

**CURRICULUM VITAE**  
**Gail Richmond**  
**July 2010**

**Office**

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**Home**

5229 Park Lake Road  
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**EDUCATION:**

Ph. D., University of Connecticut, Experimental Psychology: Neuroscience  
M.A., University of Connecticut, Experimental Psychology  
A.B., Franklin and Marshall College, Psychology  
A.B., Franklin and Marshall College, Theatre Arts

**WORK EXPERIENCE**

- 2010-present Faculty Leader, Secondary Science Teacher Preparation Program  
Dept. Teacher Education, Michigan State University
- Director, W.K. Kellogg Foundation's Woodrow Wilson Teaching Fellows  
Program at MSU
- 2001-present Associate Professor of Science Education, Department of Teacher  
Education, College of Education
- 2001- 2009 Faculty Leader, Secondary Teacher Preparation Program,  
Dept. Teacher Education, Michigan State University
- 1998-2001 Coordinator, Certificate in College Science Teaching Program, College of  
Natural Science, MSU
- 1998-2001 Faculty Leader, Secondary Science Teacher Preparation Program  
Dept. Teacher Education, Michigan State University
- 1997-  
2001 Associate Professor of Science Education, Department of Teacher  
Education, College of Education and Division of Science and Mathematics  
Education, College of Natural Science, Michigan State University (joint  
faculty appointment)
- 1995-2000 Curriculum Director, Kids College (MSU Office of Gifted and Talented  
Programs & Ingham Intermediate School District)

- 1993-1997 Assistant Professor of Science Education, Department of Teacher Education, College of Education and Division of Science and Mathematics Education, College of Natural Science, Michigan State University (joint appointment)  
Adjunct Assistant Professor, Department of Psychology
- 1995-1996 Fourth-grade science teacher, Wardcliff Elementary School, E. Lansing, MI
- 1992-1994 Tenth-grade biology teacher, Holt High School, Holt MI
- 1987- present Director, High School Honors Science-Mathematics-Engineering Program
- 1994-1997 Coordinator, Holt High School/MSU Science Project Group
- 1990-1993 Assistant Professor of Biology and Science Education, Lyman Briggs School, College of Natural Science, MSU  
Assistant Professor, Neuroscience Program, and Adjunct Assistant Professor , Dept. Psychology, MSU
- 1989-1990 Associate Program Director, Young Scholars Program, Division of Research Career Development, National Science Foundation, Washington, D.C. (On leave from Michigan State University)
- 1989-1990 Assistant Professor, Center for Integrative Studies in General Science and Neuroscience Program, and Adjunct Assistant Professor, Department of Psychology
- 1987-1989 Assistant Professor, Department of Natural Science and Neuroscience Program, and Adjunct Assistant Professor, Department of Psychology
- 1986-1987 Assistant Professor, Departments of Natural Science and Psychology and Neuroscience Program, Michigan State University
- 1984-1986 Research Assistant Professor, Department of Zoology and Neuroscience Program
- 1983-1984 Postdoctoral Research Associate, Department of Zoology, Michigan State University
- 1982 Research Assistant, Laboratory of Avian Behavior, University of Connecticut
- 1981-1982 Visiting Assistant Professor of Psychology, University of Hartford, West

Hartford, CT

- 1979-1981    Instructor of Psychology, University of Hartford , West Hartford, CT  
Visiting Assistant Professor of Psychology, Trinity College, Hartford, CT
- 1976-1979    Teaching/Laboratory Assistant, University of Connecticut
- 1973-1975    Teaching Assistant, Psychology Department, Franklin & Marshall College  
Research Assistant, Psychology Laboratories, Franklin & Marshall  
College

**RESEARCH PROJECTS (FUNDED)**

*Principal Investigator* with A. Calabrese-Barton, S. Gunnings-Moton. National Science Foundation, Robert B. Noyce Scholars Program. “Preparing tomorrow’s teachers” (2009-2011, \$600,000)

*Principal Investigator*. National Science Foundation, Teacher Professional Continuum. “Establishing and nurturing leadership and contexts for professional communities of inquiry into urban science teaching and learning”. (2002-2009, \$2.4 million)

*Principal Investigator* with C.W. Anderson. Michigan State University, College of Education. Support for Mentor Teacher Professional Development: Creating and Assessing Web-Based Plans Workshops” (2004; \$10,000)

*Principal Investigator* with C.W. Anderson, B. Neureither. Knowles Foundation. “Beginning development and program design in science teacher education”. (2001-2002; \$47,027)

