

Marcia B. France

Office of the Provost
Washington and Lee University
Washington Hall 217
Lexington, VA 24450
francem@wlu.edu
(540) 458-8705

EDUCATION

California Institute of Technology, Pasadena, CA

Ph.D., Chemistry, June 1995

Thesis Advisor: Professor Robert H. Grubbs, 2005 Nobel Laureate in Chemistry

Thesis Title: Olefin Metathesis with Group VIII Transition Metal Complexes:

Mechanism, Reactivity, and Catalyst Development

Yale University, New Haven, CT

M.S., Chemistry, December 1989

Research Advisor: Professor Jerome A. Berson

Massachusetts Institute of Technology, Cambridge, MA

S.B., Chemistry, May 1988

Research Advisor: Professor K. Barry Sharpless, 2001 Nobel Laureate in Chemistry

PROFESSIONAL POSITIONS

Washington and Lee University, Lexington, VA

- Associate Provost, July 2017 – present
- John T. Herwick, M.D. Professor of Chemistry, July 2009 – present
- Associate Dean of the College, July 2012 – June 2017
- Professor of Chemistry, July 2007 – June 2009
- Co-Founder and Co-Director, St Andrews – W&L Partnership, September 2001 – present
- Associate Professor of Chemistry, July 2000 – June 2007
- Assistant Professor of Chemistry, July 1994 – June 2000

Institut National de la Recherche Agronomique/AgroParisTech, Paris, France

- Visiting Research Scientist, January 2011 – August 2011

University of St Andrews, St Andrews, Scotland

- Visiting Research Scientist, August 2005 – August 2006, Summers 2007, 2009, 2010

Stanford University, Stanford, CA

- Visiting Associate Professor, August 2000 – August 2001

E.I. Du Pont de Nemours and Co., Experimental Station, Wilmington, DE

- Visiting Research Scientist, Summers 1991, 1992

HONORARY AND PROFESSIONAL SOCIETIES

- Council of Colleges of Arts and Sciences (CCAS), 2013 – present
- National Association of Fellowship Advisors, 2012 – 2017
- National Flute Association, 2007 – present
- Virginia Academy of Science, 1995 – present
- Phi Beta Kappa, elected 1988
- Phi Lambda Upsilon, Honorary Chemical Society, elected 1985
- American Chemical Society, 1984 – present

AWARDS AND FELLOWSHIPS

- Virginia Network for Women in Higher Education Senior Leadership Seminar, 2016 – 2017
- Jockey John Robinson Endowed First-Year Seminar, 2014 – 2015
- W&L College Course Development Mini Grant, 2009, 2014
- W&L Lenfest and Glenn Grants for summer research, 1995 – 2012
- W&L R.E. Lee Grants to support summer research students, 1995 – 2012
- John T. Herwick, M.D. Professorship in Chemistry, 2009
- W&L Spring Term Course Development Grant, 2008 – 2009
- W&L Hewlett-Mellon Sabbatical Fellowship, 2000 – 2001
- ACS Organic Division Faculty Travel Award to attend the National Organic Symposium, 1999
- Associated Students of the California Institute of Technology Teaching Award, 1993
- Dow Travel Fellowship, 1991
- National Science Foundation Predoctoral Fellowship (GRFP), 1988 – 1991
- Association of M.I.T. Alumnae Award for the Woman Who Has Shown the Highest Level of Scholastic Achievement in Her Graduating Class, 1988
- Alpha Chi Sigma Award, 1988
- American Institute of Chemists Award, 1988
- Society for Applied Spectroscopy Student Award, 1988

ADMINISTRATIVE AND PROFESSIONAL SERVICE

Administrative Experience and Accomplishments

- **Student Academic Affairs.** Coordinated student academic support, including working with students in academic distress, liaising with student affairs and Student Health and Counseling, and mediating student-faculty disputes; ran reinstatement process for returning students; oversee academic advising, including new advisor training
- **Fellowship Advising.** Administered fellowship advising on campus, connected students to opportunities, mentored students through application process for external fellowships, oversaw campus fellowship representatives (increased student volume five-fold; success over 5 years included 1 Rhodes, 1 Marshall, 15 Fulbrights, 1 Gates Cambridge, 1 Schwarzman, 1 Beinecke, 1 Luce, 1 Carnegie Endowment for International Peace, 2 CBYX, 5 Davis Projects for Peace, 5 Goldwaters, 1 Ransome, and 9 NSF GRFPs, plus 5 additional Rhodes finalists, 3 additional Luce finalists, 1 additional Marshall interview, 3 Goldwater

