John J Lavigne

Department of Chemistry and Biochemistry
University of South Carolina
Columbia, SC 29208

Voice: (803) 777-2295
FAX: (803) 777-9521
Email: lavigne@mail.chem.sc.edu

PROFESSIONAL PREPARATION

Institution	*Major Area*	*Degree & Year*
St. Lawrence University	Chemistry	B.S. – 1993
St. Lawrence University	General Education	M.Ed. – 1997
University of Texas at Austin	Chemistry	Ph.D. – 2000
University of Texas at Austin	Chemistry	Postdoctoral Fellow/ Visiting Scientist – 2000-2002

PROFESSIONAL EXPERIENCE

Dates	*Title*	*Institution*	*Department*
2008-present	Associate Professor	University of South Carolina	Chemistry & Biochemistry
2002-2008	Assistant Professor	University of South Carolina	Chemistry & Biochemistry
2000-2002	Senior Scientist	LABNETICS, Inc.	Research and Development
1995-2000	Teaching and Research Assistant	University of Texas – Austin	Chemistry
1993-1995	Assistant Instructor	St. Lawrence University	Chemistry

HONORS, AWARDS AND OTHER SIGNIFICANT ACTIVITIES

- Mortar Board Excellence in Teaching Award, 2011-2012
- Student Nominee for the Michael J. Mungo Undergraduate Teaching Award, 2010
- Michael J. Mungo Undergraduate Teaching Award, 2009
- Distinguished Undergraduate Research Mentor Award, 2007
- Golden Key Faculty Award for Creative Integration of Research and Teaching, 2007
- USC NanoCenter Seed Award, 2004, 2005
- Research Corporation Research Innovation Award, 2004-2009
- USC Research and Productive Scholarship Award, 2003
- Henze Teaching Excellence Award, University of Texas at Austin, 1998
- Dow Fellowship, University of Texas at Austin, 1995-1996
- Graduated *Magna Cum Laude*, 1993
- Clarke L. Gage Undergraduate Research Award, St. Lawrence University, 1993
- Phi Beta Kappa, St. Lawrence University, 1992
- Clarke L. Gage Undergraduate Teaching Award, St. Lawrence University, 1992
- Class of 1934 Award in Chemistry, St. Lawrence University, 1991
- Dean's Honor List, 1990-1993
- CHYMIST (chemistry honor society), St. Lawrence University, 1990
- North Country Scholar, St. Lawrence University, 1989-93

STUDENTS AND POSTDOCTORAL SCHOLARS

Graduate Students Receiving Ph.D. Degrees

1. Toby L Nelson, August 2007
2. Marc S. Maynor, August 2007
3. Brett M. Rambo, May 2008

4. Dana L. Broughton, May 2008
5. R. William Tilford, December 2008
6. Theppawut Israsena, August 2009
7. Kevin L. Bicker, December 2010
8. Laura M. Lanni, December 2010
9. Jie Liu, December 2011
10. Jing Sun, December 2011
11. Xiaoning Li, current
12. Min Cai, current
13. Shakena Daniel, current
14. Matthew DiCarmine, current
15. Vincenzo DiSantis, current
16. Anna Veldkamp, current

Graduate Students Receiving M.S. Degrees

1. Yuejiao Zou, August 2006
2. Kevin Sapp, August 2011
3. Hao (Jason) Jing, August 2011

Postdoctoral Scholars

1. Weijun Niu, 2003-2005
2. Caroline O'Sullivan, 2003-2004

Undergraduate Students

1. Brett M. Rambo, 1 academic year
2. Mary J. Manuse, 2 summers, 3 academic years
3. Tanesha Osbourne, 1 summer
4. Robert Whetsell, 2 summers
5. Renee Genova, 1 academic year
6. Alexandra Bradshaw, 1 academic year
7. Christina S. Baraty, 3 academic years
8. Travis K.. Deason, 2 academic years
9. Tim G. Ingallinera, 1 summer, 1 academic year
10. T. Ivy Tran, 1 academic year
11. Nathan Krueger, 1 semester
12. Felicea Patel, 2 semesters
13. Lisa Lovett, 2 semesters
14. Julia Southwell, 2 semesters
15. Hamer Manning, 2 summers, 1 academic year
16. Morgan Harrell, 2 academic years
17. Jennifer Link, 3 academic years, 1 summer
18. Emily Neihaus, 1 summer
19. Michael Singer, 1 semester
20. Hannah Gamble, 3 academic years, 1 summer
21. Jung wun (Irene) Hwang, 1 summer
22. Anthony (Minh) Le, 1 semester, 1 summer
23. Danielle Mumford

