Rajesh Viswanathan, Ph. D.
Assistant Professor, Department of Chemistry
Case Western Reserve University
10900 Euclid Avenue
Cleveland, OH 44106-7078
Phone: 216.368.3696, Fax: 216.368.3006
Email: rajesh.viswanathan@case.edu
http://www.case.edu/artsci/chem/faculty/viswanathan/

Personal:

Born:	August 18, 1977 (Chennai, India)
Married:	Nirmala Krishnamurthy Ph. D.

Professional:

8/2008-present	Assistant Professor of Chemistry, Case Western Reserve University.

Education:

1997-1999	**Post-Baccalaureate Research Fellow with Prof. Javed Iqbal** Indian Institute of Technology, Kanpur, India *Synthesis of Cyclic Peptides as β- and γ- Turn Mimics-Potent HIV Protease Inhibitors*
1999-2005	**Graduate Research Fellow with Prof. Jeffrey N. Johnston** Indiana University, Bloomington, Indiana (R01 GM 063557) *Development of Free Radical-Mediated Amination Reactions and their Application to the Asymmetric Synthesis of Indoline α-Amino Acids.* *Discovery of ACCRI (Azacyclopentenyl Carbinyl Radical Isomerizations).* *Studies Toward the Total Synthesis of (+)-Ambiguine G.*
2005-2008	**Post-Doctoral Research Fellow with Prof. C. Dale Poulter** University of Utah, Salt Lake City, Utah (2R01GM021328-35A1) *Site Specific Protein Immobilization towards Microarrays-Combining unique enzymatic strategies with bioorthogonal chemical ligation.*

Research Experience (skill set)

June 2005- 2008	Postdoctoral Research: Chemical Biology, Post-Translational Protein Modifications, Protein Biochemistry, Enzymology, Genetics and Molecular Biology, Organic Synthesis, Surface Chemistry and Microfluidics.
1999-2005	Graduate Research: Natural Product Synthesis, Structural Characterization, Designing Complex Molecule Synthesis, Asymmetric Catalysis, Organic Reaction Mechanism, Physical Organic Chemistry.
1998-1999	Undergraduate Education: Organic Synthesis and Structure Elucidation
1998	Summer Research with Prof. K. K. Balasubramanian (IIT Madras) Organic Synthesis, Photochemistry

Professional Activity

2007-present	Invited reviewer, *Journal of Organic Chemistry*
2008-present	Invited reviewer, *Organic Letters*
2010-present	Invited reviewer, *Organic and Biomolecular Chemistry*
2009-present	Invited reviewer, *Journal of Electrochemical Society*
2010-present	Invited reviewer, *Nanoscience and Nanotechnology Letters* (NNL)
2010-present	Mentor, Bridges to the Success in the Sciences (Building Bridges between Cuyahoga Community College and Case Western Reserve University)

Honors and Awards

2003	Lubrizol Graduate Fellow - *Indiana University*
2002	Bernard Berk Fellow, *Indiana University*
1998	MCM Scholar, Indian Institute of Technology, Kanpur
2010	Tri-C Tennis Champion

Current Research Support

July 2008 – present	Co-investigator, Synthesis Core, Program Project Grant, National Institutes of Aging: PI – Dr. Charles Hoppel (P01 AG015885)
July 2008 – present	Start-up Research Funds from Case Western Reserve University.

Consulting

Panvirex, LLC Cleveland Ohio (Biotech R&D)

Diplom-Biologe Consultants, Inc Cleveland, Ohio

Affiliations

2001 – present	Member of American Chemical Society
2009 – present	Member of Alpha Chi Sigma CWRU Chapter
2010 – present	Member of United States Tennis Association
2002- 2005	Co-founding member of Association for India's Development, Bloomington IN chapter

Patents

"Vinyl and aryl amination process for preparation of pyrrolidine or indoline subunits from, e.g., *o*-halophenethylamines and ketones, via corresponding imines" Johnston, J. N.; Viswanathan, R. U.S. Patent 6, 670, 479, **2003**.

Publications

Publications During Independent Research Career

Ignatenko, V. A.; Zhang, P. Viswanathan R.; "Concise Practical Entry to Pyrroloindole Natural Products: Synthesis of Debromoflustramine Alkaloid" *Journal of Organic Chemisry* ***submitted.***

Ignatenko, V. A.; Deligonul, N. Viswanathan R.; "Branch-Selective Synthesis of Oxindole and Indene Scaffolds: Transition-Metal Controlled Intramolecular Aryl Amidation Leading to C3 Reverse-Prenylated Oxindoles" *Org. Lett.,* **2010**, *12*, 3594-3597.

Voelker, A. E.; Viswanathan, R.; "Bioorthogonal Substrate Analogs of Glutathione S-Transferase: Small Molecule Scaffold for Protein Arrays" JACS, *manuscript in preparation.*

Thandavamurthy, K. Viswanathan R.; "Recent Progress in the Biosynthesis of Antitumor Oxindole Natural Products" Current Organic Chemistry *manuscript in preparation*

Publications During Post-Doctoral Research

Viswanathan R.; Poulter C. D. "Site Specific Covalent Immobilization of Antibodies to Surfaces as Protein Arrays" Bioconjugate Chem. *manuscript under preparation*

Viswanathan R.; Poulter C. D. "Site Specific Covalent Immobilization of Proteins through Unnatural Amino Acids" PNAS *manuscript under preparation*

Viswanathan R.; Poulter C. D. "Covalent, Site Specific Enzyme Immobilization from Cell Lysate using Protein Farnesyl Transferase and Click Chemistry" JACS *manuscript under preparation*

Labadie G. R.; Viswanathan R.; Poulter C. D. "Farnesyl Diphosphate Analogues with ω-Bioorthogonal Azide and Alkyne Functional Groups for PFTase-Catalyzed Ligation Reactions", *J. Org. Chem.* **2007**, *72*, 9291-9297.