- Honorable Mentions, and 10 NSF GRFP Honorable Mentions); successfully petitioned to become participating institution for Churchill Scholarship
- **Faculty Development.** Organize three weeks of full-time faculty and staff development workshops in August, September, and December; assist in coordinating faculty appointments to University committees
 - **Global Learning.** Co-founded and co-direct W&L-St Andrews Partnership Program; assisted in developing requirements for W&L's Certificate of International Immersion; developed study abroad policies; co-run academic orientation for incoming international students
 - **Curriculum.** Ran First-Year Seminar program (increased offerings from 7 in Fall 2012 to 15 in Fall 2015); assisted students designing independent work majors; served on Writing Program Advisory Committee; coordinated joint Washington and Lee-Virginia Military Institute monthly discussion program; evaluated syllabi for general elective credit; participated in major revision of chemistry and biochemistry curriculum; helped preserve and revitalize W&L's Spring Term; substituted for Dean of the College or University Registrar on Committee on Courses and Degrees, as needed. Participating in review of general education requirements; coordinate student summer opportunities
 - **Policy Development.** Revised Undergraduate Leave of Absence policies and procedures; formalized policies and procedures regarding study abroad for students on academic or conduct probation
 - **Strategic Planning.** Chaired a working group of science faculty to plan future of science pedagogy at W&L; participated in departmental self-studies and worked with visiting evaluation committees; served on faculty task group for International Education Strategic Planning; member of College Strategic Planning Task Force
 - **Tenure and Promotion.** Made recommendations to the President on 43 tenure and promotion cases as elected member of the President's Advisory Committee; reviewed tenure and promotion procedures as part of four-member committee; served on numerous tenure and promotion committees for science and humanities faculty; mentored pre-tenure faculty both inside and outside my department
 - **Trustees.** Participate *ex officio* in the Undergraduate Academics and Admission and the Campus Life Committees of the Board of Trustees; attend Board meetings; previously served as elected faculty representative to Board of Trustees and on the Undergraduate Academics and Admissions and Capital Projects Committees
 - **Budgets.** Managed over \$180,000 in research grant money; oversee fellowships budget; served 6 years as treasurer of W&L's Phi Beta Kappa chapter
 - **Building and Spaces.** Assisted in design and planning of the University's Hillel House; served on Capital Projects Advisory Committee; consulted on Science Center classroom renovation project; as part of STEM Pedagogy Working Group, looking ahead to possible future Science Center renovation

University Service

- President's Council, 2017 – present
- Summer Opportunities Steering Committee, 2017 – present
 - Chair, 2017– present
- University Committee on Inclusiveness and Campus Climate, 2017 – present
 - Co-chair, 2017– present
- Student Support Working Group, 2017 – present
- College Strategic Planning Task Force, 2017 – present
- Automatic Rule and Reinstatement Committee, 2001 – 2007, 2012 – present

Chair, 2012 – 2017

- Graduate Fellowship Committee, 2006 – 2010, 2012 – present
Chair, 2012 – present
- STEM Pedagogy Working Group, Chair, 2015-present
- International Education Committee, 2001 – 2005, 2012 – present
- Assessment and Care Team Committee, 2012 – present
- Spring Term Coordinating Committee, 2012 – present
- Student Financial Aid Committee, 2012 – present
- Writing Program Advisory Committee, 2012 – present
- Career Development Center Advisory Committee, 2012 – present
- Teacher Education Advisory Committee, 2012 – present
- University Collections of Art and History Advisory Committee, 2012 – present
- Barber Award Selection Committee, Chair, 2012 – present
- Decade Award Selection Committee, Chair, 2012 – present
- Investigation and Review Officer, 2012 – present
- Hillel Advisory Board, 2001 – present
Chair, 2011 – present
- Hillel Director Search Committee, 2011, 2014, 2016
- Goldwater Scholarship Campus Rep (7 winners, 1 honorable mention), 2003 – 2010, 2013 – 2014
- Task Force to Develop Global/International Learning Outcomes, 2013 – 2014
- Hillel Ad Hoc Policy Committee, 2013
- Music Department Head Search Committee, 2012
- Committee to Review Undergraduate Tenure and Promotion, 2011 – 2012
- Phi Beta Kappa Executive Committee, Gamma of Virginia Chapter, 1999 – 2012
Past-President, 2010 – 2012
President, 2008 – 2010
Vice-President, 2006 – 2008
Secretary/Treasurer, 1999 – 2005
- Interviewer for numerous W&L scholarship competitions, 1997 – 2012
- International Education Strategic Planning: Faculty Task Group, 2010
- Faculty Representative to Board of Trustees, 2008 – 2010
Capital Projects and Undergraduate Academics and Admissions Committees
- Capital Projects Advisory Committee, 2008 – 2010
- President's Advisory Committee (Tenure and Promotion), 2007 – 2010
- Ad hoc Committee on Jewish Life and Hillel House Design Committee, 2006 – 2009
- Academic Life Implementation Committee, 2007 – 2008
- Quality Enhancement Plan (QEP) Idea Committee, 2007 – 2008
QEP Subcommittee Chair
- College Mission Statement Committee, Chair, 2004 – 2005
- Dean of the College Search Committee, 2002 – 2003
- Spring Term Renewal Committee, 2001 – 2002
- Registration and Class Schedules Committee, 1997 – 2002
- University Library Committee, 1998 – 2001
- International Education Visioning Committee, 1999 – 2000
- Freshman Reading Program Committee, 1998 – 2000
- Faculty Executive Committee, 1997 – 1999

