

JOHN W. TILLOTSON

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ACADEMIC PREPARATION

Ph.D.

Science Education, December 1996
University of Iowa, Iowa City, Iowa
Dr. Robert E. Yager, Doctoral Advisor

Comprehensive areas: Science Education, Chemistry, and Statistics
Corroborative area: Educational Research Methodology

M.S.

Chemistry, August 1995
University of Iowa, Iowa City, Iowa

B.S.

Secondary Chemistry Education, May 1991
State University of New York at Cortland, Cortland, New York

Professional certification: New York State Teacher Certificate of Qualification in Chemistry and General Science (7-12)

LEADERSHIP/TEACHING EXPERIENCES

Associate Professor and Department Chair, Department of Science Teaching (College of Arts & Sciences), Syracuse University, July 2016-present

- Chair of the Department of Science Teaching responsible for leadership of faculty and students, program curriculum development, physical space allocations, and collaborations with STEM colleagues and departments across campus
- Representative on the Arts & Sciences Dean's Council of Department Chairs
- Director of the College Science Teaching Ph.D. Program
- Teach graduate/ undergraduate courses in both -12 and undergraduate science pedagogy, science curriculum, nature of science, assessment, and introductory physical science
- Responsible for budget management and program oversight for the Department of Science Teaching
- Serve as dissertation advisor for Ph.D. students and serve on dissertation committees

Dual Associate Professor of Science Education, Department of Science Teaching (College of Arts & Sciences) and the Teaching & Leadership Program (School of Education), Syracuse University, May 2002-June 2016

- Coordinator of the Syracuse University Adolescence (7-12 grade) Science Teacher Education Program
- Coordinator of the Teaching & Curriculum Ph.D. Program and the Science Education Ph.D. Program
- Director of Graduate Programs in Science Education
- Teach graduate/ undergraduate courses in science methods, science curriculum, nature of science, assessment, and physical science
- Past-Chair of the Secondary Education Program Group (SEPG)
- Serve as dissertation advisor for Ph.D. students and serve on dissertation committees

Research in Science Education Division Director/Board of Directors, National Science Teachers Association (NSTA), June 2014-May 2017

- Oversee the research in science education initiatives for this 50,000 member professional organization
- Participate in policy development and fiscal oversight for the organization
- Served as the NSTA Liaison to the National Association for Research in Science Teaching (NARST)
- Direct the Research Committee activities and collaborate with other NSTA Division Directors on joint initiatives

President, Association for Science Teacher Education (ASTE), January 2012- January 2013

- Provided organizational leadership and led policy development efforts for this 900 member organization
- Contributed to the development of the ASTE annual budget
- Served as the ASTE Liaison to the National Science Teachers Association (NSTA) Alliance of Affiliates
- Assisted with the creation of the annual ASTE Conference program and plenary speaker selection

Executive Director, National Association for Research in Science Teaching (NARST), August 1, 2001- April 30, 2007

- Responsible for annual budget preparation for the 1,800 member organization
- Orchestrated annual board meetings and national conferences
- Developed and enacted policy in consultation with the board of directors
- Carried out official communications for the organization

Dual Assistant Professor of Science Education, Department of Science Teaching and the Teaching & Leadership Program, Syracuse University, August 1996-2002

- Supervised middle and secondary science teachers during separate student teaching placements
- Advise 30-40 undergraduate and graduate students each semester
- Coordinate the Academy of Science Educators for the Professional Development School

Science Methods Instructor, University of Iowa, Science Education Center, 1993-1996

- Taught Secondary Science Methods I course as the lead instructor in a weekly seminar with an accompanying practicum component
- Assisted with Secondary Science Methods II as a Ph.D. intern

Field Experience Supervisor, University of Iowa, Science Education Center, 1994-1996

- Supervised up to fifteen science methods students during their field-based practicum teaching in elementary, middle, and secondary school classrooms

Adjunct Chemistry Instructor, Cornell College, Mt. Vernon, Iowa, 1993-1996

- Instructed undergraduate students in general chemistry laboratory course and the accompanying pre-lab discussion
- Assisted in revising chemistry laboratory curriculum to reflect an inquiry-based approach

Adjunct Chemistry Professor-Distance Learning Program, Kirkwood Community College, Cedar Rapids, Iowa, 1992-1995

- Taught introductory chemistry in a distance education setting utilizing two-way, interactive videoconferencing technology broadcasting to ten sites simultaneously
- Developed science activities and curriculum materials to facilitate student learning in a distance education environment for high school and community college chemistry students

Adjunct Chemistry Professor-Guided Self-Study Program, Kirkwood Community College, Cedar Rapids, Iowa, 1992-1996

- Evaluated work of students taking introductory chemistry through correspondence study
- Provided assistance to students via telephone, e-mail, written communications, and in-person help sessions

Teaching Assistant, University of Iowa, Department of Chemistry, 1991-1992 and 1994-1995

- Instructed students in general chemistry lab for four semesters
- Received the University of Iowa Outstanding TA Award for excellence in teaching undergraduates

Teacher, Marathon Central School, Marathon, New York, 1991

- Hired as a permanent, long-term substitute to replace a teacher on leave
- Taught eighth grade mathematics, junior high technology, and high school consumer mathematics