High School Students

1. Kunyang (Emma) Gou, 1 summer (Undergraduate USC)

PUBLICATIONS

(Peer Reviewed)

29. Bicker, K. L.; Sun, J.; Harrell, M.; Zhang, Y.; Pena, M. M.; Thompson, P. R.; Lavigne, J. J. Synthetic Lectin Arrays for the Detection and Discrimination of Cancer Associated Glycans and Cell Lines. *Chem. Sci.* **2012**, *3*, 1147-1156. DOI: 10.1039/C2SC00790H.

28. Lanni, L. M.; Tilford, R. W.; Bharathy, M.; Lavigne J. J. Enhanced Hydrolytic Stability of Self-Assembling Alkylated 2-Dimensional Covalent Organic Frameworks. *J. Am. Chem. Soc.* **2011**, *133*, 13975–13983.

27. Bicker, K. L.; Sun, J.; Lavigne, J. J.; Thompson, P. R. Boronic acid functionalized peptidyl synthetic lectins: Combinatorial library design, selective recognition of glycoproteins, and differentiation of carcinogenic cell types. *ACS Combi. Sci.* **2011**, *13*, 232–243.

26. Maynor, M. S.; Deason, T. K.; Nelson, T. L.; Lavigne, J. J. Multidimensional Response Analysis Towards the Detection and Identification of Soft Divalent Metal Ions. *Supramolecular Chem.* **2009**, *21*, 310-315.

25. Tilford, R. W.; Mugavero, S. J.; Pellechia, P. J.; Lavigne, J. J. Tailoring Microporosity in Covalent Organic Frameworks (COFs). *Adv. Mater.* **2008**, *20*, 2741-2746.

24. Zuo, Y.; Broughton, D. L.; Bicker, K. L.; Thompson, P. R.; Lavigne, J. J. Peptide Borono-Lectins (PBLs): A New Tool for Glycomics and Cancer Diagnostics. *ChemBioChem* **2007**, *8*, 2048-2051. **Highlighted in Faculty of 1000 - Biology**

23. Lavigne, J. J. Tastes Good To Me. *Nature Mater.* **2007**, *6*, 548-549.

22. Nelson, T. L.; Tran, I.; Ingallinera, T. G.; Maynor, M. S.; Lavigne, J. J. Multi-Layered Analyses Using Directed Partitioning to Identify and Discriminate between Biogenic Amines. *Analyst* **2007**, *132*, 1024-1030.

21. Maynor, M. S.; Nelson, T. L.; O'Sullivan, C.; Lavigne, J. J. A Food Freshness Sensor using the Multi-State Response from Analyte Induced Aggregation of a Cross-Reactive Poly(thiophene). *Org. Lett.* **2007**, *9*, 3217-3220. ***Highlighted In J. Chem. Ed.*** **2008, *85*, 480-481.**

20. Rambo, B. M.; Lavigne, J. J Defining Self-Assembling Linear Oligo(dioxaborole)s. *Chem. Mater.* **2007**, *19*, 3732-3739.

19. Bruckman, M. A.; Niu, Z.; Li, S.; Lee, L. A.; Varazo, K.; Nelson, T.; Lavigne, J. J.; Wang' Q. Development of Nanobiocomposite Fibers by Controlled Assembly of Rod-like Tobacco Mosaic Virus. *Nanobiotechnol*. **2007**, *3*, 31-39.

18. Niu, W.; Lavigne, J. J. Self-Assembling Poly(Dioxaborole)s as Blue-Emissive Materials. *J. Am. Chem. Soc.* **2006**, *128*; 16466-16467.

17. Tilford, R. W.; Gemmill, W. R.; zur Loye, H.-C.; Lavigne, J. J. Facile Synthesis of a Highly Crystalline, Covalently Linked Porous Boronate Network. *Chem. Mater.* **2006**, *18*, 5296-5301.

16. Niu, W.; Smith, M. D.; Lavigne, J. J. Substituent Effects on the Structure and Supramolecular Assembly of Bis(dioxaborole)s Derived from 1,2,4,5-Tetrahydroxybenzene. *Cryst. Growth Des*. **2006**, 6, 1274-1277.