- W&L Web Registration Development Committee, 1998
- Reviewer for Senior Writing Program Study, 1997 – 1998

Departmental Service

- Numerous search, tenure, promotion, scholarship, award, and instrument purchase committees
- Chemistry and Biochemistry Department Self-Study Committee, 2003 – 2004, 2013 – 2015
- Chemistry and Biochemistry Curricular Review, 2011 – 2012
- Review of Learning Outcome Assessment Practices, 2011 – 2012
- Chemistry Department Seminar Program, Organizer, 1994 – 2012

Service to the Profession

- **Invited Presentations.** AgroParisTech, École Supérieure de Physique et de Chimie Industrielles (ESPCI ParisTech), Old Dominion University, Stanford University, University of Maryland, University of St Andrews, Osaka University, Virginia Tech
- **Manuscript reviewer.** *Chirality*, *Journal of Chemical Education*, *Journal of Molecular Sciences*, *Journal of Polymer Science*, *Molecules*
- **Grant proposal reviewer.** American Chemical Society Petroleum Research Fund, National Science Foundation, Research Corporation, South Carolina Experimental Program to Stimulate Competitive Research and Institutional Development Awards (SC EPSCoR/IDeA)
- **Textbook reviews.** W.H. Freeman and Sons (*Organic Chemistry, 3rd Edition*, Vollhardt and Shore), Houghton-Mifflin (*Organic Chemistry*, Daley and Daley), McGraw-Hill (*Organic Chemistry, 2nd Edition*, Smith), Roberts Publishing (*Organic Chemistry, 6th Edition*, Loudon)
- **Editorial Consultant.** Roberts Publishing (*Organic Chemistry, 5th Edition*, Loudon)
- **Other reviews.** Critical Language Scholarship, National Conference on Undergraduate Research
- **External Tenure and Promotion Reviews.** Gettysburg College, Goucher College
- **External Departmental Review.** Hope College Department of Chemistry
- **Judge.** Intel International Science and Engineering Fair, Lylburn Downing Middle School Science Fair, Rockbridge Country Science Fair, Virginia Academy of Science Student Competition, Virginia State Science and Engineering Fair

PUBLICATIONS, PATENTS, AND PRESENTATIONS

Publications

- Henne, J.; France, M. B.; Belkhir, K.; This, H. “Boiling Wine: Is There an Influence of Thermal Power? A Quantitative Proton Nuclear Magnetic Resonance Spectroscopic (q ¹H NMR) and Colorimetric Study”; *Notes Académiques de l’Académie d’Agriculture de France/Notes from the French Academy of Agriculture*. Accepted for Publication.
- Alty, L. T.; France, M. B.; Alty, I. G.; Saber, C. A.; Smith, D. M. “Synthesis of 1,1-Diphenylethylene (DPE): The Marriage of a Grignard Reaction and a Column Chromatography Experiment”; *J. Chem. Educ.* **2016**, *93(1)*, 206-209.
- Carpenter, I.; Eckelmann, S. C.; Kuntz, M. T.; Fuentes, J. A.; France, M.B., Clarke, M. L. “Convenient and Improved Protocols for the Hydrogenation of Esters at Near-Ambient Temperatures Using Ru Catalysts Derived from (P,P), (P,N,N) and (P,N,O) Ligands”; *Dalton Trans.* **2012**, *41(34)*, 10136-10140.