Substitute Science Teacher, Cortland Junior-Senior High School, Cortland, New York, 1991

- Served as a substitute teacher in each of the science subject areas at both the junior high and high school levels

Chemistry Student Teacher, Cortland Junior-Senior High School, Cortland, New York, 1991

- Taught three sections of regents chemistry to 11th and 12th grade students
- Taught two sections of non-regents chemistry using the *ChemCom* curriculum materials

Chemistry Practicum Teacher, Moravia Central School, Moravia, New York, 1990

- Observed and taught regents chemistry lessons to 11th and 12th grade students as part of required field practicum assignment

Science Teacher Intern, Marathon Central School, Marathon, New York, 1989

- Initiated a cooperative internship experience through SUNY Cortland with a high school chemistry and physics teacher
- Observed and taught both regents chemistry and regents physics lessons

COURSES TAUGHT AT SYRACUSE UNIVERSITY

- ❖ SCE 718 Curriculum Problems in Science
- ❖ SCE 789 Seminar in Science Education Research
- ❖ SCE 413/613 Methods and Curriculum in Teaching Science
- ❖ SCE 600 Selected Topics: Current Research Literature in Science Education
- ❖ SED 415/615 Teacher Development- Science
- ❖ SCE 616 Assessment and Data-Driven Instruction
- ❖ SCE 737 Methods and Materials in Teaching Physical Science
- ❖ PHY 399 Practicum and Seminar in Physics Education
- ❖ CAS 101 First-Year Forum
- ❖ SED 340/640 Participation in the Professional Development School- Science
- ❖ SCE 614 The Nature of Science in Science Education
- ❖ EDU 508 Standard/Candidacy Student Teaching- Science
- ❖ SCI 544 Teaching College Science
- ❖ SCI 105 Quests & Questions: Physical Science Phenomena II

VISITING SCHOLARS HOSTED

- **Dr. Devrim Guven**, Bogazici University, Istanbul Turkey, August 2014-August 2015
- **Dr. Ozge Aydin**, Dumlupinar University, Kutahya, Turkey. February 2015- May 2015

GRANT EXPERIENCE

Awarded/Pending Grant Projects

National Science Foundation Grant, \$999,976 Grant Award #1644148, October 1, 2016—September 30, 2019). “The Strategic Undergraduate STEM Talent Acceleration Initiative (SUSTAIN).” Principal Investigator on this grant project along with Co-PIs Dr. Jason Wiles, Department of Biology, Syracuse University; Dr. Karin Ruhlandt, Dean of Arts & Sciences, Syracuse University; and Dr. Kandace Salomone, Associate Dean of Arts & Sciences, Syracuse University. This proposal was submitted to the NSF S-STEM competition and provide scholarships and robust professional development programming for thirty talented STEM majors who are low-income, high-achieving freshman and sophomores at Syracuse University. The research component will explore the socialization experiences of undergraduate students within the STEM culture as well as examine changes in the pedagogical beliefs and practices of undergraduate STEM faculty as a result of participation in integrated professional development experiences.

Higher Education Development (HED) Africa-U.S. Higher Education Initiative Planning Grant, \$50,000 (October 1, 2009 – September 30, 2010). “Syracuse University and Kenyatta University- Building Capacity Through Quality Teacher Preparation.” Co-Principal Investigator on this grant project along with Drs. Joanna Masingila (PI), and Co-PIs Agnes Gathumbi, Penina Kamina, Moses Ochanji, Patrick Kimani, Jerry Mager, Joe Shedd, and Zaline Roy-Campbell. This project involves developing a collaborative research agenda shared across the two universities focused on improving the quality of teacher education programs at both institutions.

National Science Foundation Grant, \$900,000 (Grant Award #0934841, June 1, 2009 – May 31, 2014). “The Syracuse University Noyce Scholars Program for Science and Mathematics Teachers (SU-Noyce).” Principal Investigator on this grant project along with Co-PIs Drs. Joanna Masingila, Eileen Stempel, Jason Wiles, and Sharon Dotger, Syracuse University. This highly competitive National Science Foundation grant will allow Syracuse University to place STEM Education graduates in rural and urban schools where there is a critical shortage of highly qualified science and mathematics teachers and provide summer internships for talented STEM undergraduates to assist with K-12 science and mathematics enrichment programs.