15. Nelson, T. L.; O'Sullivan, C.; Greene, N. T.; Maynor, M. S.; Lavigne, J. J. Cross-Reactive Conjugated Polymers: Analyte-Specific Aggregative Response for Structurally Similar Diamines. *J. Am. Chem. Soc.* **2006**, *128*, 5640-5641.

14. Niu, W.; Rambo, B. M. Smith, M. D.; Lavigne, J. J. Substituent Effects on the Structure and Supramolecular Assembly of Bis(dioxaborole)s. *Chem. Commun.* **2005**, 5166-5168.

13. Niu, W.; O'Sullivan, C.; Rambo, B. M. Smith, M. D.; Lavigne, J. J. Self-Repairing Polymers: Poly(dioxaborolane)s Containing Trigonal Planar Boron. *Chem. Commun.* **2005**, 4342-4344.

12. Wiskur, S. L.; Lavigne, J. J.; Metzger, A.; Tobey, S. L.; Lynch, V.; Anslyn, E. V. Thermodynamic Analysis of Receptors Based on Guanidinium/Boronic Acid Groups for the Complexation of Carboxylates, α-Hydroxycarboxylates, and Diols: Driving Force for Binding and Cooperativity. *Chem. Eur. J.* **2004**, *10*, 3792-3804.

11. Lavigne, J. J.; Broughton, D. L.; Wilson, J. N; Erdogan, B.; Bunz U. H. F. 'Surfactochromic' Conjugated Polymers: Surfactant Effects on Sugar-Coated PPEs. *Macromolecules*, **2003**, *36*, 7409-7412.

10. Wilson, J. N.; Wang, Y.; Lavigne, J. J.; Bunz, U. H. F. A Biosensing Model System: Selective Interaction of Biotinylated PPEs with Streptavidin-Coated Polystyrene Microspheres. *Chem. Commun.* **2003**, 1626-1627.
9. Lavigne, J. J.; Anslyn, E. V. Sensing A Paradigm Shift in the Field of Molecular Recognition. From Seeking Selective to Seeking Differential Receptors. *Angew. Chem. Int. Ed.*, **2001**, *40*, 3118-3130.
8. Wiskur, S. L.; Lavigne, J. J.; Ait-Haddou, H.; Anslyn, E. V. Teaching Old Indicators New Tricks. *Acc. Chem. Res.* **2001**, *34*, 963-972.
7. Goodey, A.; Lavigne, J. J.; Savoy, S. M.; Rodriguez, M. D.; Curey, T.; Tsao, A.; Simmons, G.; Wright, J.; Yoo, S.-J.; Sohn, Y.; Anslyn, E. V.; Shear, J. B.; Neikirk, D. P.; McDevitt, J. T. Development of Multianalyte Sensor Arrays of Chemically Derivatized Polymeric Microspheres Localized in Micromachined Cavities. *J. Am. Chem. Soc.* **2001**, *123*, 2559-2570.
6. Wiskur, S. L.; Lavigne, J. J.; Ait-Haddou, H.; Lynch, V.; Chiu, Y. H.; Canary, J. W.; Anslyn, E. V. pK_a Values and Geometries of Secondary and Tertiary Amines Complexed to Boronic Acids–Implications for Sensor Design. *Org. Lett.* **2001**, *3*, 1311-1314.
5. Cabell, L. A.; Best, M. D.; Lavigne, J. J.; Schneider, S. E.; Perreault, D. M.; Monahan, M.-K.; Anslyn, E. V. Metal Triggered Fluorescence Sensing of Citrate Using a Synthetic Receptor. *J Chem. Soc., Perkin Trans. 2* **2001**, 315-323.
4. Curey, T. E.; Goodey, A.; Tsao, A.; Lavigne, J. J.; Sohn, Y.; McDevitt, J. T.; Anslyn, E. V.; Neikirk, D. P.; Shear, J. B. "Characterization of Multicomponent Monosaccharide Solutions Using an Enzyme–Based Sensor Array," *Anal. Biochem.* **2001**, *293*, 178-184.
3. Lavigne, J. J.; Anslyn, E. V. "Teaching Old Indicators New Tricks: A Colorimetric Chemosensing Ensemble for Tartrate/Malate in Beverages," *Angew. Chem. Int. Ed.* **1999**, *38*, 3666-3669.
2. Lavigne, J. J.; Meyer, A. L.; Vann, J. M.; Lavigne, C. A.; Anslyn, E. V. "The Mammalian Sense of Taste, and Electronic Mimics Thereof," *Leatherhead Food RA* **1999**, *2*, 252-260.
1. Lavigne, J. J.; Savoy, S.; Clevenger, M. B.; Ritchie, J. E.; McDoniel, B.; Yoo, S.-J.; Anslyn, E. V.; McDevitt, J. T.; Shear, J. B.; Neikirk, D. Solution-Based Analysis of Multiple Analytes by a Sensor Array: Toward the Development of an 'Electronic Tongue.' *J. Am. Chem. Soc.* **1998** *120*, 6429-6430.

