parang, K, Peptide nanostructures as nolecular transporters of anticancer agents**.** 16th Annual Chao Family Comprehensive Cancer Center Scientific Retreat, Palm Springs, CA, November 15-16, **2013**.

120. Beni, Y. A.; Parang, K. Synthesis and thermal stability evaluation of six-membered cyclic triphosphates containing three nucleotides. 65th Southeast Regional Meeting of the American Chemical Society, Atlanta, GA, United States, November 13-16, **2013**, SERM-204.

121. Shirazi, A., Tiwari, R., Parang, K. Cyclic peptide-capped selenium nanoparticles as nano drug delivery systems. Gordon Conference: Chemistry and Biology of Peptides, Ventura, CA, United States, February 23-28, **2014**.

122. Parang, K, Peptide nanostructures as nolecular transporters of anticancer agents. Gordon Conference: Chemistry and Biology of Peptides, Ventura, CA, United States, February 23-28, **2014**.

INVITED ORAL PRESENTATIONS

1. **Parang, K.** Chemistry and Biology of Phosphorylation, College of Pharmacy, *Long Island University*, February 2000.

2. **Parang, K.** Chemistry and Biology of Phosphorylation, College of Pharmacy, *Idaho State University*, April 2000.

3. **Parang K.** Chemistry and Biology of Phosphorylation, College of Pharmacy, *University of Illinois at Chicago*, Sept. 8, 2001.

4. **Parang, K. Keynote Speaker,** Implementing Mechanism Based Approaches to Protein Kinase Inhibitor Design and Functional Analysis, *Discovery Tech 2001*, November 28, 2001, Palm Beach, Florida.

5. **Parang, K.** Novel bifunctional Antifungal Agents, Intellectual Property Committee, *University of Rhode Island*, April 24, 2003.

6. **Parang, K. Keynote Speaker,** Designing Bisubstrate Analog Inhibitors for Protein Kinases. *Cambridge Healthtech Institute's Protein Kinase Targets*, Strategies for Drug Development, June 10, 2003, Boston, Massachusetts.

7. **Parang, K.** Bisubstrate Inhibitors of Protein Tyrosine Kinases as Anticancer Agents. Intellectual Property Committee, *University of Rhode Island*, August 6, 2003.

8. **Parang, K. Keynote Speaker,** Novel Approaches in Designing Protein Kinase Inhibitors. *Genentech*, October 3, 2003, San Francisco, California.

9. **Parang, K.** Opportunities in Biology and Chemistry of Phosphorylation for Drug Discovery, *University of Alberta*, Canada, June 10, 2005.

10. **Parang, K.** Chirality in Drug-Receptor Interactions, *University of Alberta*, Canada, June 10, 2005.

11. **Parang, K.** Chemistry and Biology of Phosphorylation, Department of Chemistry, *University of Rhode Island*, Sept. 12, 2005.

12. **Parang, K.** Synthesis of Modified DNA Molecules Containing Diphosphate or Dithiophosphate Bridges Using Novel Diphosphorylating Reagents, Intellectual Property Committee, *University of Rhode Island*, Sept. 16, 2005.

13. **Parang, K.** Evaluation of Reactivity and Stability of Peptides and Proteins for Pharmaceutical Formulations, *University of Rhode Island*, November 18, 2005.

14. **Parang, K.** Chemistry and Biology of Phosphorylation, Department of Medicinal Chemistry, *University of Utah*, January 19, **2006**.

15. **Parang, K.** Chemistry and Biology of Phosphorylation, *Texas Tech School of Pharmacy,* November 20, **2006**.

16. Ahmadibeni, Y., Hanley, M., Agarwal, H. K., **Parang, K.** Applications of polymer-bound phosphitylating reagents in the synthesis of organophosphorus compounds. *233rd ACS National Meeting*, Chicago, IL, United States, March 29, **2007**, ORGN-240.

17. **Parang, K.** Research Experiences and Opportunities at the Interface of Chemistry and Biology, Research Seminar Series, November 23, **2007**, University of Rhode Island.

18. **Parang, K.** Understanding the Regulation, Activation, and Interactions of Protein Tyrosine Kinases for Rational Design of the Next Generation of Inhibitors, *Akron University*, November 27, **2007**.

19. **Parang, K.** Research Experiences and Opportunities at the Interface of Chemistry and Biology Moffit Cancer Center, February 6, **2008**.