*Principal Investigator*, Siemens Foundation. Scientific apprenticeships and learning communities for high school students. (2001-2005; \$40,000)

*Principal Investigator* with D. Gordin. National Science Foundation, National Aeronautics and Oceanic Administration, National Air and Space Administration. “Using scientific visualization to learn earth systems science” (1998-2002; \$500,000)

*Principal Investigator*, National Science Foundation, Young Scholars Program: "Proposal to support student research in the MSU High School Honors Science Program" (1995-1997; \$209,523)

*Co-Principal Investigator* with C. Rosaen, R. Stanulis, S. Wilcox, and J. Featherstone. U.S. Department of Education. “Developing educative assessments in a teacher preparation program” (1993-1995; \$60,000)

*Co-Principal Investigator*, with C. Suelter, P. Lowrie, E. Van Tassell. National Aeronautics and Space Administration. "The Science and Math Scholars Program " (1995-1999; \$50,000)

*Principal Investigator*, National Science Foundation, Young Scholars Program: "Proposal for a High School Honors Science Program" (1993-1995; \$191,000)

*Principal Investigator* with J. Striley. MSU Instructional Technology and Curriculum Development Grant: "Using Hypermedia to Capture and Represent a Science Teaching Knowledge Base for Prospective Precollege Teachers" (1993-1994; \$20,000)

*Principal Investigator* with J. Striley. W. K. Kellogg Foundation. "BioLog: Computer Technology for Educational Outreach" (1991-1993; \$14,979)

*Principal Investigator*. National Science Foundation, Young Scholars Program. "Proposal for a High School Honors Science Program" (1988-1991; \$75,000)

*Principal Investigator*, with T. Lopushinsky. W. K. Kellogg Foundation. "Development of upper-level course on bioethics of human reproduction," (1989-1990, \$10,000)

#### **OTHER GRANT-RELATED ACTIVITIES**

2008-present Senior consultant, Pre-STEP (Pre-service Teacher Education Program) Project (U.S. AID; \$1,677,009)

2003-2009 Leader, Science Team, Carnegie Corporation Teachers for a New Era Grant (Carnegie Corporation; \$5,500,000)

2003-2006 Leader, Secondary Science Design Team, "Teachers as Designers: A Problem-based approach to preparing teachers to use technology". C. Rosaen, Project Director. (U.S. Department of Education, PT3 Program; \$1,500,000)

2000-2003 Leader, Secondary Science Design Team. "Communities of Designers: A Comprehensive Project-Based Approach to Preparing Tomorrow's Teachers to Use Technology (PT3)." P. Mishra & Y. Zhao. U.S. Department of Education, PT3 Program. (2000-2003; \$60,000)

1999-2000 Leader, Science/Technology Writing Team, Project TIME: Technology Integrated into Meaningful learning Experiences

1998-2000 Core Development Group, Howard Hughes Medical Institute grant project (awarded to MSU College of Natural Science; Development of on-line modules for first-year undergraduate biology curriculum.)

1993-1994 Member, National Academic Design Team, Intelcom's *Project Discovery* (developing 6<sup>th</sup>-12<sup>th</sup> grade multimedia-based science modules)

#### **PROFESSIONAL WRITING**

**Papers/Book chapters in review or preparation**

Richmond, G. Leadership and Social Networking: What Community-Based Learning Can Teach Us About Organizational Support of Research and Policy Work in Equity and Diversity. Book chapter in preparation for Monograph: *Equity and Diversity Research in Science Education*, to be published by Springer Verlag.

Richmond, G., Parker, J., Gotwals, A., Kang, H., Sato, T., Lark, A., and Anderson, C. W. A framework for the study of how knowledge, identity and context shape core science teaching practices. Paper to be submitted to *Journal of Science Teacher Education*.

Richmond, G. and Manokore, V. Identifying elements critical for functional and sustainable professional learning communities to support urban science teaching. *Science Education*, in review.

Richmond, G., Parker, J., and Anderson, C.W. Using evidence from research to re-conceptualize and restructure undergraduate science and science teacher education Submitted book chapter.

Wilson, C., Parker, J., Anderson, C., Merritt, B., Richmond, G., Merrill, J. Undergraduate students' understanding of cellular respiration. To be submitted to *Journal of Research in Science Teaching*.