(Book Chapters)

4. Sun, J.; Cai, M.; Lavigne, J. J. Supramolecular Chemistry in *In Vitro* Biosensors, in *Supramolecular Chemistry: From Molecules to Nanomaterials*, Steed, J. W.; Gale, P. A., Eds., John Wiley & Sons: Hoboken, New Jersey; 2012, Vol. 4, Chapter 19.
3. Bicker, K. L.; Wiskur, S. L.; Lavigne, J. J. Colorimetric Sensor Design, in *Chemosensors: Principles, Strategies, and Applications*, Anslyn, E. V.; Wang, B., Eds., John Wiley & Sons: Hoboken, New Jersey; 2011, Chapter 14.
2. Liu, J.; Lavigne, J. J. "Boronic Acids in Materials Chemistry." In *Boronic Acids*; Hall, D. G., Ed.; Wiley-VCH: New York, 2011; Chapter 14.
1. Rambo, B. M.; Tilford, R. W.; Lanni, L. M.; Liu, J.; Lavigne, J. J. Boronate-Linked Materials: Ranging From Amorphous Assemblies to Highly Structured Networks; In *Macromolecules Containing Metals and Metal-Like Elements*, Vol. 9; Abd-El-Aziz, A. S.; Carraher, C. E.; Pittman, C. U.; Zeldin, M., Eds.; John Wiley & Sons: Hoboken, New Jersey; 2009; Chapter 6.

(Patents)

3. Lavigne, J. J.; Nelson, T.; Maynor, M. (University of South Carolina). Methods and Devices For Analytical Sensing of Biogenic Amines. U.S. Pat. Appl. Publ. US2008299669, 2008.
2. Lavigne, J. J.; Thompson, P. R. Novel Peptide-Based Borono-Lectin (PBL) Sensors For Detection of Carbohydrates and Glycoproteins. U.S. Pat. Appl. Publ. US2008299666, 2008.

1. Lavigne, J. J.; Tilford, R. W. (University of South Carolina). Synthesis of Highly Crystalline, Covalently Linked Porous Boronate Network with High Surface Area. World Pat. Appl. WO2007098263, August 30, 2007.

(Non-Peer Reviewed)

28. Maynor, M. S.; Deason, T. K.; Nelson, T. L.; Tilford R. W.; Lavigne, J. J. Naked-Eye Detection of Biogenic Amines Using Conjugated Polymer-Metal Ensembles. *Polym. Prepr. (Am. Chem. Soc., Div. Polym. Chem.)* **2011**, *52*, 819-820.

27. Israsena Na Ayudhya, T.; Lavigne, J. J. Novel Synthesis of Highly Functionalized Regio-Regular Poly(Thiophene)s and Resin Immobilized Poly(Thiophene)s: Towards Solid State Chemosensors. *Polym. Prepr. (Am. Chem. Soc., Div. Polym. Chem.)* **2011**, *52*, 506-507.

26. Link, J. E.; Lanni, L. M.; Southwell, J.; Rambo, B. M.; Lavigne, J. J. Applications of a Boronate Ester Coordination Polymer for Sensing and Storing of Benzene, *Polym. Prepr. (Am. Chem. Soc., Div. Polym. Chem.)* **2010**, *51*, 461-462.

25. Daniel, S. L.; Rambo, B. M.; Niu, W.; Lavigne, J. J. Synthesis of Self-Repairing Poly(dioxaborolane)s, *Polym. Prepr. (Am. Chem. Soc., Div. Polym. Chem.)* **2010**, *51*, 444-445.