20. **Parang K.**, New Strategies in Designing Protein Kinase Inhibitors. *International Conference on the Interface of Chemistry-Biology in Biomedical Research*, Pilani, India, February 23, **2008** (Invited lecture).

21. **Parang, K.** Research Experiences and Opportunities at the Interface of Chemistry and Biology. *The 11th Iranian Pharmaceutical Sciences Conference IPSC2008*, Kerman, August **2008**.

22. Gupta, A., Bothun, G. D., Deluca, R., Ye, G., **Parang, K.** Interaction mechanisms between a homologous series of tripodal cationic peptides and lipid bilayer membranes. *American Institute of Chemical Engineers (AIChE)* annual meeting, Philadelphia, November 16, **2008**, 196/1-196/5.

23. **Parang, K.** Designing protein tyrosine kinase inhibitors, 13th **ISCBC** International Conference on Interplay of Chemical and Biological Sciences, New Delhi, India, Feb. 28, **2009**.

24. **Parang, K.** Design and evaluation of multifunctional anti-HIV agents. Research Seminar Series, University of Rhode Island, July 17, **2009**.

25. Ahmadibeni, Y., **Parang, K**. Solid-phase phosphitylating reagents: design and application in the synthesis of phosphorylated biomolecules. 61st Southeast Regional Meeting of the American Chemical Society, San Juan, Puerto Rico, October 21-24, **2009**, SRM-473.

26. Gupta, A., Deluca, R., Ye, G., Mandal, D., **Parang, K.**, Bothun, G. D. Lipid vesicles, disks, and interlamellar attachments: Aggregation effects of cell penetrating peptides on zwitterionic-anionic vesicles. 238th ACS National Meeting, Washington, DC, United States, August 16-20, **2009**, COLL-053.

27. **Parang, K.** Design and evaluation of multifunctional anti-HIV agents. T3D-2010 International Symposium on Trends in Drug Discovery and Development New Delhi, India, January 5-8, **2010**.

28. **Parang, K**. Nucleoside-polymer conjugates as anti-HIV microbicides. Current Trends in Pharmaceutical Research: Focus on Orphan Diseases, Patna, India, January 10, **2010**.

29. **Parang K.** Research Experiences and Opportunities at the Interface of Chemistry and Biology, University of Puerto Rico Humacao, April 20, **2010**.

30. **Parang K.** Designing Protein Tyrosine Kinase Inhibitors, University of Puerto Rico San Juan, April 21, **2010**.

31. **Parang K.**, Agarwal, H., Doncel G. 5′-O-Fatty acyl ester derivatives of 3′-fluoro-2′,3′-dideoxythymidine (FLT) as microbicidal agents. M2010 Microbicides, Pittsburgh, May 25, **2010**.

32. Gupta, A., Shirazi, A., **Parang K.**, Bothun, G. Self-Assembled Peptide-Amphiphile/Lipid Mixtures Nanoscale Science and Engineering forum session (AIChE 2010 Meeting), November 12, 2010, Salt Lake City, Utah.

33. **Parang K.** Peptide nanostructures as molecular transporters of therapeutic Agents. University of Delhi, India, Jan. 31, 2011.

34. **Parang K.** Designing protein kinase inhibitors. Delhi Indian Institute of Technology, India, Jan. 31, 2011.

35. **Parang K.** Peptide nanostructures as molecular transporters of therapeutic Agents. BITS, Pilani, India, Feb. 2, 2011.

36. **Parang K.** Peptide nanostructures as molecular transporters of therapeutic Agents. ISCBC, Rajkot, India, Feb. 5, 2011.

37. Nasrolahi Shirazi, A.; Tiwari, R.; Mandal, D.; **Parang, K.** Enhanced drug delivery by linear and cyclic peptides containing trypotophan and lysine through capping of gold nanoparticles. 2011 *Southestern Regional Meeting of the American Chemical Society (SERMACS 2011).* Medicinal Chemistry, *Oct. 26, 2011.*

38. Ahmadibeni, Y.; Williams, T.; Seeram, T.; Seeram, N.; **Parang, K.** Triphenylmethanol derivatives: Synthesis and application as acid-base indicators for acid-base titrations. 2011 *Southestern Regional Meeting of the American Chemical Society (SERMACS 2011).* Medicinal Chemistry, *Oct. 27, 2011.*

39. **Parang, K.**, Peptide nanostructures as molecular transporters of therapeutic Agents. Rhode Island College. *February 15, 2012*.