- National Science Foundation Grant, \$2,484,400 (Grant Award # 0455819, July 1, 2005- June 30, 2010). "Investigating the Meaningfulness of Preservice Programs Across the Continuum of Teaching (IMPPACT) in Science Education."**
Principal Investigator on this grant project along with Co-PI Dr. Scott Samson, Department of Earth Sciences, Syracuse University. This project was funded through the NSF- Teacher Professional Continuum (Category I- Research) competition. The research study involves three major research universities studying the impact of science teacher education programs on science teachers' beliefs and classroom practices at various stages of their professional careers.
- National Science Foundation Grant, \$127,201 (September 2004-August 2007). "Incorporation of Modern NMR Spectroscopy into the Chemistry Curriculum of a Four-year Undergraduate Institution."** Lead project evaluator on this grant proposal along with Drs. M. Hoffman (PI), and Co-PIs M. Heitz, and M. Logan from SUNY Brockport. This CCLI National Science Foundation grant was designed to integrate NMR technology in undergraduate chemistry courses at SUNY Brockport.
- Goals 2000 Pre-Service Grant, \$144,010 (NYSED Grant # 0275-01-7008), (September 1, 2000- December 31, 2001). "Upstate High Needs Rural Schools Consortium."** Principal Investigator. This project involved fourteen high-needs rural school districts in NYS, Syracuse University, Cornell University- Rural Schools Program, and the NYS Dept. of Education. Provided stipends for Syracuse University preservice science teachers and doctoral students to investigate the characteristics of effective science education programs, as well as the impact of the new MST Standards, on high-needs rural school districts in New York State. Conducted professional development workshops for inservice science teachers from high-needs rural schools across New York State to promote inquiry-based science instruction. Utilized videoconferencing technology (live, two-way audio and video) in both the delivery of professional development training and the research data collection efforts.
- Preparing Tomorrow's Teachers to Use Technology Grant, \$1,400,000 (OERI Grant), (June 1, 2000- August 31, 2003). "Content in Action Through Technology for Tomorrow's Teachers."** Project Co-Director along with Dr. Pat Tinto and Co-Principal Investigators Dr. Steven Bossert and Dr. Joseph Shedd, Syracuse University School of Education. Project supported technology integration into our teacher education programs and to prepare future teachers with the necessary technology skills to be effective K-12 educators.
- Goals 2000 Pre-Service Grant, \$163,865 (NYSED Grant # 0277-00-0020), (July 1, 1999- August 31, 2000). "Upstate High Needs Rural Schools Consortium."** Principal Investigator. Project involved five rural schools in NYS, Syracuse University, Cornell University- Rural Schools Program, and the NYS Dept. of Education. The goal of this grant project was to assist rural science teachers in realigning their science curricula to meet the NYS MST Standards. Syracuse University preservice science teachers worked as interns in each of the five rural school districts assisting with all phases of the project. An action research model was used to study the process of teacher change.
- Camille and Henry Dreyfus Foundation Grant, \$46,737 (December 1998-June 2000). "A Collaborative Learning Approach: Undergraduate Structure Determination and Computational Analysis."** Co-Principal Investigator with Dr. Karin Ruhlandt-Senge, Department of Chemistry, Syracuse University, and Drs. R. Planalp, E. Wong, and E. Abrams, University of New Hampshire.
Project evaluator for the educational component of the grant linking Syracuse University students with peers at the University of New Hampshire in collaborative chemistry research. Responsible for creating and conducting the research plan, data collection, data analysis, and reporting phases of the project. Investigated the impact of the project on students' understanding of the nature of science.
- Teacher Education Alliance of the Iowa Distance Education Alliance Grant, \$500 (July 1993 – September 1994). "A Study of How Teaching Via the Iowa Communications Network Impacts the Pedagogical Practices and Technological Concerns of Science Teachers Participating in the I.D.E.A. Star Schools Project."** Co-Principal Investigator along with Laura Henriques. This research project explored how using two-way videoconferencing technology as a delivery mechanism impacted science teachers' beliefs and classroom practices, as well as their technological self-efficacy.
- Grants Proposals Not Funded**
- National Science Foundation Grant, \$799,135 (not funded). "Investigating the Meaningfulness of Preservice Programs Across the Continuum of Teaching (IMPPACT) in New York State (IMPPACT-NYS)." Principal Investigator on this grant proposal along with Co-PI Dr. Jason Wiles, Department of Biology, Syracuse University. Submitted August 2015.
- National Science Foundation, \$522,652 (not funded). "GSE/RES: Assessing the Impact of Socialization, Programmatic Influences, and Research Experiences on the Career Aspirations of STEM Doctoral Students (ASPIRE).

Principal Investigator along with Drs. Shobha Bhatia, Department of Civil Engineering, and Katharine Lewis, Department of Biology, at Syracuse University. Submitted February 2012.

National Science Foundation, \$597,165 (not funded). "STIMULATE II Science Training Immersive Modules for University Learning Around Teacher Education." Co-Principal Investigator along with Drs. Len Annetta (PI) and James Minogue (Co-PI) at North Carolina State University and Kent Crippen (Co-PI) at University of Nevada-Las Vegas. Submitted February 2010

Howard Hughes Medical Institute (HHMI)-Undergraduate Science Education Initiative, \$2,192,927 (not funded). "Laboratory for Integrated Learning in the Sciences (LILS) Project." Co-Principal Investigator on this grant proposal along with Drs. James Spencer (PI), Jason Wiles (Co-PI), Roy Welch (Co-PI), Martin Forstner (Co-PI), and Liviu Movileanu (Co-PI), Syracuse University College of Arts & Sciences. Submitted March 2010.

National Science Foundation, \$848,790 (not funded), "Enhancing Readiness and Imagination in a Digital Era (eRIDE). Co-Principal Investigator along with Dr. Jing Lei (PI). Submitted November 2008.

National Science Foundation, \$25,000,000 (not funded), "Center for Forecasting Change in Societal Threats." Co-Principal Investigator along with Drs. Margaret Hermann (PI), Pramod Varshney (Co-PI), Philip Schrodtt (Co-PI), and Gustavo Roig (Co-PI). Submitted October 2008.