- Phillips, S. D.; Andersson, K. H. O.; Kann, N.; Kuntz, M. T.; **France, M. B.**; Wawrzyniak, P.; Clarke, M. L. "Exploring the Role of Phosphorus Substituents on the Enantioselectivity of Ru-Catalysed Ketone Hydrogenation Using Tridentate Phosphine-Diamine Ligands"; *Catal. Sci. Technol.* **2011**, *1*, 1336-1339. (Selected by editors as a "Hot Article.")
- Diaz-Valenzuela, M. B.; Phillips, S. D.; **France, M. B.**; Gunn, M. E.; Clarke, M. L.; "Enantioselective Hydrogenation and Transfer Hydrogenation of Bulky Ketones Catalysed by a Ruthenium Complex of a Chiral Tridentate Ligand"; *Chem. Eur. J.* **2009**, *15*(5), 1227-1232. (Cited as one of the most significant publications of the month in *Synfacts* **2009**, *4*, 396.)
- Fuentes, J. A.; **France, M. B.**; Slawin, A. M. Z.; Clarke, M. L. "Iridium Complexes of Chiral Diamines Containing Carbon and Nitrogen Stereocentres: Synthesis, Structure, and Evaluation as Transfer Hydrogenation Catalysts"; *New J. Chem.* **2009**, *33*(3), 466-470.
- Clarke, M. L.; **France, M. B.** "The Carbonyl Ene Reaction"; *Tetrahedron* **2008**, *64*(38), 9003-9031.
- Clarke, M. L.; Jones, C. E. S.; **France, M. B.** "The First Organocatalytic Carbonyl-Ene Reaction: Isomerisation-Free C-C Bond Formations Catalysed by H-Bonding Thio-ureas"; *Beilstein J. Org. Chem.* **2007**, *3*: 24.
- Clarke, M. L.; **France, M. B.**; Knight, F. R.; Frew, J. J. R.; Roff, G. J. "Enantio- and Diastereoselective Hydrogenation of a Fluorinated Diketone"; *Synlett* **2007**, *11*, 1739-1741.
- Clarke, M. L.; **France, M. B.**; Fuentes, J. A. Milton, E. J.; Roff, G. J. "A Convenient Catalyst System for Microwave Accelerated Cross-Coupling of a Range of Aryl Boronic Acids with Aryl Chlorides"; *Beilstein J. Org. Chem.* **2007**, *3*:18.
- Wilmes, G. M.; **France, M. B.**; Lynch, S. R.; Waymouth, R. M. "Effects of Ligand Substitutions on the Rotation Rate of Indenyl Ligands in bis(2-aryllindenyl)zirconocenes by NMR Lineshape Analysis and Relaxation in the Rotating Frame"; *Organometallics* **2004**, *23*(10), 2405-2411.
- **France, M. B.**; Milojevich, A. K.; Stitt, T. A.; Kim, A. J. "High Trans Selectivity in the Copper Bis(oxazoline) Catalyzed Asymmetric Cyclopropanation of Olefins by Trimethylsilyl Diazomethane"; *Tetrahedron Lett.* **2003**, *44*(52), 9287-9290.
- Holland, M. G.; Griffith, V. E.; **France, M. B.**; Desjardins, S. G.; "Kinetics of the Ring-Opening Metathesis Polymerization of a 7-Oxanorbornene Derivative by Grubbs Catalyst"; *J. Polym. Sci., Part A: Polym. Chem.* **2003**, *41*(13), 2125-2131.
- **France, M. B.**; Alty, L. T.; Earl, T. M. "Synthesis of a 7-Oxanorbornene Derivative: A Two-Step Sequence Preparation for the Organic Laboratory"; *J. Chem. Educ.* **1999**, *76*, 659.
- **France, M. B.**; Uffelman, E. S. "Ring-Opening Metathesis Polymerization with a Well-Defined Ruthenium Carbene Complex: An Experiment for the Undergraduate Inorganic or Polymer Laboratory"; *J. Chem. Educ.* **1999**, *76*, 661.
- Schwab, P.; **France, M. B.**; Ziller, J. W.; Grubbs, R. H. "A Series of Well-Defined Metathesis Catalysts - Synthesis and Applications of $\text{RuCl}_2(\text{=CHR})(\text{PR}_3)_2$ "; *Angew. Chem. Int. Ed. Engl.* **1995**, *34*, 2039.
- **France, M. B.**; Feldman, J.; Grubbs, R. H. "An Iridium-based Catalyst System for Metathesis/Isomerization of Acyclic Olefins, including Methyl Oleate"; *J. Chem. Soc., Chem. Commun.* **1994**, 1307.
- **France, M. B.**; Paciello, R. A.; Grubbs, R. H. "Initiation of Ring-Opening Metathesis Polymerization in Protic Media. Extension of $[\text{Ru}(\text{H}_2\text{O})_6]^{2+}$ Catalyzed Polymerization to Less-Strained Cyclic Monomers"; *Macromolecules* **1993**, *26*, 4739.