#### **Papers/Chapters in Peer-Reviewed Journals, Books, and Conference Proceedings**

Richmond, G., Merritt, B., Parker, J., Urban-Lurain, M. (2010). The development of a conceptual framework and tools to assess undergraduates' principled use of models in cellular biology. *Cell Biology Education: Life Sciences Education*, in press.

Richmond, G., Steele, M., and Juzwik, M. (2010). Trajectories of teacher identity development across contexts. *Teachers College Record*, in press.

Richmond, G. and Passmore, C. (2009). Science teacher transformation through collaborative inquiry: Evidence for the role of context, community, and identity. Paper in *Proceedings of Research on Supported Collaborative Teacher Inquiry Conference*, 26-28 May, University of Washington, Vancouver, Stevenson, WA.

Grindstaff, K. and Richmond, G. (2008). Learners' perceptions of the role of peers in a research experience: Implications for the apprenticeship process, scientific inquiry, and collaborative work. *Journal of Research in Science Teaching*, 45(2), 251-271.

Parker, J., Anderson, C., Merrill, J., Heidemann, M., Long, T., Merritt, B., Richmond, G., Sibley, D., Urban-Lurain, M., and Wilson, C. (2007). Where has all the carbon gone? A thought paper on frameworks for assessing biology understanding. *Proceedings of the Conceptual Assessment in Biology Conference*, Boulder, CO.

Wilson, C., Anderson, C., Heidemann, M., Merrill, J., Merritt, B., Sibley, D., Richmond, G., and Parker, J. (2006). Assessing students' ability to trace matter in dynamic systems in cell biology. *CBE Life Science Education*, 323-331.

Wilson, C.D., Anderson, C.W., Heidemann, M., Long, T., Merrill, J.E., Merritt, B.W., Richmond, G., Sibley, D.F., Urban-Lurain, M., & Parker, J.M. (2006). Tracing matter and energy through biological and geological systems: Fundamental problems of students' understanding. *ASA Conference Proceedings*. October 19 – 21, Washington, DC.

Richmond, G. (2000). Exploring the complexities of group work in science class: A cautionary tale of voice and equitable access to resources for learning. *Journal of Women and Minorities in Science and Engineering*, 6(4), 495-511.

Richmond, G. and Kurth, L. (1999). Moving from outside to inside: High school students' use of apprenticeships as vehicles for entering the culture and practice of science. *Journal of Research in Science Teaching*, 36(6), 677-697.

Richmond, G., Howes, E., Kurth, L., and Hazelwood, C. (1998). Connections and critique: Feminist pedagogy and science teacher education. *Journal of Research in Science Teaching*, 35(8), 897-918.

Richmond, G. (1998). Scientific apprenticeship and the role of public schools: General education of a better kind. *Journal of Research in Science Teaching*, 35(6), 583-587.

Richmond, G. and Neureither, B. (1998). Making a case for cases. *American Biology Teacher*, 60(5), 335-342.

Hazelwood, C., Howes, E., Lane, P., Markham, L., Richmond, G., Roth, K. (1998). A Call to Action: Critical theory in science education. *Journal of Research in Science Teaching*, 35(4), 340-346.

Richmond, G. (1996). University-school partnerships: Bridging the culture gap. *Theory Into Practice*, 35(3), 214-218. (This paper also was selected for inclusion in Dushkin/McGraw-Hill's Annual Editions: Education (Spring, 1997).)

Richmond, G. and Striley, J. (1996). Making meaning in classrooms: Social processes in small group discourse and scientific knowledge-building. *Journal of Research in Science Teaching*, 33(8), 839-858.

Richmond, G. and Striley, J. (1994). An integrated approach: Implementing a case study and team-teaching curriculum. *The Science Teacher*, 61(7), 442-445.

Richmond, G. and Sachs, B.D. (1994). Maternal discrimination of pup sex in rats. *Developmental Psychobiology*, 17(1), 87-89.

Richmond, G., Vener, A.M., and Krupka, L.R. (1991). Assessment of health knowledge in college women. *The American Biology Teacher*, 53(5), 265-271.

Richmond, G., Engelmann, M., Krupka, L. R. (1990). The animal research controversy. *The American Biology Teacher*, 52(8), 467-471.

Krupka, L.R., Vener, A.M., and Richmond, G. (1990). Tobacco advertising in gender-oriented popular magazines. *Journal of Drug Education*, 20 (1), 15-29.

Richmond, G. and Clemens, L. (1988) Brain control of sexual behavior. In Hobson, J.A. (Ed.) *States of Brain and Mind*. Cambridge, MA: Birkhauser Boston.