National Science Foundation, \$3,000,000 (not funded), "GK-12 Why Matter Matters: Bringing Underserved Populations to the Molecular Sciences in Secondary Schools." Co-Principal Investigator along with Drs. Jon Zubieta (PI), Jorge Outeirino (Co-PI), Karin Ruhlandt-Senge (Co-PI), and Mark Braiman (Co-PI). Submitted July 2008.

United States Department of Education, Institute for Education Sciences, \$3,000,000, (not funded)
"Enhanced Technology Integration Support for K-8 Educators of Math and Science (ENTISE)"
Co-Principal Investigator along with Dr. Tiffany Koszalka (PI). Submitted May 2007.

National Science Foundation, (not funded) "PIRE: Investigating the Development of Case-based Reasoning in Beginning Secondary Mathematics and Science Teachers in the U.S. and Kenya Through the Use of Multi-Media Case Studies." Co-Principal Investigator along with Joanna Masingila (PI), Moses Ochanji, and Mutindi Ndunda (Co-PIs). Submitted December 2006.

National Science Foundation, \$669,385, (not funded) "Advancing Talent through Activities in Science (ATTRACTS): A Community-based Approach to Advancing Science Learning for 7th and 8th Graders." Co-Principal Investigator along with Lena Kochian (PI) and Daniel Lowengard, Larry Leatherman, Martha Garcia-Murillo (Co-PIs). Submitted June 2006.

National Science Foundation Grant, \$485,901 (not funded) "Tracking Success Strategies of Women Engineering Faculty: A Study in Persistence." Principal Investigator with Dr. Shobha Bhatia. Submitted November 2005.

Howard Hughes Medical Institute Undergraduate Science Education Grant, \$2,000,000 (not funded). "Improving Access to the Life Sciences." Co-Principal Investigator along with Drs. John Russell, Don Torrence, Eric Schiff, Laurel Carney, Larry Wolf, and Kandace Salomone. Submitted October 2005.

National Science Foundation Grant, \$375,878 (not funded) "Wastewater Treatment Bimolecular Database Project." Co-Principal Investigator with Drs. Christine Kelly, Curtis Lajoie, and Barbara Shelly. Submitted October 2002.

National Science Foundation Grant, \$761,979 (not funded) "New Door: Accelerated Mathematics and Science Teacher Preparation Project." Co-Principal Investigator with Drs. Joe Shedd, and Joanna Masingila. Submitted May 2002.

National Science Foundation Grant, \$880,552 (not funded) "DEM-Learning Through Enrichment and Academic Development in Syracuse." Project consultant with Drs. S. Bhatia, J. Duah-Agyeman, E. Gilligan, & L. Alvut. Submitted March 2002.

New York State Education Department, Targeted Instructional Staff Development Grant, \$286,148 (not funded) "The Southern Onondaga/Cortland County Small Schools Collaborative." Co-Principal Investigator with Dr. Laura Payne-Bourcy, Syracuse University Office of Professional Development. Submitted September 2000.

National Science Foundation-Research on Learning Environments Planning Grant, \$1,500,000 (not funded) "Transition to Increasingly Complex Science and Mathematics Learning." Dr. J. Michael Spector, Principal Investigator. I was to serve as the Project Coordinator in charge of the research team and K-12 school partnerships. Submitted June 2000.

RESEARCH EXPERIENCE

Research Co-Investigator, *"Understanding the Impact of Socioscientific Issues on Pre-service Science Teacher Development"*

- Conducted a year-long investigation in partnership with Dr. Devrim Guven, Bogazici University- Turkey, of pre-service science teachers who participated in a series of professional development modules that specifically engaged them in learning about socioscientific issues
- Used repeated cycles of qualitative interviews, multiple classroom videotaped lessons, and a delayed focus-group interview to examine how these pre-service science teachers' beliefs about pedagogy, curriculum and assessment were influenced as a result of their efforts to design, teach and evaluate SSI lessons during their secondary science field placement

Research Investigator, *"The Rookies: A Case Study of Three First-Year Science Teachers in a High-Needs Rural School."*

- Conducted a year-long case study of three novice science teachers who were all completing their first year of teaching in a high-needs rural school located in a small community in the northeast U.S.
- Used qualitative interviewing techniques, extended classroom videotaping, lesson study sessions, and student work sampling to identify how their sense of efficacy and professional identity evolved

Principal Investigator, *"Investigating the Meaningfulness of Preservice Programs Across the Continuum of Teaching in Science Education (IMPPACT Project)"*

- A multi-university, longitudinal research study examining the impact of key interventions within pre-service science teachers education programs on science teachers' beliefs and classroom practices across key stages of the career continuum
- Sample of 150 teachers across three major research universities representing different geographic regions of the U.S. spread across four separate experience cohorts: 1) those entering teacher education; 2) those in the candidacy stage of student teaching; 3) induction science teachers in their first 1-2 years of their career; and 4) post-induction teachers in years with 5 or more years of teaching experience

Principal Investigator, *"A Longitudinal Study of Science Teacher Education Graduates."*

- Study aimed at studying changes in science teachers' knowledge and skills from their preservice program into their first years of inservice teaching
- Sample of 30 science teacher graduates from 1997-present from a major northeastern university who are in their first 1-5 years of grade secondary teaching

Principal Investigator, *Salish II Project: Investigating the Impact of a State-mandated Regents Science Curriculum on Teachers' Beliefs and Pedagogical Decision-making*, Syracuse University, Department of Science Teaching, 1996-1998.