- **France, M. B.**; Grubbs, R. H.; McGrath, D. V.; Paciello, R. A. "Chain Transfer During the Aqueous Ring-Opening Metathesis Polymerization of 7-Oxanorbornene Derivatives"; *Macromolecules* **1993**, *26*, 4742.
- Grubbs, R. H.; Novak, B. M.; McGrath, D. V.; Benedicto, A.; **France, M. B.**; Nguyen, S. T. "Ruthenium ROMP Catalysts"; *Polymer Preprints* **1992**, *33(1)*, 1225.
- Jacobsen, E. N.; Marko, I.; **France, M. B.**; Svendsen, J. S.; Sharpless, K. B. "Kinetic Role of the Alkaloid Ligands in Asymmetric Catalytic Dihydroxylation"; *J. Am. Chem. Soc.* **1989**, *111*, 737.

Patents

- Grubbs, R. H.; Schwab, P.; Nguyen, S. T.; **France, M. B.** "High Metathesis Activity Ruthenium and Osmium Metal Carbene Complexes"; Singapore Patent 51411. Certificate of Correction issued December 2008.
- Grubbs, R. H.; Schwab, P.; Nguyen, S. T.; **France, M. B.** "High Metathesis Activity Ruthenium and Osmium Metal Carbene Complexes"; European Patent 1375506, filed August 1, 1996. Certificate of Correction issued February 2008.
- Grubbs, R. H.; Schwab, P.; Nguyen, S. T.; **France, M. B.** "High Metathesis Activity Ruthenium and Osmium Metal Carbene Complexes"; European Patent 0842200. Certificate of Correction issued February 2008.
- Grubbs, R. H.; Schwab, P.; Nguyen, S. T.; **France, M. B.** "High Metathesis Activity Ruthenium and Osmium Metal Carbene Complexes"; Japanese Patent JP2009001585 (A).
- Grubbs, R. H.; Schwab, P.; Nguyen, S. T.; **France, M. B.** "High Metathesis Activity Ruthenium and Osmium Metal Carbene Complexes"; Chinese Patent 96197372.2, filed August 1, 1996. Certificate of Correction issued December 2007.
- Grubbs, R. H.; Schwab, P.; Nguyen, S. T.; **France, M. B.** "High Metathesis Activity Ruthenium and Osmium Metal Carbene Complexes"; Chinese Patent Application 200610101678.4, filed August 1, 1996. Certificate of Correction issued December 2007.
- Grubbs, R. H.; Schwab, P.; Nguyen, S. T.; **France, M. B.** "High Metathesis Activity Ruthenium and Osmium Metal Carbene Complexes"; U.S. Patent 7,102,047, filed October 18, 2004, issued September 5, 2006. Certificate of Correction issued May 2007.
- Grubbs, R. H.; Schwab, P.; Nguyen, S. T.; **France, M. B.** "High Metathesis Activity Ruthenium and Osmium Metal Carbene Complexes"; U.S. Patent 6,806,325, filed December 19, 2002, issued October 19, 2004. Certificate of Correction issued December 2006.
- Grubbs, R. H.; Schwab, P.; Nguyen, S. T.; **France, M. B.** "High Metathesis Activity Ruthenium and Osmium Metal Carbene Complexes"; U.S. Patent 6,515,084, filed December 21, 2000, issued February 4, 2003. Certificate of Correction issued February 16 2010.
- Grubbs, R. H.; Schwab, P.; Nguyen, S. T.; **France, M. B.** "High Metathesis Activity Ruthenium and Osmium Metal Carbene Complexes"; U.S. Patent 6,111,121, filed January 15, 1998, issued August 29, 2000. Certificate of Correction issued March 17, 2009.
- Grubbs, R. H.; Schwab, P.; Nguyen, S. T.; **France, M. B.** "High Metathesis Activity Ruthenium and Osmium Metal Carbene Complexes"; U.S. Patent 5,831,108, filed July 31, 1996, issued November 3, 1998. Certificate of Correction issued August 2006.
- Feldman, J.; **France, M. B.** "Iridium Catalysts for Metathesis of Acyclic Olefins"; U.S. Patent 5,403,802, filed June 28, 1994, issued April 4, 1995.
- Feldman, J.; **France, M. B.** "Metathesis of Acyclic Olefins Using an Iridium/Silver Catalyst Composition"; U.S. Patent 5,352,812, filed July 8, 1993, issued October 4, 1994.