40. **Parang, K.**, Agarwal, H., Doncel, G. Novel lipophilic fatty acyl derivatives of lamivudine and emtricitabine as potential microbicidal agents. *M2012 International Microbicide Conference*, Sydney, Australia, April 18, 2012.

41. **Parang K.** Peptide nanoparticles as molecular transporters of therapeutic agents. Technical University Braunschweig, Germany, May 7, 2012.

42. **Parang K.**, Peptide nanostructures as molecular transporters of therapeutic agents. Roger Williams University, February 20, 2013.

43. **Parang K.**, Molecular modeling of peptide nano self-assemblies. The Rhode Island Consortium for Nanoscience and Nanotechnology. University of Rhode Island, March 6, 2013.

44. **Chikkara, B**., Parang, K. Fatty acyl and peptidic Adriamycin synthesis and evaluation as new Prodrugs with novel pharmacological profile for cancer treatment*" 3rd Annual National Convention of Association of Pharmacy Professionals' Dharmsinh Desai, University, Nadiad, Gujarat, January 18, 2014.

FUNDED GRANT PROPOSALS

1. "Tyrosine Kinase Inhibitors as Anti-Cancer Agents", *Special Research Funding*", University of Rhode Island Research Office, $3,500 June 2001 for equipment purchase (Role: PI).

2. "Investigator, "Bioisosteres of Tyrosine Phosphate as Inhibitors of SH2 Domain of Tyrosine Kinases", *Biomedical Research Infrastructure Network (BRIN) Grant* (P.I.: Dr. Zahir Shaikh), NIH, PR16457-01, 9/30/01-8/31/04 (~$120,000 for Summer Salary support, travel, student support, supplies).

3. "Molecular Modeling Laboratory Initiative", *URI Teaching with Technology Student Assistants Program (TTSA)*, Information and Instructional Technology Services, University of Rhode Island, October 2001, I got support for one student.

4. "Designing Prodrugs Against Human Immunodeficiency Virus", *URI Foundation*, $2,000 for supplies, March 2002 (Role: PI).

5. Principal Investigator, "Molecular Modeling Laboratory Initiative", *University of Rhode Island Foundation Competitive Grant Application*, $4,800, Jan. 1, 2002 through Jan 1, 2003 (Role: PI).

6. "Bisubstrate Analogs of Protein Tyrosine Kinases against Cancer", Medical Research Grant, *Rhode Island Foundation*, $10,000, February 2003-March 2004 (Role: PI).

7. "Antimycotic Drug Development", *Slater Center for Biomedical Technology*, May 2001, $100,101, March 2002-January 2004 (Role: PI).

8. "Drug Development against Osteoporosis", *The University of Rhode Island Council for Research*, $5,910, 08/01/2005-12/31/2005 (Role: PI).

9. "Novel Bifunctional Anti-HIV-1 Agents as Microbicides with and without Contraceptive Activity," *American Foundation for Pharmaceutical Education (AFPE)*, $5,000, 07/01/2005-05/01/2006 (Role: PI).

10. "Antimycotic Drug Development", Principal Investigator, *URI Foundation*, $7,500, December 2005 (Role: PI).

11. "Solid-Phase Triphosphorylation of Nucleosides", *Helicos BioSciences Corporation*, $13,680, September 2006 (Role: PI).

12. "Solid-Phase Triphosphitylating Reagents", *Biota Corporation*, $4,975, September 2006 (Role: PI).

13. "Design and Synthesis of Cyclic Octapeptides as Nanotube Drug Delivery System", *Rhode Island Sea Grant and Honors Program*, $798, 01/8/2008 (Role: PI).

14. **"**Novel Bifunctional Anti-HIV-1 Agents as Microbicides With and Without Spermicide Activity", *Contraceptive Research and Development (CONRAD)*, MSA-03-367, $751,117,

12/01/03-12/31/09 (Role: PI).

15. "Synthesis and Development of Novel Neuroprotective Agents", *Brown University/STAC*, $28,000, 08/01/09-5/31/10 (Role: PI).

16. "Synthesis of KP-17", CONRAD, PPA-09-028, $43,804, 09/01/09-03/31/10 (Role: PI).

17. (Co-PI)"Establishment of an Animation and 3-D Stereo Visualization Facility", *Champlin Foundations Grant*, Approved Nov. 2003, $106,000 (PI. Dr. Bongsup Cho).