- Designed an investigation involving preservice science education students, their cooperating teachers, and school administrators
- Conducted surveys, interviews, focus groups, and stimulated recall sessions to explore the influence of the Regents science curriculum on teaching beliefs and behaviors
- Studied the impact of the Regents system on the manner in which cooperating teachers mentor student teachers

Research Associate, *Salish I Research Project*, University of Iowa, Science Education Center, 1993-1996

- Directed the data collection, data management, and data analysis efforts for a project involving sixteen new science teachers and approximately 1400 grade 7-12 students
- Assisted in drafting the Salish research design plan and the Salish teacher and student instrumentation packages

Research Assistant, *Scope, Sequence, & Coordination Project*, University of Iowa, Science Education Center, 1992-1993

- Involved with assessment component of this teacher enhancement project developing authentic assessment strategies for use in science classrooms
- Carried out survey research regarding various aspects of the project that went into the *Iowa SS&C Assessment Report 1990-1993*
- Assisted in coordinating the SS&C Summer Leadership Conferences held for project participants

Chemistry Laboratory Technician, University of Iowa, Department of Chemistry, Summer 1994 and 1995

- Performed laboratory procedures related to the isolation of purified lactoperoxidase enzyme from raw cow's milk, and thyroid peroxidase from pig thyroid tissue
- Utilized techniques of dialysis and column chromatography during procedure
- Analyzed degree of purification of enzyme using Ultraviolet/Visible spectrometry

Research Investigator, *Postmodernism and Science Education Study*, University of Iowa, Science Education Center, 1995

- Carried out a qualitative study examining the beliefs held by practicing scientists and science educators concerning issues of multiculturalism, feminism, and gender equity as they pertain to the field of science

Research Assistant, *Star Schools Project*, University of Iowa, Science Education Center, 1993

- Involved in the planning and implementation of a science curriculum institute for ninety-nine Iowa teachers preparing to teach distance education science courses
- Conducted a pre and post-institute assessment of the effectiveness of the workshop

Co-Principal Investigator, *Distance Education Research Grant*, University of Iowa, Science Education Center, 1993-1994

- Co-authored a grant to receive funding for a study involving distance education science teachers
- Examined effects of distance education training, comparisons of distance science teaching to traditional teaching, and teachers' perceptions of the overall viability of distance education technology as a means of delivering science instruction

Research Investigator, *Perceptions of School Safety Study*, University of Iowa, Science Education Center, 1994

- Conducted a qualitative case study of the varying perceptions of school safety from the perspective of students, parents, teachers, and administrators within a single school community
- Final report of the study requested by Iowa Governor's office to inform policy initiatives in Iowa

PUBLICATIONS

Book Chapters

Yore, L., Henriques, L., Crawford, B., Smith, L., Zwiep, S., Tillotson, J.W. (2008) Selecting and using inquiry approaches to teach science in elementary, middle and secondary schools. In E. Abrams, S. Southerland, & P. Silva (Eds.) Inquiry in the Classroom: Realities and Opportunities. Greenwich, CT: Information Age Publishing.

Tillotson, J.W., Ochanji, M.K., & Diana, T. (2004). Reflecting on the game: Action research in science education. In J. Weld (Ed.) The Game of Science Education. Boston, MA: Allyn & Bacon.

Tillotson, J.W., & Kluth, P. (2003). Auto mechanics in the physics lab: Science education for all. In P. Kluth, D. Straut, & D. Biklen (Eds.). Access to Academics. New Jersey: Lawrence Erlbaum.

Reports

Young, M.J., & Tillotson, J.W. (2008, June). Negotiating a path to the professoriate: A study of mechanical engineers. Proceedings of the Annual American Society for Engineering Education (ASEE) Conference, Pittsburgh, PA.

Tillotson, J.W., & Olmstead, S. (1998). Investigating the impact of a state-mandated science curriculum on teachers' beliefs and decision-making. In J.B. Robinson, & R.E. Yager (Eds.) Translating and Using Research for Improving Teacher Education in Science and Mathematics, p. 83-89. Chautauqua ISTEP Research Project, OERI, US Department of Education.

Refereed Articles

Gardner, M., Tillotson, J.W., Abrams, N., McGee, G., & Hogan, E. (in review). Integrated knowledge-based laboratory transforms first-year biology and chemistry experiences. Journal of College Science Teaching.

Barry, D., & Tillotson, J.W. (revise and resubmit). "Mentoring future university scientists: The role of socialization in the development of a professional identity." Electronic Journal of Science Education.

Tillotson, J.W., & Dolphin, G.R. (in review). "The rookies: A case study of three first-year science teachers in a rural school." Journal of Science Teacher Education.

Dolphin, G. R., & Tillotson, J. W. (2015). "Uncentering" teacher beliefs: The expressed epistemologies of secondary science teachers and how they relate to teacher practice. International Journal of Environmental and Science Education, 10(1), 21-38. doi: 10.12973/ijese.2015.228a

Tillotson, J.W., & Young, M.J. (2013). The IMPACT Project: A model for studying how pre-service program experiences influence science teachers' beliefs and practices. International Journal of Education in Mathematics, Science and Technology, 1(3), 148-162.