24. Tilford, R. W.; Rambo, B. M.; Liu, J.; Lanni, L. M.; Niu, W.; Lavigne, J. J. Self-assembling Boronate-linked Materials. *Polym. Mater. Sci. Eng.* **2009**, *100,* 355-356.

23. Niu, W.; Rambo, B. M.; Broughton, D. L.; Tilford, R. W.; Lavigne, J. J. Borole-Linked Oligomers and Polymers as Fluorescent Materials. *Polym. Mater. Sci. Eng.* **2008**, *98*, 191-192.

22. Tilford, R. W.; Lavigne, J. J. Carboxylic Acid Functionalized Pores in a Covalent Organic Framework (COF). *Polym. Prepr. (Am. Chem. Soc., Div. Polym. Chem.)* **2008**, *49*, 308.

21. Israsena Na Ayudhya, T.; Lavigne, J. J. Multi-Partial Post-Polymerization Functional Group Interconvertion of Highly Regio-Regular Poly(Thiophene)s. *Polym. Prepr. (Am. Chem. Soc., Div. Polym. Chem.)* **2007**, *48*, 190.

20. Tilford, R. W.; Gemmill, W. R.; Mugavero, S. J.; zur Loye, H.-C.; Lavigne, J. J. Microporous Polyboronate Esters. *Polym. Mater. Sci. Eng.* **2007**, *97*, 119-120.

19. Maynor, M. S.; Deason, T. K.; Nelson, T. L.; Tilford R. W.; Lavigne, J. J. Conjugated Polymer-Metal Composites As Naked Eye Sensor Arrays for Biogenic Amines in Water. *Polym. Prepr. (Am. Chem. Soc., Div. Polym. Chem.)* **2007**, *48*, 577-578.

18. Nelson, T. L.; Tran, T. I.; Maynor, M. S.; Lavigne J. J. To Eat or Not to Eat: Fish Freshness Assessment Using A Conjugated Polymer. *Polym. Prepr. (Am. Chem. Soc., Div. Polym. Chem.)* **2007**, *48*, 718-719.

17. Tran, T. I.; Nelson, T. L.; Maynor, M. S.; Lavigne J. J. Use of a Conjugated Polymer-Based Sensor Array to Assess the Quality of Fish. *Polym. Prepr. (Am. Chem. Soc., Div. Polym. Chem.)* **2007**, *48*, 1010-1011.

16. Baraty, C.; Rambo, B. M.; Ayudhya, T. I.; Lavigne, J. J. Synthesis and Characterization of Self-Assembling Polyboronates. *Polym. Prepr. (Am. Chem. Soc., Div. Polym. Chem.)* **2007**, *48*, 999-1000.

15. Deason, T. K.; Maynor, M. S.; Nelson, T. L.; Lavigne J. J. A Novel Approach toward Biogenic Amine Sensing using Cross-Reactive Poly(thiophene)s Sensor Arrays. *Polym. Mater. Sci. Eng.* **2007**, *96*, 591-592.

14. Maynor, M. S.; Deason, T. K.; Lavigne J. J. Layer-by-Layer Assemblies of Regio-Regular Poly(thiophene)s Using Small Molecule Cross-Linkers. *Polym. Mater. Sci. Eng.* **2006**, *94*, 510.

13. Ayudhya, T. I.; Lavigne, J. J. Synthesis of Bithiophene Macromonomers and their Subsequent Polymerization. *Polym. Prepr. (Am. Chem. Soc., Div. Polym. Chem.)* **2006**, *47*, 325-326.

12. Rambo, B. M.; Weijun; N.; Baraty, C.; Lavigne, J. J. Self-Repairing Poly(Boronate)s: Structural and Optical Consequences. *Polym. Prepr. (Am. Chem. Soc., Div. Polym. Chem.)* **2006**, *47*, 264-265.