Selected Presentations

- Cole, J.; **France, M. B.**; Low, K.; Sloat, J. M. "Assistant/Associate Deans—Translating Ideals into Practices That Work"; Panel at the American Conference of Academic Deans (ACAD)/Association of American Colleges & Universities (AAC&U) Annual Meeting, Washington, DC, January 20-23, 2016.
- Alty, L.; **France, M. B.**; *Alty, I.*; Saber, C.; Smith, D. "Synthesis of 1,1-Diphenylethylene (DPE): The Marriage of a Grignard Reaction and a Column Chromatography Experiment"; Presented at the 250th National Meeting of the American Chemical Society, Boston, MA, August 16-20, 2015.
- Gilmore, F.; **France, M. B.**; Smith, B.; McDonald, J. "Goldwater Scholarship"; Panel at the National Association of Fellowship Advisors Small to Mid-Sized School Workshop, College of the Holy Cross, Worcester, MA, June 26, 2014.
- **France, M. B.**; Tardieu, A.; *Pichot, G.*; Gok Pinarli, I.; This, H. "Effects of Sample Size and Temperature on the Diffusion of Water Soluble Compounds from Onions into Aqueous Solutions "; Presented at the Euro-Mediterranean Symposium for Fruit & Vegetable Processing, Avignon, France, April 18-21, 2011.
- *Kuntz, M. T.*; Phillips, S. D.; Wawrzyniak, P.; Clarke, M. L.; **France, M. B.** "Structural Variations on a Novel Ruthenium Catalyst for the Hydrogenation of Bulky Ketones"; Presented at the 239th National Meeting of the American Chemical Society, San Francisco, CA, March 21-25, 2010.
- **France, M. B.** "Synthesis of Chiral Ligands for Applications in Asymmetric Catalysis"; Invited Presentation at the Maryland Symposium on Research at Undergraduate Institutions, University of Maryland, College Park, October 6, 2006.
- *Carlson, H. T.*; *Clark, R.A.*; **France, M. B.** "Synthesis of a Novel Class of Chiral N,N and P,N-Ligands"; Presented at the 2005 National Conference on Undergraduate Research, Washington and Lee University/Virginia Military Institute, April 21-23, 2005.
- *Adams, L. A.*; **France, M. B.**; Desjardins, S. G. "Kinetics of the Hydrolysis of Bisocodyl"; Presented at the 2005 National Conference on Undergraduate Research, Washington and Lee University/Virginia Military Institute, April 21-23, 2005.
- *Milojevich, A. K.*; *Kim, A. J.*; **France, M. B.** "Catalytic Asymmetric Cyclopropanation by Chiral Copper Bis(oxazoline) Complexes"; Presented at the 2004 National Conference on Undergraduate Research, Indiana University-Purdue University Indianapolis, April 15-17, 2004.
- *Im, G.-Y. J.*; **France, M. B.**; Moore, D.; Pu, L. "Dynamic NMR Studies of Chiral 1,1'-Binaphthyl Compounds"; Presented at the 224th National Meeting of the American Chemical Society, Boston, MA, August 18-22, 2002.
- *Zimmer, J. P.*; **France, M. B.** "Ruthenium Carbene Complexes Prepared from Diazo Compounds as Catalysts for Olefin Metathesis"; Presented at the 219th National Meeting of the American Chemical Society, San Francisco, CA, March 27, 2000.
- **France, M. B.**, *Browne, J. A.*; *Hooper, H. B.*; *Vosseller, J. T.*; *Yemini, B.* "Catalytic Asymmetric Cyclopropanation by Chiral Copper Schiff Base Complexes"; Presented at the 36th National Organic Chemistry Symposium, University of Wisconsin, Madison, WI, June 14, 1999.
- *Vosseller, J. T.*; **France, M. B.** "Catalytic Asymmetric Cyclopropanation by Chiral Copper Schiff-Base Complexes"; Presented at the Undergraduate Research Symposium of Central Virginia, Virginia Military Institute, Lexington, VA, September 19, 1998.
- *Browne, J. A.*; *Hoke, W. A.*; *Zimmer, J. P.*; **France, M. B.** "Chiral Ruthenium Schiff-Base Complexes as Catalysts for Asymmetric Cyclopropanation"; Presented at the Undergraduate