Richmond, G. and Clemens, L. (1988). Ventromedial hypothalamic lesions and cholinergic control of female sexual behavior in rate. *Physiology and Behavior*, 42(2), 179-182.

Richmond, G. and Clemens, L. (1987). Brain control of sexual behavior. In Adelman, G. (Ed.) *Encyclopedia of Neuroscience*. Cambridge, MA: Birkhauser Boston.

Richmond, G. and Clemens, L. (1986). Evidence for involvement of midbrain central gray in the cholinergic mediation of feminine sexual receptivity. *Behavioral Neuroscience*, 100, 376-380.

Richmond, G. and Clemens, L.G. (1986). Cholinergic mediation of feminine sexual receptivity: Demonstration of progesterone independence using a progestin receptor antagonist. *Brain Research*, 373(1-2), 159-163.

Richmond, G. and Sachs, B.D. (1984). Maternal discrimination of pup sex in rats. *Developmental Psychobiology*, 17, 87-90.

Richmond, G. and Sachs, B.D. (1984). Further evidence of masculinization of female rats by males located caudally *in utero*. *Hormones and Behavior*, 18(4), 484-490.

Richmond, G. and Clemens, L.G. (1983). Cholinergic facilitation of feminine sexual behavior: Evidence of an estrogen-dependent mechanism in the CNS (Abstract). *Neuroendocrinology Letters*, 5, 183.

Richmond, G. and Sachs, B.D. (1980). Grooming in Norway rats: The development and adult expression of a complex motor pattern. *Behaviour*, 75(1-2), 82-96.

### **REPRESENTATIVE PAPER PRESENTATIONS**

Richmond, G., Calabrese-Barton, A., and Ibourk, A. (2010, July). Using a wiki to support Noyce Scholar development and to serve as a research tool. Presentation and workshop presented at the annual Noyce Scholars Conference, Washington, DC.

Richmond, G., Parker, J., Gotwals, A., Kang, H., Sato, T., Lark, A., and Anderson, C. W. (2010, March). Improving science teacher preparation by studying how knowledge, identity and context affect teaching practices. Symposium and paper presented at annual conference of the National Association for Research in Science Teaching, Philadelphia.

Richmond, G. and Passmore, C. (2009, April). Exploring Pathways for Science Teacher Transformation: Evidence for the role of Context, Community, and Identity. Symposium presented at annual conference of the National Association for Research in Science Teaching, Garden Grove, CA.

Richmond, G. and Birmingham, D. (2009, April). Professional learning communities, teacher change, and student achievement. Paper presented at annual conference of the National Association for Research in Science Teaching, Garden Grove, CA.

Manokore, V. and Richmond, G. (2009, April). Challenges and opportunities associated with community-based Professional Development: A model for sustaining reform-based science teaching in urban settings. Paper presented at annual conference of the National Association for Research in Science Teaching, Garden Grove, CA.

Haudek, K., Moscarella, R., Urban-Lurain, M., Richmond, G., and Merrill, J. (2009, April). Using Lexical Analysis Software to Understand Student Knowledge Transfer between Chemistry and Biology Paper presented at annual conference of the National Association for Research in Science Teaching, Garden Grove, CA.

Richmond, G., Parker, J., Urban-Lurain, M., Merritt, B., and Merrill, J. (2008, March). Assessment-informed instructional design to support principled reasoning in college-level biology. Paper presented at annual conference of the National Association for Research in Science Teaching, Baltimore, MD.

Jin, H., and Richmond, G. (2008, March). An analytical and interpretive framework for examining social interactions in professional learning communities. Paper presented at the annual conference of the National Association for Research in Science Teaching, Baltimore, MD.

Moscarella, R. A., Urban-Lurain, M., Merritt, B., Long, T., Richmond, G., Merrill, J., Parker, J., Patterson, R., Wilson, C. (2008, March). Understanding undergraduate students' conceptions in science: Using lexical analysis software to analyze students' constructed responses in biology. Paper presented at the annual conference of the National Association for Research in Science Teaching, Baltimore, MD.

Richmond, G., Merritt, B., Urban-Lurain, M. (2006, April). Using educational technology & pedagogical innovation to promote undergraduates' understanding of science. Paper presented at the annual conference of the National Association for Research in Science Teaching, San Francisco, CA

Jang, S. and Richmond, G. (2006, April). The Influences of inquiry-based professional learning community on science teachers' scientific understanding, beliefs, and teaching practice. Paper presented at the annual conference of the National Association for Research in Science Teaching, San Francisco, CA,



Richmond, G., and Anderson, C.W. (2005, April). Professional Identity and Teacher Candidates' Instructional Decisions & Aspirations. National Association for Research in Science Teaching, Dallas, TX

Richmond, G. (2002, April). Does Apprenticeship Yield a Deeper Understanding of the Nature of Science? Paper presented at annual meeting of the National Association for Research in Science Teaching, New Orleans, LA.