11. Nelson, T. L.; O'Sullivan, C.; Lavigne, J. J. Conjugated Polymer Assembly: A Unique Approach to Small Molecule Sensing. *Polym. Prepr. (Am. Chem. Soc., Div. Polym. Chem.)* **2006**, *47*, 89.
10. Niu, W.; Rambo, B. M.; Lavigne, J. J. Dynamic covalent polymer assemblies: Self-repairing poly(boronate)s. *Polym. Prepr. (Am. Chem. Soc., Div. Polym. Chem.)* **2005**, *46*, 1107-1108.
9. Niu, W.; Rambo, B. M.; Smith, M. D.; Lavigne, J. J. Self-Assembling Polymeric and Oligomeric Borole Materials. *Polym. Mater. Sci. Eng.* **2005**, *91* 147-148.
8. Lavigne, J. J.; O'Sullivan, C.; Maynor, M. Combinatorial Approach to Metal Mediated Self-Assembly of Poly(Thiophene)s. *Polym. Prep. (Am. Chem. Soc., Div. Polym. Chem.)* **2004**, *45*, 341-342.
7. Lavigne, J. J.; Rambo, B. M.; Niu, W. Self-Assembling Poly(Organo-Borate) Materials. *Polym. Mater. Sci. Eng.* **2004**, *90* 816-817.
6. Lavigne, J. J.; Nelson, T. L.; O'Sullivan, C. Combinatorial Approach to Small Molecule Directed Self-Assembly of Poly(Thiophene)s Towards Generating Optical Materials. *Polym. Mater. Sci. Eng.* **2004**, *90* 722.
5. Wilson, J. N.; Wang, Y.; Erdogan, B.; Myrick, M. L.; Lavigne, J. J.; Lieser, G.; Bunz, U. H. F. Nanostructuring of Poly(paraphenyleneethynylene)s and Poly(aryleneethynylene)s. *Polym. Prepr. (Am. Chem. Soc., Div. Polym. Chem.)* **2003**, *44*, 189-190.
4. Wiskur, S. L.; Metzger, A.; Lavigne, J. J.; Schneider, S. E.; Anslyn, E. V.; McDevitt, J. T.; Neikirk, D.; Shear, J. B. Mimicking the Mammalian Sense of Taste Through Single and Multi-Component Analyte Sensors, Given, P.; Paredes, D., Eds.; ACS Symposium Series 825; American Chemical Society: Washington, D. C., 2002; pp. 276-288.
3. Lavigne, J. J.; Metzger, A.; Niikura, K.; Cabell, L.; McDevitt, J. T.; Neikirk, D. P.; Shear, J. B.; Anslyn, E. V. "From Single Analyte to Multi-Analyte Fluorescence Sensors," Presented at the SPIE Bios '99 International Biomedical Optics Symposium, San Jose, CA, January, **1999**, Proc. SPIE 3602-A50, 220-231.
2. Savoy, S.; Lavigne, J. J.; Yoo, J. S.-J.; Wright, J.; Rodriguez, M.; Goodey, A.; McDoniel, B.; McDevitt, J. T.; Anslyn, E. V.; Shear, J. B.; Ellington, A.; Neikirk, D. P. Solution-Based Analysis of Multiple Analytes by a Sensor Array: Toward the Development of an Electronic Tongue. *SPIE* **1998**; 17-26.
1. Yoo, S.-J; Lavigne, J.; Savoy, S.; McDoniel, J. B.; Anslyn, E. V.; McDevitt, J. T.; Neikirk, D. P.; Shear, J. B. "Micromachined Storage Wells for Chemical Sensing Beads in an 'Artificial Tongue'," *SPIE* **1997**, 3224-3229.

RESEARCH SUPPORT:

Agencies that have supported Lavigne's research at University of South Carolina

American Chemical Society – Petroleum Research Fund
National Institute of Health – National Institute of Allergy and Infectious Disease
National Institute of Health – USC – Centers of Biomedical Research Excellence (COBRE)
National Science Foundation
Research Corporation
University of South Carolina Department of Chemistry and Biochemistry
University of South Carolina Research and Productive Scholarship Award
University of South Carolina Nano-Center SEED Award
South Carolina EPSCoR/IDeA Program - GEAR Award

Active Research Support

1. National Institute of Health – USC – Centers of Biomedical Research Excellence (COBRE), Peptide-Based Borono-Lectins (PBLs): New tools for Colon Cancer Diagnosis, co-P.I John J. Lavigne (with P. R. Thompson), 07/01/07-05/31/10, $561,150 (Lavigne direct $193,500).
2. National Science Foundation, Boronate-Linked Polymeric Materials, P.I. John J Lavigne, 09/01/07-08/31/10, $380,000.