Research Symposium of Central Virginia, Virginia Military Institute, Lexington, VA, September 19, 1998.

- *Holland, M. G.; Cooper, D. P.; Desjardins, S. G.; France, M. B.; Johnson, N.* "ROMP Kinetics Using FT-NMR"; Presented at the Undergraduate Research Symposium of Central Virginia, Virginia Military Institute, Lexington, VA, September 19, 1998.
- **France, M. B.;** Uffelman, E. S.; Alty, L. T.; *Earl, T. M.* "A Novel Ring-Opening Metathesis Polymerization Experiment for the Undergraduate Organic, Inorganic, and Polymer Laboratories"; Presented at the 216th National Meeting of the American Chemical Society, Boston, MA, August 23-27, 1998; CHED 32.
- *Holland, M. G.; Cooper, D. P.; Desjardins, S. G.; France, M. B.; Johnson, N.* "ROMP Kinetics Using FT-NMR"; Presented at the 216th National Meeting of the American Chemical Society, Boston, MA, August 23-27, 1998; CHED 170.
- *Hooper, H. B.; France, M. B.; Yemini, B.* "Catalytic Asymmetric Cyclopropanation by Transition Metal-Schiff Base Complexes"; Presented at the 213th National Meeting of the American Chemical Society, San Francisco, CA, April 14, 1997; CHED 426.
- **France, M. B.;** Paciello, R. A.; Grubbs, R. H. "Ethyl diazoacetate Initiated Ring-Opening Metathesis Polymerization of Cyclic Olefins"; Presented at the Pacific Conference on Chemistry and Spectroscopy, Pasadena, CA, October 1993.
- **France, M. B.;** McGrath, D. V.; Paciello, R. A.; Grubbs, R. H. "Ring-Opening Metathesis Polymerization with Aqueous Ruthenium (II) Complexes"; Presented at the 203rd National Meeting of the American Chemical Society, San Francisco, CA, April 1992; INOR 128.

Undergraduate researchers are listed in italicized type.

EXTERNAL FUNDING

- Engineering and Physical Sciences Research Council (EPSRC) Grant; "Highly Reactive Catalysts for the Hydrogenation of Poorly Reactive Substrates"; June 2009 – August 2010, £21,388 (with Matthew Clarke, P.I.).
- National Science Foundation Major Research and Instrumentation Grant, "MRI: Acquisition of a Liquid Chromatograph Time of Flight Mass Spectrometer to Enhance Research at Washington and Lee University and Virginia Military Institute"; September 2009 – August 2012, \$282,226, (with Lisa T. Alty (PD/PI) and Erich S. Uffelman).
- Associated Colleges of the South Andrew W. Mellon Faculty Renewal Program, Professional Development Grant; "Research at the University of St Andrews: Preparation of Chiral Ligands for Asymmetric Catalysis"; January 2009 – December 2009, \$5000.
- American Chemical Society Petroleum Research Fund – Undergraduate Faculty Sabbatical Grant; "Synthesis of Novel Nitrogen Ligands for Asymmetric Catalysis"; July 2005 – July 2006, \$50,000.
- Jeffress Memorial Trust Research Grant; "Chiral Schiff Base Complexes as Catalysts for Asymmetric Cyclopropanation"; July 1998 – July 2003, \$19,200; Renewal Grant, January 2004 – December 2004, \$10,000; Renewal Grant, January 2005 – December 2005, \$10,000.
- C.B. Fleet Company, Inc.; "Kinetics Studies of the Hydrolysis of Bisocodyl"; January 2004 – December 2004, \$41,000 (with Steven G. Desjardins); May 2005 – May 2006, \$35,460.
- National Science Foundation Major Research Instrumentation Grant; "Multinuclear Gradient Inverse Probe, Amplifier, and Overnight Low Temperature Dewar for High-Field NMR Spectroscopy in the Chemistry Department at Washington and Lee University"; August 2003