- Dilworth, P., Donaldson, A., George, M., Knezak, D., Searson, M., Starkweather, K., Strutchens, M., Tillotson, J., & Robinson, S. (2012). Editorial: Preparing teachers for tomorrow's technologies. Contemporary Issues in Technology and Teacher Education, *12*(1), 1-5.
- Dilworth, P., Donaldson, A., George, M., Knezak, D., Searson, M., Starkweather, K., Strutchens, M., Tillotson, J., & Robinson, S. (2012). A framework for instructional innovation in the preparation of tomorrow's teachers." Journal of Digital Learning in Teacher Education, *28*(4), 130-132.
- Dotger, S., Dotger, B., & Tillotson, J.W. (2010). Examining how pre-service science teachers navigate simulated parent-teacher conversations on evolution and intelligent design. Science Education, *94*, 552-570.
- Preczewski, P.J., Mittler, A., & Tillotson, J.W. (2009, July). Perspectives of German and US students as they make meaning of science in their everyday lives. International Journal of Environmental & Science Education, *4*(3), 247-258.
- Udermann, B., Spratt, K. Donelson, R., Mayer, J., Graves, J., & Tillotson, J.W. (2004). Can a patient educational book change behavior and reduce pain in chronic low back pain patients? Spine, *4*, 425-435.
- Tillotson, J.W. (2000). Studying the game: Action research in science education. The Clearing House, *74*(1), 31-34.
- Simmons, P.E., Emory, A., Carter, T, Coker, T, Finnegan, B., Crocket, D., Richardson, L., Yager, R., Craven, J, Tillotson, J.W., Brunkhorst, H., Twiest, M., et al. (1999). Beginning teachers: Beliefs and actions. Journal of Research in Science Teaching, *36*(8), 930-954.
- Monhardt, R.M., Tillotson, J.W., & Veronesi, P. (1999). Same destination, different journeys: A comparison of male and female views on becoming and being a scientist. International Journal of Science Education, *21*(5), 533-551.
- Colburn, A., & Tillotson, J.W. (1998). A case study for use in science methods courses. Journal of Science Teacher Education, *9*(2), 153-164.
- Yager, R.E., Dunkhase, J., Tillotson, J.W., & Glass, L.W. (1995). Science-technology reform via distance education technology. Tech Trends, *40*(5), 19-22.
- Adams, P.E., & Tillotson, J.W. (1995). Why research in the service of science teacher preparation is needed. Journal of Research in Science Teaching, *32*(5), 441-443.
- Monhardt, B., Tillotson, J.W., & Veronesi, P.D. (1995). Safe by definition. The American School Board Journal, *182* (2), 32-34.
- Tillotson, J.W., & Henriques, L. (1994). Teaching science at a distance: The teacher's perspective. In M.R. Simonson, C. Schlosser, & M. Anderson (Eds.), Encyclopedia of Distance Education Research in Iowa, pp. 167-175. Ames, IA: Iowa State University, Teacher Education Alliance of the Iowa Distance Education Alliance.

Manuscripts in-progress

- Guyen, D., & Tillotson, J.W. (in preparation). Exploring preservice science teachers' socio-scientific issues based teaching practices: A multi-case study. Manuscript in preparation for the Journal of Science Teacher Education.
- Tillotson, J.W., Burgess, T., Dunk, R., Dunston, T., Fantacone, D., Gardner, M., Karam, L., McGovern, K., & Serna, G. (in preparation). Examining undergraduate STEM instructors' perceptions of their roles and responsibilities as teachers. Manuscript in preparation for the Journal of College Science Teaching.
- Tillotson, J.W., & Aydin, O. (in preparation). Assessing the influence of secondary science teachers' background characteristics and pre-service experiences on teacher development. Manuscript in preparation for the International Journal of Education in Mathematics, Science and Technology.
- Tillotson, J.W., Barry, D., & Young, M.J. (in preparation). Science teachers' beliefs about reformed teaching and learning: A quantitative analysis using the BARSTL questionnaire. Manuscript in preparation for the Journal of Science Teacher Education.

- Barry, D., Young, M.J., & Tillotson, J.W. (in preparation). The validation of the BARSTL questionnaire for use with secondary science teachers. Manuscript in preparation for the Journal of Science Teacher Education.
- Tillotson, J.W., Barry, D., & Young, M.J. (in preparation). They're sitting together, so they must be learning: Secondary science teachers' beliefs about teaching and learning. Manuscript in preparation for Action in Teacher Education.
- Tillotson, J.W., Dolphin, G.R., & Young, M.J. (in preparation). A tale of three universities: How preservice science teachers experience different teacher education programs during the development of their beginning repertoire. Manuscript in preparation for the Journal of Science Teacher Education.
- Jetty, L., Tillotson, J.W., & Young, M.J. (in preparation). Visions of good science teaching: The influence of pre-service program experiences. Manuscript in preparation for the Journal of Research in Science Teaching.
- Tillotson, J.W., Jetty, L., & Young, M.J. (in preparation). External factors that influence secondary science teachers' practice." Manuscript in preparation for Science Education.
- Tillotson, J.W., Young, M.J., & Yager, R.E. (in preparation). Essential features of exemplary pre-service science teacher education programs. Manuscript being prepared for submission to the Journal of Science Teacher Education.