SEMINARS PRESENTED:

23. Bowling Green State University
22. College of Charleston
21. Oklahoma State University
20. Duke University
19. North Carolina State University
18. Brown University
17. Wake Forest University
16. University of Texas at Arlington
15. University of Texas at Austin (1998, 2000, 2007)
14. Louisiana State University – Baton Rouge
13. University of New Orleans
12. Virginia Polytechnic Institute and State University (Virginia Tech.)
11. University of California – Santa Barbara
10. Francis Marion University
9. Carnegie Melon University
8. Transform Pharmaceutical
7. University of South Carolina (2002, 2007)
6. University of Mississippi
5. Mississippi State University
4. University of North Carolina – Greensboro
3. Boise State University
2. Texas Christian University
1. Pharmacopeia Drug Discovery Inc.

MEETING PRESENTATIONS:

19. Naked-Eye Detection of Biogenic Amines Using Conjugated Polymer-Metal Ensembles. Presented at the 242nd National Meeting of the American Chemical Society, Division of Polymer Chemistry, Denver, CO August 2011 (*invited*).
18. Using Peptide Borono Lectins (PBLs) To Sense Glycoproteins Expressed During Carcinogenesis. Presented at the 237th National Meeting of the American Chemical Society, Division of Carbohydrates, Salt Lake City, UT March 2009 (*invited*).
17. Borole-Linked Oligomers and Polymers as Fluorescent Materials, Presented at the National Meeting of the American Chemical Society, Division of Polymer Chemistry, Salt Lake City, UT April 2009.
16. When Good Food Goes Bad: A Biogenic Amine Sensing Polymer to Detect Food Freshness, Presented at the International Symposium on Macromolecular and Supramolecular Chemistry (III ISMSC), Las Vegas, NV July 2008 (*Invited*).
15. Borole-Linked Oligomers and Polymers as Fluorescent Materials, Presented at the National Meeting of the American Chemical Society, Division of Polymeric Materials: Science and Engineering, New Orleans, LA April 2008 (*Invited*).
14. Peptide Borono-Lectins (PBLs): Novel Cancer Diagnostics, Presented at the SECTR/CTSA Chemistry Symposium, University of South Carolina, Columbia, SC September 2007 (*Invited*).
13. When Good Food Goes Bad: A Biogenic Amine Sensing Polymer To Detect Food Freshness, Presented at the American Chemical Society, Division of Analytical Chemistry, Boston, MA August 2007 (*Invited*).
12. To Eat or Not To Eat: Fish Freshness Assessment Using A Conjugated Polymer, Presented at the American Chemical Society, Division of Polymer Chemistry, Boston, MA August 2007.
11. Conjugated Polymer-Metal Composites as Naked Eye Sensor Arrays for Biogenic Amines in Water, Presented at the American Chemical Society, Division of Polymer Chemistry, Boston, MA August 2007 (*Invited*).
10. Dynamic, Covalent Polymer Assemblies: Self-Assembling Poly(Boronate) Materials, Presented at the Gordon Research Conference, *Polymers East*, Mount Holyoke, MA June 2007.
9. Dynamic Polymer Assemblies: Self-Assembling Poly(Boronate) Materials, Presented at the American Chemical Society, Division of Inorganic Chemistry, San Francisco, CA August 2006 (*Invited*).

8. Dynamic Polymer Assemblies: Self-Assembling Materials and Sensors, Presented at the Gordon Research Conference, *Organic Structures & Properties*, Santa Ynez, CA January 2006.
7. Dynamic Covalent Polymer Assemblies: Self-Repairing Poly(Boronate)s, Presented at the American Chemical Society, Division of Polymer Chemistry, Washington, DC August 2005 (*Invited*).
6. Conjugated Polymer Bio-Sensors, Presented at the American Chemical Society, Division of Analytical Chemistry, San Diego, CA March 2005.
5. Self-Assembling Materials and Sensors, Presented at the American Chemical Society, Division of Polymeric Materials: Science and Engineering, Anaheim, CA March 2004.
4. Combinatorial Approach to Small Molecule Directed Self-Assembly of Poly(thiophene)s, Presented at the American Chemical Society, Division of Polymeric Materials: Science and Engineering, Anaheim, CA March 2004.
3. Combinatorial Approach To Metal Mediated Self-Assembly Of Poly(Thiophene)s, Presented at the American Chemical Society, Division of Polymer Chemistry, Anaheim, CA March 2004.
2. Self-Assembling Materials and Sensors. Presented at the National Science Foundation sponsored Young Investigator's Workshop on Supramolecular Chemistry, Sanibel, FL January 2004 (*Invited*).
1. Self-Assembling Boronate-Linked Nano-structured Materials. Presented at the Southeast Regional Meeting of the American Chemical Society (SERMACS), Atlanta, GA - November 2003; ORGN 94126.