Richmond, G. & Anderson, C. W. (2002, April). Designing a developmentally responsive curriculum to promote reform-minded, analytical practice: Presentation of a framework for secondary science teacher preparation. Interactive paper presented at annual meeting of the National Association for Research in Science Teaching, New Orleans, LA

Anderson, A., Ashmann, S., Gallagher, J , Olson, M., Richmond, G., (organized alphabetically). (2001, April). Methods for methods: Using science education research to develop communities of practice for teacher learning. Interactive symposium presented at annual meeting of the National Association for Research in Science Teaching, St. Louis, MO.

Richmond, G. (2001, February). Teaching and Professional Development: Moving from a stance on presentation style to a scholarly consideration of the role of student understanding. University of Chicago Department of Mathematics Colloquium Series.

Richmond, G. (2000, April). Apprenticeship and developing understanding of scientific knowledge and inquiry. Paper presented at annual meeting of the American Educational Research Association, New Orleans, LA.

Borrello, M. and Richmond, G. (2000, April). Comparison of Research-Based and Traditional Course Formats in Undergraduate Science Education. Paper presented at annual meeting of the National Association for Research in Science Teaching, New Orleans, LA

Richmond, G. (2000, April). Methods for Methods: Using Science Education Research to Develop Communities of Practice for Teacher Learning. Pre-conference workshop presented at the annual meeting of the National Association for Research in Science Teaching, New Orleans, LA.

Richmond, G. (1999, March). Communities as rich resources for development of apprentices' understanding of scientific work. Paper presented at annual meeting of the National Association for Research in Science Teaching, Boston, MA.

Richmond, G. & Kurth, L. (1998, April). High school students' use of apprenticeships as vehicles for entering the culture and practice of science. Paper presented at the annual meeting of the American Educational Research Association, San Diego, CA.

Richmond, G. & Kurth, L. (1998, April). "In order to understand, you have to experience": High school students' use of apprenticeships as vehicles for developing scientific identity. Symposium & Paper presented at annual meeting of the National Association for Research in Science Teaching, San Diego, CA.

Kurth, L. and Richmond, G. (1998, March). Case study of two students' use of the culture of science in the construction of scientific identity. Paper presented at the 19th annual Ethnography in Education Research Forum, Philadelphia, PA.

Kurth, L. and Richmond, G. (1997, March). Case study or thematic analysis of high school students' personal and social relationships with science in a summer residential program. Paper presented at the 18th annual Ethnography in Education Research Forum, Philadelphia, PA.

Richmond, G. and Kurth, L. (1997, March). How students in a scientific apprenticeship program use multiple communities as resources for conceptual growth. Paper presented at the annual meeting of the National Association for Research in Science Teaching, Chicago, IL

Barton, A., Cavazos, L., Hazelwood, C., Howes, E., Kurth, L., Lane, P., Osborne, M., Richmond, G., Roth, K. (1997, March). Making a Difference: Creating feminist activist agendas in science education research and teaching. (authors listed alphabetically). Paper presented at the annual meeting of the National Association for Research in Science Teaching, Chicago, IL.

Richmond, G. (1997, March). "Co-constructing collegiality": Using a feminist lens and discourse analysis to examine forces that act on the development of a research relationship. Paper presented at the annual meeting of the American Educational Research Association, Chicago, IL.

Hazelwood, C., Howes, E., Kurth, L., and Richmond, G. (1996, April). Connections and Context: Feminism and Science Teacher Education. Symposium/interactive session presented at the annual meeting of the National Association of Research in Science Teaching (NARST), St. Louis, MO. The authors are listed alphabetically. All contributed equally to the conceptualization and implementation of the project, the paper, and the presentation.

Richmond, G. and Kurth, L. (1996, March). Making sense of science: Development of students' ideas about the process and culture of science by participation in a summer research program. Paper presented at the annual meeting of the Michigan Academy of Science, Arts, and Letters, Alma, MI.

Kurth, L. and Richmond, G. (1996, March). Development of self-image through a laboratory and peer community among high school students in a summer science research program. Paper presented at annual meeting of the Michigan Academy of Science, Arts, and Letters. Alma, MI.