Published Curriculum Materials

The following are curriculum review workbooks in which I co-authored the physical science chapters with L. Henriques. These review books were developed to match the newly revised standards and assessments for each state identified.

- Yore, L.D., Clough, M.C., Craven, J.A., Enger, S.K., Henriques, L., Hogan, T., Monhardt, L., Monhardt, R., Ollerenshaw, J., Tillotson, J.W., & Veronesi, P. (2003). Blast off! on Florida science (Grade 5). Iowa City, IA: Buckle Down Publishing Company.
- Yore, L.D., Clough, M.C., Craven, J.A., Enger, S.K., Henriques, L., Hogan, T., Monhardt, L., Monhardt, R., Ollerenshaw, J., Tillotson, J.W., & Veronesi, P. (2003). Blast off! on Illinois science (Grade 5). Iowa City, IA: Buckle Down Publishing Company.
- Yore, L.D., Clough, M.C., Craven, J.A., Enger, S.K., Henriques, L., Hogan, T., Monhardt, L., Monhardt, R., Ollerenshaw, J., Tillotson, J.W., & Veronesi, P. (2003). Sharpen up! on Florida science (Grade 8). Iowa City, IA: Buckle Down Publishing Company.
- Yore, L.D., Clough, M.C., Craven, J.A., Enger, S.K., Henriques, L., Hogan, T., Monhardt, L., Monhardt, R., Ollerenshaw, J., Tillotson, J.W., & Veronesi, P. (2003). Sharpen up! on Florida science (Grade 8). Iowa City, IA: Buckle Down Publishing Company.
- Yore, L.D., Clough, M.C., Craven, J.A., Enger, S.K., Henriques, L., Hogan, T., Monhardt, L., Monhardt, R., Ollerenshaw, J., Tillotson, J.W., & Veronesi, P. (2003). Buckle down! on Florida science (Grade 10). Iowa City, IA: Buckle Down Publishing Company.
- Yore, L.D., Clough, M.C., Craven, J.A., Enger, S.K., Henriques, L., Hogan, T., Monhardt, L., Monhardt, R., Ollerenshaw, J., Tillotson, J.W., & Veronesi, P. (2002). Blast off! on Massachusetts science (Grade 5). Iowa City, IA: Buckle Down Publishing Company.
- Yore, L.D., Clough, M.C., Craven, J.A., Enger, S.K., Henriques, L., Hogan, T., Monhardt, L., Monhardt, R., Ollerenshaw, J., Tillotson, J.W., & Veronesi, P. (2002). Sharpen up! on Massachusetts science (Grade 8, 2nd Ed). Iowa City, IA: Buckle Down Publishing Company.
- Yore, L.D., Clough, M.C., Craven, J.A., Enger, S.K., Henriques, L., Hogan, T., Monhardt, L., Monhardt, R., Ollerenshaw, J., Tillotson, J.W., & Veronesi, P. (2002). Blast off! on Wisconsin science (Grade 4). Iowa City, IA: Buckle Down Publishing Company.
- Yore, L.D., Clough, M.C., Craven, J.A., Enger, S.K., Henriques, L., Hogan, T., Monhardt, L., Monhardt, R., Ollerenshaw, J., Tillotson, J.W., & Veronesi, P. (2002). Sharpen up! on Wisconsin science (Grade 8). Iowa City, IA: Buckle Down Publishing Company.