18. Investigator, "Mechanistic Studies of Protein Tyrosine Kinase Activation by Arsenite", INBRE NIH P20 RR016457, $76,795, 08/1/04-08/01/05.

19. (Co-PI, 25% effort, $178,635), "Mechanistic Studies and Inhibitor Design for Protein Tyrosine Kinases", *American Cancer Society*, RSG CDD-106966 (Total grant $714,543) 08/01/04-08/01/09 (P.I.: Dr. Gongqin Sun).

20. (Co-PI, 15% effort, $130,000), "Local Immunosuppression for Liver Transplantation", *NIH,* 1R01 GM069869 (Total grant $866,980) 04/01/05-04/01/09, (PI. Dr. Reza Mehvar).

21. (Co-PI, 20% effort, $172,800), "Mechanism of PTK Substrate Recognition and Specificity", *NIH,* 1R01CA111687 (Total grant $864,000) March 2005-December 2009 (PI: Dr. Gongqin Sun).

22. (Mentor and Sponsor), "Fatty Acyl Amide Derivatives of Doxorubicin: Synthesis and in vitro Anticancer Activities", Undergraduate Research Initiative (Total grant $800) 03/01/2010-08/31/2010 (Student Nicole St. Jean).

23. (Mentor and Sponsor), "Self-Assembled Cyclic Peptides as Nanostructures", Undergraduate Research Initiative (Total grant $1,161) 01/01/2010-06/31/2010 (Students Doujia Li, Can Nguyen, Phouthone Malayphone

24. (Co-PI, 30% effort, $31,607), "Controlled Release and Medicated Combination Devices for the Treatment of Bone Fractures and Other Bone Disorders", *IllumiOss Medical, Inc.*, (Total grant $105,357), 11/01/10-06/01/12 (PI: Dr. David Worthen).

25. (Mentor and Sponsor), "Development of Neuroprotective PDZ-Domain Inhibitors for Treatment of Stroke", *American Heart Association ,*11POST5820019 (Total grant $94,000) 12/31/11-12/31/12 (Postdoc.: Rakesh Tiwari).

26. (Mentor and Sponsor), "Designing Cell-Penetrating Cyclic Peptides as Molecular Transporters", Undergraduate Research Initiative (Total grant $1,200) 03/01/2012-08/31/2012 (Students Brian Sullivan and Kellen McCaffrey).

27. "The Tick-Bite Patch", *Rhode Island Science & Technology Advisory Council (STAC)*, RIRA-CA-2011, (Total grant $199,479) (01/01/2011-12/31/2012) (PI. Dr. Thomas Mather) (Role: PI, Multiple PI grant).

28. Treatment of Stroke Using a Novel PDZ Binding Peptidomimetic Drug, NIH, 1R43NS074651-01 (Total grant $352,596, my portion $75,723), 09/01/11-08/31/12) (Role: PI, Multiple PI grant).

29. “Novel Bifunctional Anti-HIV-1 Agents as Microbicides”, CONRAD/USAID, PPA-09-035, $340,567, 11/01/09-07/01/12 (Role: PI).

30. “Development of Src Kinase Inhibitors as Anticancer Agents”. *American Cancer Society*, RSG-07-290-01-CDD, $627,000, 07/01/2007-07/01/2012 (Role: PI).

31. “Synthesis of Bicyclic Peptides as Antimicrobial Agents”, *Joint Supervision Mission Grant*, Egyptian Cultural Sector- Ministry of Higher Education. $10,000, 01/01/2012-01/01/2013 (Role: PI).

32. “Synthesis and Evaluation of Peptides Synthesized through Click Chemistry”, *Programme de bourses Libye-Amérique du Nord*, Academic Manager for the Libyan North American Scholarship, $24,000 ($6,000/year), 12/01/2012-12/01/2016 (Role: PI).

33. “Design, Green Synthesis And Structure–Activity Relationship Of Novel Indolyl Nicotinonitriles Conjugated To Water Soluble Cellulose Derivative As Tumor Necrosis Factor Alpha (TNF-A) Antagonists For The Treatment of Rheumatoid Arthritis”, *Joint Supervision Mission Grant*, Egyptian Cultural Sector- Ministry of Higher Education. $10,000, 01/15/2013-01/01/2014 (Role: PI).