- August 2006, \$70,830 (with Erich S. Uffelman (project director), Steven G. Desjardins, and Lisa T. Alty).
- National Science Foundation Research Opportunity Award to support sabbatical leave at Stanford University, August 2000 – August 2001, \$18,000 (with Robert M. Waymouth).
- Japan Society for the Promotion of Science Postdoctoral Fellowship for American Researchers; "Asymmetric Organic Reactions in Chiral Ionic Liquids"; awarded January 2000, but declined.
- Research Corporation Cottrell College Science Award; "Novel Chiral C₃ Symmetric Tripodal Isocyanide Ligands"; June 1997 – June 2000, \$30,330.
- American Chemical Society Petroleum Research Fund; "Chiral Schiff-Base Complexes as Catalysts for Asymmetric Cyclopropanation"; September 1996 – September 1999, \$20,000.
- National Science Foundation Instrumentation and Laboratory Improvement Grant; "High-Field Multinuclear NMR In Undergraduate Education at Washington and Lee University"; 1996 – 1998, \$99,500 (with Erich S. Uffelman (project director), Lisa T. Alty, and Steven G. Desjardins).

TEACHING

Main Courses Taught

- Chem 241 Organic Chemistry I
- Chem 241L Organic Chemistry Laboratory I
- Chem 242 Organic Chemistry II
- Chem 242L Organic Chemistry Laboratory II
- Chem 241S/CH 2201 Organic Chemistry I (with the University of St Andrews, Scotland)
- Chem 347 Advanced Organic Chemistry
- Chem 154 Introduction to the Science of Cooking, with Laboratory
- Chem 155 Science of Cooking in Italy

Undergraduate Research Students Supervised

- **46** at W&L, **3** at INRA/AgroParisTech, **2** at St Andrews (1 MChem), **2** at Caltech

COMMUNITY SERVICE AND ACTIVITIES

- Host family, 2 high school international exchange students through CIEE, 2009 – 2010, 2012 – 2013
- Musical Activities
 - Washington and Lee University Wind Ensemble, 1996 – present
Soloist, 2004
 - Rockbridge Symphony Orchestra, Principal Flute, 2016 – present
 - Washington and Lee University-Shenandoah Symphony Orchestra, 1995 – 2015
 - Lexington Flute Ensemble, 1996 – present
Numerous performances at local retirement communities, W&L and community events, annual Stonewall Jackson House Christmas Open House
 - Greenbrier Resort, 2015, 2016
 - L'Orchestre de Flûte Français, Paris, 2011
 - Heisenberg Ensemble, St Andrews, Scotland, 2005 – 2006
 - St Andrews Music Society Symphony Orchestra, 2005 – 2006
 - Stanford Symphony Orchestra and Stanford Summer Symphony Orchestra, 2000 – 2001

- Played flute and piccolo for numerous W&L student recitals, local theater productions, Rockbridge Community Chorus and Rockbridge Symphony Orchestra performances
- Flute teacher for numerous local school children
- Invited presentations on the Science of Cooking, Roanoke Public Library, 2010
- Volunteer, Mimi Elrod for Virginia House of Delegates Campaign, 2002
- Various chemistry demonstrations to elementary and middle school children

REFERENCES

June Aprille, Ph.D.
Provost Emeritus, Washington and Lee University
900 Bunker Hill Road
South Tamworth, NH 03883 USA
(603) 937-0378
japrille@wlu.edu

Suzanne Keen, Ph.D.
Dean of the College and Thomas H. Broadus Professor of English
Washington and Lee University
Office of the Dean of the College
Lee-Jackson House
Lexington, Virginia 24450 USA
(540) 458-8759
keens@wlu.edu

Sidney Evans, J.D.
Vice President for Student Affairs and Dean of Students
Office of Student Affairs
Washington and Lee University
Elrod Commons 242
Lexington, Virginia 24450 USA
(540) 458-8754
sevans@wlu.edu

Steven G. Desjardins, Ph.D.
Professor and Department Head
Department of Chemistry and Biochemistry
Washington and Lee University
Science Addition A330B
Lexington, Virginia 24450 USA
(540) 458-8873
desjardins@wlu.edu