OTHER PROFESSIONAL ACTIVITIES

Journal Refereeing

1. Journal of the American Chemical Society
2. Angewandte Chemie International Edition
3. Advanced Materials
4. Analyst
5. Chemical Communications
6. Chemistry: A European Journal
7. Dalton Transactions
8. European Journal of Inorganic Chemistry
9. Journal of Agricultural and Food Chemistry
10. Journal of Materials Chemistry
11. Journal of Molecular Recognition
12. Journal of Organic Chemistry
13. Journal of Organometallic Chemistry
14. Journal of Physical Chemistry - C
15. Macromolecular Rapid Communications
16. Macromolecules
17. Nature Materials
18. Nature Protocols
19. New Journal of Chemistry
20. Organic Letters
21. Review of Scientific Instruments
22. Spectroscopy Letters
23. Tetrahedron
24. Nature Chemistry

Grant proposal reviewing

1. American Chemical Society- Petroleum Research Fund
2. National Institute of Health
3. National Science Foundation
4. Oak Ridge Associated Universities, Ralph E. Powe Junior Faculty Enhancement Awards

Book reviews:

1. "Boronic Acids in Saccharide Recognition." By Tony D. James (University of Bath, UK), Marcus D. Phillips (University of Bath), and Seiji Shinkai (Kyushu University, Fukuoka, Japan). Royal Society of Chemistry: Cambridge. 2006. x + 174 pp. $189.00. ISBN: 0-85404-537-6.
2. "Boronic Acids: Preparation, Applications in Organic Synthesis and Medicine.**"** Edited by Dennis G. Hall (University of Alberta). Wiley-VCH Verlag GmbH & Co. KGaA: Weinheim. 2005. xxvI + 550 pp. $170.00. ISBN: 3-527-30991-8.

Committee service

1. Seminar Committee
2. Organic Faculty Search Committee (4)
3. Industrial Advisory Board
4. Seminar Committee
5. Graduate Student Admissions Committee
6. X-ray Policies
7. Co-Organizer CAS Junior Faculty Symposium Series
8. Provost's General Education Committee – Lifelong Learning Subcommittee
9. FEI Faculty Search Committee (Engineering, Chemistry – Photovoltaic thrust)
10. CoEE Chair Search Committee (Pharmacy – drug development)
11. Biochemistry Faculty Search Committee (Chemistry, Pharmacy – Cancer Therapeutics)

Other synergistic activities

- Judge for the Siemens Competition in Math, Science & Technology, 2011
- South East Alliance for Graduate Education and the Professoriate (SEAGEP), Faculty mentor, 2009 – present.
- Ad Hoc Member, NSF GK-12 Study Section, 2009.
- Ad Hoc Member, NIH SBIR/STTR Study Section, 2009.
- Guest Editor *Supramolecular Chemistry*, two issues dedicated to III ISMSC, 2008-2009.
- Ad Hoc Member, NSF-CHE Study Section, 2008.
- Faculty mentor for the USC student affiliates chapter of the American Chemical Society (2006-present).
- Mentor / research director for the Research Experience for Undergraduates (REU) Program in Nanoscience (USC).
- Ad Hoc Member, NIH SBIR/STTR Study Section, 2005.
- 2004-2005 Co-developed new undergraduate chemistry course for non-science majors.
- Session Chair at American Chemical Society Meeting (Anaheim) for Polymer General Papers Session.
- National Organization for the Professional Advancement of Black Chemists and Chemical Engineers (NOBCChE), Faculty mentor (2005 – 2008)
- African-American Professors Program (AAPP), Faculty mentor (2005 – 2007)
- Judge for the Texas State Science Fair.

CLASSES TAUGHT

1. CHEM 333 – Organic Chemistry I (Undergraduate)
2. CHEM 334 – Organic Chemistry II (Undergraduate)
3. CHEM 533 – Organic Chemistry III (Undergraduate)
4. CHEM 701 – Organic Seminar (Graduate)
5. CHEM 735 – Physical Organic Chemistry (Graduate)