34. (Mentor and Sponsor), “Synthesis and Evaluation of Multifunctional Cyclic Peptide-Doxorubicin-Folic acid Conjugates as Selective Anticancer Agents”, Undergraduate Research Initiative (Total grant $1,200) 01/15/2013-06/31/2013 (Students Brian Sullivan and Kellen McCaffrey).

35. “Synthesis of Organophosphorus Compounds Using Solid-Phase Reagents”, *NSF*, CHE 0748555, $300,000, 02/01/2008-02/01/2013 (Role: PI).

36. “Synthesis of Cyclic Pyranopterin Monophosphate (cPMP) and the Prodrugs”, *Alexion* (Total grant $139,656) (4/01/2012-10/01/2013) (Role: PI).

37. “Molecular Modeling of Peptide Nano Self-Assemblies”, *RIN*^{2}, $8000 (8/31/2012-8/31/2013) (Role: PI).

38. “Purification of Cyclic Peptides and Chiral Compounds”, *Waters Academic Grant*, $12,000 (12/15/2012-04/01/2013) (Role: PI).

39. “Synthesis of Molybdopterin and its Analogs”, $213,179 *Alexion*, (8/1/13-10/1/14) (Role: PI).

COLLABORATORS in U.S.

COLLABORATORS AT URI

1. Dr. Geoff Bothun, Assistant Professor, Department of Chemical Engineering at University of Rhode Island. Dr. Bothun and I are collaborating in studying the interactions of amphipathic peptides with phospholipid bilayer.

2. Dr. Niall Howlett, Associate Professor, Department of Cell and Molecular Biology at University of Rhode Island. Dr. Howlett and I are collaborating on evaluation of peptides as delivery tools for siRNA.

3. Dr. Gongqin Sun, Professor, Department of Cell and Molecular Biology at University of Rhode Island: I am a co-PI (25% effort) in a project titled, “Mechanistic Studies and Inhibitor Design for Protein Tyrosine Kinases” funded by *American Cancer Society* and a project titled “Mechanism of PTK substrate recognition and specificity” funded by NIH (1R01CA111687).

4. Dr. Wei Lu, Department of Biomedical and Pharmaceutical Sciences at University of Rhode Island. Dr. Lu and I are collaborating on evaluation of cyclic peptides and cyclic peptide-capped gold nanoparticles in xenograft mice model.

5. Dr. Navindra Seeram, Department of Biomedical and Pharmaceutical Sciences at University of Rhode Island. Dr. Seeram and I are collaborating on the synthesis of Quebecol.

6. Dr. Kerry LaPlante, Department of Biomedical and Pharmaceutical Sciences at University of Rhode Island. Dr. LaPlante and I are collaborating on design and evaluation of amphiphilic peptides as antibacterial agents.

7. Dr. David Rowley, Department of Biomedical and Pharmaceutical Sciences at University of Rhode Island. Dr. Rowley and I are working on synthesis and evaluation of antimicrobial peptides.

8. Dr. David Worthen, Department of Biomedical and Pharmaceutical Sciences at University of Rhode Island. Dr. Worthen and I are collaborating on determining the stability of a lipophilic anti-HIV agent.

9. Dr. Thomas Mather, URI Center for Vector-Borne Disease, University of Rhode Island. Dr. Mather and I are collaborating on design Tick vaccine using peptides synthesized in my laboratory.

COLLABORATORS at OTHER U.S. INSTITUTIONS

1. Dr. Gustavo F. Doncel, Professor, Department of Obstetrics and Gynecology, Eastern Virginia Medical School, Norfolk, VA. Dr. Doncel and I are collaborating in design and evaluation of anti-HIV microbicides. Funded by CONRAD.

2. Dr. Reza Mehvar, Professor, Texas Tech. College of Pharmacy. Dr. Mehvar (PI) and I are collaborating in a project titled “Local Immunosuppression for Liver Transplantation” funded by NIH (1R01 GM069869).

3. Dr. Solomon H. Snyder, Professor, Dept Neuroscience, Johns Hopkins Medical School. Dr. Snyder and I are collaborating in designing pyrophosphate derivatives of IP7 to investigate protein pyrophosphorylation. A manuscript in this subject was published in PNAS (**2007**, *104*, 15305-15310).

4. Dr. John Marshall, Department of Molecular Pharmacology, Physiology and Biotechnology, Brown University, “Design and evaluation of peptides as neuroprotective agents”.