Richmond, G. (1995, April). Implications of feminist theory for research in teaching and learning. Interactive symposium accepted for presentation at annual meeting of American Educational Research Association (AERA), San Francisco. (Organizer, chair, and discussant of this session)

Richmond, G. and Striley, J. (1995, April). A closer look at conflicting expectations embedded in groupwork: Profiles of two students. Paper presented at the annual meeting of NARST, San Francisco.

Richmond, G. (1995, April). *Constructing context and meaning in science education research through autobiographical inquiry*. Paper presented in interactive symposium, Exploring the role of self in science and science education, at the annual meeting of NARST, San Francisco.

### **REPRESENTATIVE INVITED PRESENTATIONS**

2009 "Bridging the Gap: The need for diversity in STEM fields." American Association of Blacks in Engineering & Chrysler Foundation

"National and state responses to science teaching and learning challenges." MSU College of Education/Southwest China University Exchange Program.

2008 "The Art and Science of Conducting and Analyzing Clinical Interviews". Presentations at MSU College of Natural Science Center for Research on College Science Teaching and Learning. (16 & 23 October; with J. Parker)

2007 "Doing research, doing inquiry". Presentation made at Detroit Country Day School.

"Using scientist-educator partnerships and diagnostic assessments to develop new instructional models for postsecondary science education". Presentation at Western Michigan University (February).

2001 "Teaching and Professional Development: Moving from a stance on presentation style to a scholarly consideration of the role of student understanding". Invited paper, University of Chicago Department of Mathematics Colloquium Series. (February)

"Apprentices of the heart as well as the mind: How schools can promote identity and engagement with scientific work." Invited presentation & workshop, National Conference on Disciplinary Literacy, Institute for Learning, University of Pittsburgh. (October)

1997 "Why Girls Leave Math and Science" Wednesday Workshops: Wellness, Work and Family. Sponsored by Child/Family Resources, Healthy U Employee Assistance Program, and Women's Resource Center, MSU (April).

“Moving from outside to inside: Gender, race, social class and issues of identity and affiliation with scientific culture and practice among high school students.” Presentation at University of Illinois, Chicago, College of Education, and Center for Research on Women and Gender (October)

- 1996 "The challenges of developing school-university partnerships through professional development schools." Presentation at the annual meeting of the American Association of Colleges of Teacher Education (AACTE), Chicago, IL (February)  
"Life as a feminist teacher-scholar." Presented at MSU Women's Studies Forum on Feminism and Pedagogy (March)
- 1995 "Development of Educational Partnerships." Presented at National Education Association (NEA) Instructional Issues Conference, Minneapolis MN (June)  
"Program and Participant Evaluation and Assessment." Presented at the national Science Foundation's Young Scholars Program Conference, Washington, DC (May)

#### **REPRESENTATIVE CONSULTING AND ADVISING**

- 2008-present Science and Curriculum Consultant, MSU/Pakistan Pre-STEP Project
- 2007-present Advisory Committee, University of California, Davis NSF Teacher Professional Continuum project
- 2006-2007 Consultant, Plymouth-Canton School District: HS Biology Curriculum and Text Adoption Project
- 2005 External Reviewer, Draft NAEP 2009 Science Framework, National Assessment Governing Board
- 2002-2005 Outreach Alliance Board, Siemens Foundation
- 2004 Consultant, Adrian (MI) School District, Middle School Science Curriculum Re-design
- 2002-2004 Science Education Advisory Committee, Pfizer Foundation
- 1999-2002 Advisory Committee, University of Illinois, Chicago NSF Teacher Preparation Collaborative Grant
- 2001-2003 Consultant, Curriculum Re-Design, American School, London
- 2000-2001 Consultant, MSU Hearing Research Center
- 1996-1997 Advisory/Steering Committee, Science and Education Committee, Dean's Office, College of Natural Science, MSU

Advisory Council (elected), Women's Studies Program, MSU  
Advisory Committee, Institute for Research, College of Education, MSU

1995-1996 Consultant, The College Board: Development of study-based curriculum for secondary science

1994 Consultant, Addison-Wesley Publishers: development project for mid-level integrated science text

### **EDITORIAL BOARDS AND PROFESSIONAL SERVICE**

2010-present Editorial Board, *Journal of Research in Science Teaching*

2008-present Board of Reviewers, *Teaching and Teacher Education*

2007-2010 Member, JRST Outstanding Paper Award Committee

2004-present Board of Reviewers, *Science Education*

2003-2008 Director of Higher Education, Michigan Science Teachers Association  
Member, Executive Board, Michigan Science Teachers Association