Publications During Graduate Research

Viswanathan R.; Smith C. R.; Prabhakaran E. N.; Johnston J. N. "Free Radical-Mediated Aryl Amination: Convergent Two- and Three-Component Couplings to Chiral 2, 3-Disubstituted Indolines" *J. Org. Chem.* **2008**, *73*, 3040-3046.

Chandra, A.; Viswanathan, R. Johnston, J. N. "Synthesis of the ABC- and D-Ring systems of the Indole Alkaloid Ambiguine G" *Org. Lett.* **2007**, *9*, 5027-5029

Srinivasan, J. M.; Burks, H. E.; Smith, C. R.; Viswanathan, R.; Johnston, J. N. "Free Radical-Mediated Aryl Amination: A Practical Synthesis of (*R*)- and (*S*)-7-Azaindoline α-Amino Acid" *Synthesis* (Practical Synthetic Procedures) **2005**, *2*, 330-333.

Viswanathan, R.; Mutnick, D.; Johnston J. N. "The First Azacyclopentenyl Carbinyl Radical Isomerizations (ACCRI): Independent Use of Steric and Electronic (Polarization) Effects as Gating Elements" *J. Am. Chem. Soc.* **2003**, *125*, 7266-7271.

Viswanathan, R.; Prabhakaran, E. N.; Plotkin, M. A.; Johnston, J. N. "Free Radical-Mediated Aryl Amination and its Use in a Convergent [3+2] Strategy for Enantioselective Indoline α-Amino Acid Synthesis" *J. Am. Chem. Soc.* **2003**, *125*, 163-168.

Johnston, J. N.; Plotkin, M. A.; Viswanathan, R.; Prabhakaran, E. N. "Nonconventional Carbon Additions to Azomethines. Aryl Amination/Indoline Synthesis by Direct Aryl Radical Addition to Azomethine Nitrogen" *Org. Lett.* **2001**, *3*, 1009–1011.

Mullins R. J.; Vedernikov A.; Viswanathan R. "Competition Experiments as a Means of Evaluating Linear Free Energy Relationships" *J. Chem. Ed.* **2004**, *81*, 1357-1361.

Publications During Post-Baccalaureate Research

Prabhakaran E. N.; Rajesh V.; Dubey S.; Iqbal J. "Synthesis of Cyclic Peptides as Mimics for the Constrained Conformation of Structural Analogs of HIV Protease Inhibitors" *Tetrahedron Lett.* **2001**, *42*, 339-342.

Invited Talks

Pacifichem – Winter 2010
Youngstown State University – Fall 2010
TRI-C panel for the Bridges to Success in the Sciences – Spring 2010
Grove City College – Fall 2008
National University of Singapore – Spring 2006

Presentations

Rajesh Viswanathan, "Research in the Viswanathan Lab at Case" Presented at the 59rd **Natural Products Gordon Research Conference**, July 25-30, **2010**, Tilton, New Hampshire. Poster C16.

Rajesh Viswanathan, Guillermo Labadie and C. Dale Poulter "Covalent Site Specific Immobilization of Proteins using Bioorthogonal Chemical Reactions" Presented at the 40th **National Organic Symposium**, June 3-8, **2007**, Duke University, Raleigh, North Carolina (D61)

Rajesh Viswanathan and Jeffrey N. Johnston "Free Radical-Mediated Aryl Amination in Alkaloid Synthesis: Studies Directed toward the Total Synthesis of (+)-ambiguine G" Presented at the 53rd **Natural Products Gordon Research Conference**, July 25-30, **2004**, Tilton, New Hampshire. Poster 59.

Rajesh Viswanathan, Daniel Mutnick, and Jeffrey N. Johnston "The First Azacyclopentenyl Carbinyl Radical Isomerization (ACCRI): Discovery, Development and Potential Biological Implications" Presented at the 38th **National Organic Symposium**, June 8-12, 2003, Bloomington, Indiana. Poster C126.

Teaching Experience
Graduate Career:

Fall	1999	Teaching Assistant, Undergraduate Organic Chemistry Laboratory.
Spring	2000	Teaching Assistant, Undergraduate General Organic Chemistry II.
Fall	2000	Teaching Assistant, Graduate Organic Synthesis I.
		Teaching Assistant, Undergraduate Honors Organic Chemistry Laboratory.
Spring	2001	Teaching Assistant, Honors General Organic Chemistry II.
Spring	2002	Teaching Assistant, Undergraduate General Organic Chemistry II.
Fall	2002	Teaching Assistant, Undergraduate Honors Organic Chemistry Laboratory.

Spring 2005 Undergraduate General Chemistry Laboratory.

Independent Career:

Fall 2008 Instructor, Graduate Organic Synthesis, Chem 435
Spring 2009 Instructor, Advanced Organic Chemistry, Chem 422
Fall 2009 Instructor, Graduate Organic Synthesis, Chem 435
Spring 2010 Instructor, Advanced Organic Chemistry, Chem 422
Fall 2010 Instructor, Graduate Organic Synthesis, Chem 435

Mentoring

Graduate Students – 3, Post-Docs – 2; Undergraduate Students – 3.
Bridges to Success in the Sciences – TRI-C students 2