5. Dr. Dennis Goebel, Department of Anatomy and Cell Biology Wayne State University, Dr. Goebel and I are collaborating on design and evaluation of peptides containing polyarginine and cysteine residues as neuroprotective agents.

6. Dr. Sujata Bhatia, Bioengineering Labs, Harvard School of Engineering and Applied Sciences. Dr. Bhatia and I are collaborating on designing biomaterials for wound healing and nerve regeneration using self-assembled peptides.

7. Dr. Shailendra Giri, Dr. Ramandeep Rattan, Mayo Clinic, Rochester, I am collaborating with Drs. Giri and Rattan in designing compounds for autoimmune diseases.

8. Dr. Robert Buckheit, Imquest BioSciences, Inc., I am collaborating with this company in developing anti-HIV microbicides.

INTERNATIONAL COLLABORATORS

1. Dr. Ashok Prasad, Department of Chemistry, University of Delhi, India. “Collaboration in the area of the synthesis of anti-cancer agents”.

2. Dr. Nestor Carballeira, Department of Chemistry, University of Puerto Rico, “Evaluation of modified fatty acids as antifungal agents”.

3. Dr. Aziz Ghahary, Department of Surgery, University of British Columbia, “Evaluation of self-assembled peptides for tissue engineering”.

4. Dr. Sunil Sharma, Department of Chemistry, University of Delhi, India. “Collaboration in the area of the synthesis of anti-cancer agents”.

5. Dr. Akhilesh K. Verma, Department of Chemistry, University of Delhi, India. “Collaboration in the area of the synthesis of anti-cancer agents”.

6. Dr. Anil Kumar, Department of Chemistry, Birla Institute of Technology, India. Dr. Kumar and I are collaborating with Dr. Seeram for the synthesis of Quebecol, anticancer agents, and ionic liquids.

7. Dr. Alireza Foroumadi, Dr. Abbas Shafiee, Dr. Tahmineh Akbarzadeh, College of Pharmacy, Tehran University of Medical Science. Screening of heteroaromatic compounds for kinase inhibition and anticancer activities.

8. Dr. Arpita Yadav, University Institute of Engineering & Technology, C.S.J.M. University, Kanpur 208024. Molecular modeling of cyclic peptides and determination of mechanism of self assembly.

9. Dr. Dalip Kumar, Department of Chemistry, Birla Institute of Technology, India. Dr. Kumar and I are collaborating in synthesis and evaluation of Src kinase inhibitors.

10. Dr. Mohamed Ashraf Ali, Institute for Research in Molecular Medicine, Universiti Sains Malaysia, Malaysia. Dr. Kassim and I are collaborating in the synthesis and evaluation of benzimidazole derivatives.

LEADERSHIP AND MISCELLANEOUS WORK EXPERIENCE

May 2012-July 1, 2013	**Program Coordinator,** Rhode Island IDeA Network of Biomedical Research Excellence (INBRE) sponsored by NIH
October 2012-September 30, 2012	International Conference Committee Chair
November 2012-Septemebr 14, 2012	One Day Symposium Committee Member
May 2012	Initiated international collaboration between Technical University Braunschweig, Germany and the College of Pharmacy after invitation by IEP program. Dean Jordan and Associate Dean Cho accompanied me on this trip. A German delegation was invited to the International Conference for follow up visit.
February 2011	Initiated and established international collaboration between Dean of College of Pharmacy and University of Delhi and Indian Birla Institute of Technology and Science. President Dooley and Dean Jordan traveled to India and two MOUs were signed for student and faculty exchange.
February 2011	Along with Dean Jordan initiated discussion for establishing research collaboration between the URI College of Pharmacy and the International Center for Chemical and Biological Sciences. One MOU was signed following our visit.
February 2011	Along with Dean Jordan and Dean Zawia initiated discussion between the URI College of Pharmacy and the U.A. E. University
May 2012-present	Graduate and Research Committee
January 2011-April 2011	Space committee
September 2010-Jan. 2012	Assessment committee member
September 2010-Jan. 2012	Curriculum committee member