2002-2005 Executive Board, National Association for Research in Science Teaching (NARST)  
Chair, Awards Committee, NARST  
Chair, Research Committee, NARST

1998-2001 Associate Editor, *Journal of Research in Science Teaching*

1997-2000 Member, JRST Outstanding Paper Award Committee

1997-1998 Editorial Board, *Journal of Research in Science Teaching*

1991-2007 Site Coordinator/State Executive Board, Michigan Science Olympiad

1991-1997 Director, Michigan Junior Academy of Sciences

1991-1995 Chair and Head, Science Education Section, Michigan Academy of Science, Arts, and Letters

### **REVIEWER**

*Behavioral Brain Research*

*Educational Evaluation and Policy Analysis*

*Equity and Excellence in Education*

*Journal of Research in Science Teaching*

*Journal of Science Teacher Education*

*Journal of Women and Minorities in Science Education*

*Science Education*

*Teaching and Teacher Education*

Teachers College Press

American Educational Research Association

Knowles Science Teaching Foundation

Michigan Department of Education

Michigan State University—Program for the Scholarship of Teaching and Learning, Office of Faculty and Organizational Development

National Association for Research in Science Teaching

National Science Foundation

U.S. Department of Education

### **PROFESSIONAL AFFILIATIONS**

American Association for the Advancement of Science

National Association for Research in Science Teaching

Michigan Science Teachers Association

### **TENURE AND PROMOTION REVIEWER :**

Lehman College, City University of New York

University of California, Davis

University of California, Santa Barbara

University of Kentucky

### **REPRESENTATIVE/CURRENT UNIVERSITY, COLLEGE AND DEPARTMENT SERVICE**

2010-present	Director, MSU WK Kellogg Foundation/Woodrow Wilson Teaching Fellowship Program Senior Research Consultant, Scholarship of Teaching and Learning Program, Office of Faculty and Organizational Development, Provost's Office, MSU
2009-present	Coordinator, J. Franklin Hyde Scholarship Award Program Steering Committee, Faculty Development Office Scholarship of Teaching and Learning Program, Michigan State University (MSU)
2009 - 2010	Lilly Teaching Fellow Mentor, Office of Faculty and Organizational Development, MSU Chairperson, elementary science and social studies faculty search committee, Dept. Teacher Education, MSU Member, Search committee, Agriscience education senior faculty, Dept. Community, Agriculture, Recreation, and Resource Studies Department, MSU Member, Teacher Preparation Program Task Force Member, Search committee, Science education faculty, Dept. of Teacher Education
2007-2009	Dept. Teacher Education Faculty Advisory Committee
2005-07; 2008-10	College of Education Faculty Advisory Committee

2006	Design/submission of Secondary Integrated Science (DI) certification program/curriculum (approved by state)
2006-2009	Comprehensive Examinations Committee, Dept. Teacher Education
1996-1997	Member, Search Committee, Dept. Chairperson, Department of Teacher Education
1995-1998	University Appeals Board Women's Advisory Committee to the Dean, College of Natural Science, MSU
1998-2000	Chairperson, Teacher Preparation Academic Program and Policy Committee, MSU (2 terms) Search committee, Educational technology faculty, Dept. Counseling, Educational Psychology, and Special Education, MSU
1997-1998	Teacher Preparation Academic Program and Policy Committee, MSU
1996-1998	Women's Studies Advisory Council (elected)
1997-1999	MSU Academic Orientation Program—workshop leader
1996-1998	Sigma Xi Awards Committee, MSU Chapter
1995-1997	Doctoral Academic Program and Policy Committee, MSU Curriculum Director, Kids College (MSU/Ingham ISD elementary science enrichment program)
1993-1997	J. Franklin Hyde Scholarship Committee
1994-1998	Leader, PDS Science Group, Holt High School
1992-1994	Member of PDS Science Group, Holt High School
1993-1995	Masters of Arts Academic Program and Policy Committee, MSU University Grievance Committee Development/delivery of workshops for MSU TA Orientation and International TA Orientation
1993-1995	MSU TA Handbook Committee