September 2008-Jan. 2010	Scholastic Standing Committee Member
December 2006-June 2007	Serving as a member of evaluation committee for Dean of Pharmacy
January 2006-August 2006	Serving in two search committees for two faculty positions in Department of Biomedical and Pharmaceutical Sciences and Department of Cell and Molecular Biology
March 2004-April 2007	Senator representing the College of Pharmacy in University of Rhode Island Senate
2007	Advisor for Pharmacy professional students, class of 2009
2002-2007	A member of organizing Committee of Annual AAPS-NERDG in Rocky Hill, CT
April 2004-April 2007	Organizing INBRE Seminar Series
Oct. 2000-Presnt	Serving in Graduate Student Thesis Committees**:** I have been serving in several graduate student thesis committees (totally for 60 graduate students).
May 1996-April 1997	Vice President Operations, HUB Community Association, U. of Alberta
February 1997	Leadership Retreat, University of Alberta
May 1995-April 1997	Sports Unit Manager, University of Alberta
May 1995-April 1997	A member of COSL committee (Council of student life), University of Alberta
August 1996	Leadership Retreat, University of Alberta
September 2-4, 1996	Leadership in Residence, University of Alberta
May 1995-April 1996	Vice President Programming, HUB Community Association, U. of Alberta

Sept. 1995- Dec. 1995	Teaching assistant in Radioisotope Tracer Methodology (Pharm. 601, Faculty of Pharmacy, University of Alberta)
1994 Alberta	Volunteer, HUB community association, University of
1994	Leadership Program (Speechcraft)
1993-1996	Vice President Finance (Treasurer), Pharmacy Graduate Student Association Faculty of Pharmacy, University of Alberta
1989-1991	Teaching in Organic Chemistry, General Chemistry, Instrumental Analysis and Medicinal Chemistry (Faculty of Pharmacy, University of Tehran)

Organizing Conference and Symposiums

Program	Date	Title of symposium
Fifth Annual AAPS-Northeast Regional Discussion Group planning committee	April 22nd, 2002	Impact of Genome Therapeutics on Drug Delivery
Sixth Annual AAPS-Northeast Regional Discussion Group planning committee	April 28, 2003	Overcoming Physical, Chemical, and Biological Barriers to Drug Delivery
Seventh Annual AAPS-Northeast Regional Discussion Group Planning Committee	April 26, 2004	Cellular Targeting and Drug Delivery
Organizing INBRE Seminar	April 2004-April 2007	Related Topics to Toxicology, Biology, and Drug Discovery
Eighth Annual AAPS-Northeast Regional Discussion Group Planning Committee	April 22, 2005	Successful Prediction of In Vivo Performance of Oral Dosage Forms from In Vitro/ In Silico Studies
Ninth Annual AAPS-Northeast Regional Discussion Group Planning Committee	April 28, 2006	Drugs from Discovery to the Clinic
Tenth Annual AAPS-Northeast Regional Discussion Group Planning Committee	April 20, 2007	Methods and Applications for the Optimization of Pre-clinical Oral Dosage Formulations
12th International Conference on The Interface of Chemistry-Biology in Biomedical Research (ISCBC)	February 22-24, 2008	Scientific Advisory Board
Drug Therapy in the 21st Century: Discovery and Clinical Use	September 14, 2012	A member of organizing committee
1st International Conference on Frontiers in Pharmaceutical Sciences: Global Perspectives	September 28-30, 2012	Conference Chair

MAJOR PROFESSOR FOR UNDERGRADUATE STUDENTS, GRADUATE STUDENTS, AND POSTDOCTORAL FELLOWS

Student	**Degree**	**Thesis or Non-Thesis Option**
Ali Saleh	B.Sc.	Summer Student
Amie Tiemo	B.Sc.	Summer Student
Meredith Selecky	B.Sc.	Summer Student
Amelia Lyman	B.Sc.	Summer Student
Carrie Funk	B.Sc.	Summer Student
Megrose Quiterio	B.Sc.	Academic year
Michael Zompa	B.Sc.	Summer Student
Elana Viola	B.Sc.	Academic year
Cang Nguyen	B.Sc.	Summer Student
Sojin Kim	B.Sc.	Summer Student
Phouthone Malayphone	B.Sc.	Academic year
Thuytien Dang	B.Sc.	Academic year
Daravuth Hav	B.Sc.	Academic year
Julia Robidoux	B.Sc.	Summer Student
Victoria Lomas	B.Sc.	Summer Student
Jared Bolton	B.Sc.	Academic year
Brian Sullivan	B.Sc.	Academic year
Kellen McCafferly	B.Sc.	Academic year
Kevin Northup	B.Sc.	Academic year
Kellye Loethen	Pharm.D.	Summer Student
Michael Hanley	Pharm.D.	Summer Student and Academic year
Millie White	Pharm.D.	Summer Student
Hilary Williams	Pharm.D.	Summer Student
Jessica Lehmann	Pharm.D.	Summer Student and Academic year
Kate Waggner	Pharm.D.	Summer Student
Benjamin Carrol	Pharm.D.	Academic year
Nicol Patel	Pharm.D.	Academic year
Derek Joseph	Pharm.D.	Academic year
Neal Russell	Pharm.D.	Academic year
Vasudha Gupta	Pharm.D.	Academic year
Nicole St. Jean	Pharm.D.	Academic year
Duojia Li	Pharm.D.	Academic year
Victor Carlu	Pharm.D.	Academic year

Yuseon Jung	Pharm.D.	Academic year
Jannat Saini	Pharm.D.	Academic year
Na Young Kim	Pharm.D.	Academic year
Amanda Highet	Pharm.D.	Academic year
Danhe Cui	Freshman	Academic year
Na Young Kim	Freshman	Academic year
Sitaran Bhavaraju	Ph.D.	Summer Student
Nguyen Hai Nam	Ph.D.	Postdoctoral Fellow
Soroush Sardari	Ph.D.	Postdoctoral Fellow
Anil Kumar	Ph.D.	Postdoctoral Fellow
Yousef Ahmadibeni	Ph.D.	Postdoctoral Fellow
Xianfeng Gu	Ph.D.	Postdoctoral Fellow
Rakesh Kumar Tiwari	Ph.D.	Postdoctoral Fellow
Sitaran Bhavaraju	Ph.D.	Postdoctoral Fellow
Deendayal Mandal	Ph.D.	Postdoctoral Fellow
Ajay Dixit	Ph.D.	Postdoctoral Fellow
Bhupender Singh	Ph.D.	Postdoctoral Fellow
Shabban Asd	Ph.D.	Visitor Scientist
Sunil Kumar	Ph.D.	Postdoctoral Fellow
Rebecca Pitts	M.S.	Thesis
Guofeng Ye	M.S., Ph.D.	Thesis
Hitesh Agarwal	Ph.D.	Thesis
Donghoo Oh	Ph.D.	Thesis
Anju Gupta	Ph.D.	Thesis
Bhanu Priya	M.S.	Thesis
Amir Nasrolahi Shirazi	Ph.D.	Thesis
Nasser Sayeh	Ph.D.	Thesis

SELECTED ALUMNI MENTORED IN MY LABORATORY

1. **Dr. Yousef Ahmadibeni**, Assistant Professor, Department of Chemistry, Tennessee State University, USA.

2. **Dr. Rakesh Tiwari**, Assistant Professor, Department of Life Sciences, Shiv Nadar University, India.

3. **Dr. Deendayal Mandal**, Associate Professor, School of Biotechnology, KIIT University, Bhubaneswar, Orissa, India.

4. **Dr. Nguyen Hai Nam**, Associate Professor, Hanoi University of Pharmacy, Vietnam.

5. **Dr. Anil Kumar**, Associate Professor, Birla Institute of Technology and Science, India.

6. **Dr. Xianfeng Gu**, Assistant Professor, Fudan University, China.

7. **Dr. Ajay Kumar Dixit**, R&D Associate Scientist, ITC R&D Centre, Peenya Industrial Are, Bangalore, India.

8. **Guofeng Ye**, Scientist II, Agilux Laboratories, Previously in Novartis Institutes for Biomedical Research, NIBR, Cambridge, MA

9. **Hitesh K. Agarwal**, Senior Postdoctoral Researcher, Mount Sinai Medical Center.

10. **Aimee Gagnon,** Research Associate, Ipsen

11. **Rebecca Pitts,** Scientist II, Novartis Institutes for Biomedical Research

12. **Sitaran Bhavaraju**, US Pharmacopea.

13. **Carrie Funk**, Pfizer.

14. **Jessica Lehmann,** Resident, Baylor College of Medicine, Dallas

15. **Michael Hanley,** Ph.D., Clinical Pharmacology Contractor, Millennium Pharmaceuticals Inc.

16. **Benjamin Carroll**, Pharm.D., M.S., Postdoctoral Fellow at Johnson and Johnson.

17. **Kellye Loethen**, Pharm. D., Pharmacy Resident, Naval Medical Center San Diego.

18. **Victoria Lomas**, B.S., AmeriCorps NCCC FEMA Corps.