## **COURSES TAUGHT**

### *Undergraduate*

LBS 142*	Animal Reproduction
LBS 297E*	Writing in the sciences
LBS 490E*	Senior Seminar (Gender issues in science and mathematics)
BS 202:	Biological sciences for elementary education majors
LBS 297E	Gender and Science
ISB 206H*	Bioethics and Human Values (Honors)
LBS 490E:	Senior Seminar (Gender Issues in science and mathematics)
LBS 492	Senior Seminar: Gender, Race, and Science
NS 325	Biology and Ethics of Human Reproduction
NSC 800*	College Science Teaching
TE 401/407	Teaching Subject Matter to Diverse Learners I: Secondary Science
TE 402/408	Teaching Subject Matter to Diverse Learners II: Sec. Science
TE 490^	Undergraduate Independent Study
TE 501	Field instruction in secondary science I

TE 502	Field instruction in secondary science II
<i>Masters</i>	
TE 802	Reflection & Inquiry in Science Teaching Practice I*
TE 804	Reflection & Inquiry in Science Teaching Practice II*
TE 890^	Independent Study for master's students
TE 891A^	Gender, Race, and Ethnicity in Science and Science Education
TE 894*	Gifted and Talented Students: Learning Needs and Teaching Strategies
<i>Doctoral</i>	
TE955	Special Topics in Science Education Research*+
TE 990	Using Children's Literature to Address the Science Education Standards Teaching and learning science in urban contexts Political, social, and scientific issues surrounding the impact of standards science education standards
TE 991A^	Gender, Equity, and Diversity in Science and Science Education
TE991	Rethinking Teacher Preparation: The role of research in design, assessment, and sustainability (SS11)

\*indicates a new course I developed

^indicates existing course for which I developed new course content

+Developed new course content for three iterations of this course:

Teacher professional development programs: Design, assessment, and the response to contextual challenges; Development of learning progressions for elementary and secondary science teacher preparation; Supporting science teacher development: Global perspectives

### **DOCTORAL DISSERTATIONS (CHAIR AND/OR DIRECTOR)**

#### *Graduated*

- 2005 Mark Olson (Director, graduated Spring, 2005). *Interns' narrative and paradigmatic ways of knowing science*. Unpublished dissertation, Michigan State University, East Lansing, MI. Currently assistant professor at Oakland University, School of Education, Rochester, MI.
- 2007 Jeannine Stanaway, (Director, graduated Spring 2007). EdS degree, Dept. Teacher Education. Currently on faculty at Lansing Community College
- 2010 Kelly Grindstaff (Director, graduated Spring, 2007). *Determining discourses: Constraints & resources influencing early career science teachers*. Unpublished dissertation, Michigan State University, East Lansing, MI. Currently assistant professor, Skidmore College, Dept. of Education Studies, Saratoga Springs, N.Y.

#### *In progress*

Amy Lark, Dept. Teacher Education  
Samina Naseem, Dept. Teacher Education  
Takumi Sato, Dept. Teacher Education

### **DOCTORAL STUDENT COMMITTEES (OTHER THAN ADVISEES)**



*Graduated*

Angela Calabrese Barton, Dept. Teacher Education (PhD 1995)  
Elaine Oren (Howes), Dept. Teacher Education (PhD 1996)  
Becky Wai-Ling Packard , Dept. Counseling, Ed Psych & Special Education (PhD 1999)  
Phillip Bailey, Dept. Teacher Education (EdS 2000)  
Francisca Kidder, Dept. Teacher Education (EdS 2002)  
Julia Reynolds, Dept. Teacher Education (PhD 2005)  
Han Han Thi, Dept. Teacher Education (PhD 2008)  
Jeff Rozelle, Dept. Teacher Education (PhD 2009)  
Jin Hui, Dept. Teacher Education (PhD 2010)  
Min-Jung Bae, Dept. Counseling, Educ. Psych & Special Education (PhD 2010)

*In Progress*

Brett Merritt, Dept. Teacher Education  
Amal Ibourk, Dept. Teacher Education  
Erica Hamilton, Dept. Teacher Education  
Jennifer Niedzielski, Dept. Teacher Education

**AWARDS/RECOGNITIONS**

1992-3        Lilly Endowment Teaching Fellow  
1990         Outstanding Performance Award, National Science Foundation  
1989         Michigan State University Teacher-Scholar Award  
1980-1981    University of Connecticut Dissertation Research Award  
1979-1980    University of Connecticut Dissertation Fellowship  
1978-1979    N.I.H. Predoctoral Traineeship  
1976-1977    University of Connecticut Predoctoral Fellowship  
1975         Elected to Phi Beta Kappa (Theta Chapter of Pennsylvania)