- Yore, L.D., Clough, M.C., Craven, J.A., Enger, S.K., Henriques, L., Hogan, T., Monhardt, L., Monhardt, R., Ollerenshaw, J., Tillotson, J.W., & Veronesi, P. (2002). Blast off! on Texas science (Grade 5). Iowa City, IA: Buckle Down Publishing Company.
- Yore, L., Clough, M., Craven, J., Enger, S., Henriques, L., Hogan, T., Monhardt, R., Ollerenshaw, J., Tillotson, J.W., & Veronesi, P. (2001). Blast off! on Michigan science (Grade 4). Iowa City, IA: Buckle Down Publishing Company.
- Yore, L., Clough, M., Craven, J., Enger, S., Henriques, L., Hogan, T., Monhardt, R., Ollerenshaw, J., Tillotson, J.W., & Veronesi, P. (2001). Sharpen up! on Michigan science (Grade 11). Iowa City, IA: Buckle Down Publishing Company.
- Yore, L., Clough, M., Craven, J., Enger, S., Henriques, L., Hogan, T., Monhardt, R., Ollerenshaw, J., Tillotson, J.W., & Veronesi, P. (2000). Sharpen up! on Massachusetts science (Grades 8 & 10). Iowa City, IA: Buckle Down Publishing Company.
- Yore, L., Clough, M., Craven, J., Enger, S., Henriques, L., Hogan, T., Monhardt, R., Ollerenshaw, J., Tillotson, J.W., & Veronesi, P. (2000). Sharpen up! on Texas science (Grade 8). Iowa City, IA: Buckle Down Publishing Company.
- Yore, L., Clough, M., Craven, J., Enger, S., Henriques, L., Hogan, T., Monhardt, R., Ollerenshaw, J., Tillotson, J.W., & Veronesi, P. (2000). Blast off! on Massachusetts science (Grade 4). Iowa City, IA: Buckle Down Publishing Company.
- Yore, L., Clough, M., Craven, J., Enger, S., Henriques, L., Hogan, T., Monhardt, R., Ollerenshaw, J., Tillotson, J.W., & Veronesi, P. (2000). Blast off! on New York science (Grade 4). Iowa City, IA: Buckle Down Publishing Company.
- Yore, L., Clough, M., Craven, J., Enger, S., Henriques, L., Hogan, T., Monhardt, R., Ollerenshaw, J., Tillotson, J.W., & Veronesi, P. (1999). Blast off! on Tennessee science (Grades 3, 4, & 5). Iowa City, IA: Buckle Down Publishing Company.
- Yore, L., Clough, M., Craven, J., Enger, S., Henriques, L., Hogan, T., Monhardt, R., Ollerenshaw, J., Tillotson, J.W., & Veronesi, P. (1999). Sharpen up! on Tennessee science (Grades 6,7, & 8). Iowa City, IA: Buckle Down Publishing Company.
- Yore, L., Clough, M., Craven, J., Enger, S., Henriques, L., Hogan, T., Monhardt, R., Ollerenshaw, J., Tillotson, J.W., & Veronesi, P. (1999). Blast off! on Virginia science (Grades 3, 4, & 5). Iowa City, IA: Buckle Down Publishing Company.
- Yore, L., Clough, M., Craven, J., Enger, S., Henriques, L., Hogan, T., Monhardt, R., Ollerenshaw, J., Tillotson, J.W., & Veronesi, P. (1999). Sharpen up! on Virginia science (Grades 6, 7, & 8). Iowa City, IA: Buckle Down Publishing Company.

Non-Refereed

- Tillotson, J.W. (Autumn 2012). Raising the profile of ASTE within the teacher education community. ASTE Newsletter, 46(5), 1-3.
- Tillotson, J.W. (Summer 2012). The Journal of Science Teacher Education's role in supporting the mission of ASTE. ASTE Newsletter, 46(4), 1-3.
- Tillotson, J.W. (Spring 2012). ASTE's role in building the field of teacher education research. ASTE Newsletter, 46(3), 1-2.
- Tillotson, J.W. (Winter 2012). ASTE President's newsletter message. ASTE Newsletter, 46(2), 1-2.
- Tillotson, J.W. (2005). Alternative teacher certification: New opportunities, new challenges. PDS Newsletter, 11(1), 3.
- Tillotson, J.W. (1998). Classroom inquiry becomes the focus of the Academy of Science Educators. PDS Bulletin, 4(4), 1-5.
- Tillotson, J.W. (1995). Emerging program information from the Iowa new teacher/faculty interviews. Salish Communiqué, 2(1), 7-8.
- Tillotson, J.W. (1994). Linking SS&C with the latest technology in Iowa. Scope, Sequence, & Coordination Iowa News: Parents' Edition, 4(1), 11.
- Tillotson, J.W. (1993). Scope for comprehension. Iowa Scope, Sequence, & Coordination Newsletter, 3(3), 9.
- Tillotson, J.W. (1992). The moral and ethical dimension of science. Iowa Scope, Sequence, & Coordination Newsletter, 3(2), 2.

PEER-REVIEWED CONFERENCE PRESENTATIONS

- Martin-Hansen, L., Clough, M., Hanuscin, D., Luft, J., Olson, J., & Tillotson, J.W. "Bridging Policy and Practice- Science Teacher Education for the Next Generation." Conference presentation at the National Science Teachers Association (NSTA) Conference, Chicago, IL, March 12-15, 2015.
- Gardner, M., & Tillotson, J.W. (2105, November 13), "Connecting Communication and Integrated Science Models." Conference presentation at the National Science Teachers Association (NSTA) Area Conference, Philadelphia, PA, November 12-14, 2015.
- Gardner, M., & Tillotson, J.W. (2015, May 22). "Nature of Science Understanding and Integrated Lab Models." Conference presentation at the National Science Teachers Association (NSTA) STEM Conference, Minneapolis, MN, May 21-23, 2015.
- Tillotson, J.W., & Layow, E. "Preparing Effective STEM Teachers for High-Needs Schools: Assessing the Impact of Noyce Professional Development Experiences on Beginning Teachers' Beliefs and Practices." Paper presented at the Association for Science Teacher Education (ASTE) Conference, Portland, OR, January 7-10, 2015.
- Tillotson, J.W., Weld, J., & Veronesi, P. "Effective Professional Development for Beginning STEM Teachers: Three Noyce Project Exemplars." Paper presented at the National Science Teachers Association (NSTA) Conference, Chicago, IL, March 12-15, 2015.
- Tillotson, J.W., & Hanuscin, D. "Using Research to Support Your Teaching." Panel discussion presented at the National Science Teachers Association (NSTA) Conference, Chicago, IL, March 12-15, 2015.
- Martin-Hansen, L., Clough, M., Hanuscin, D., Luft, J., Olson, J., & Tillotson, J.W. "Bridging Policy and Practice- Science Teacher Education for the Next Generation." Panel discussion presented at the National Science Teachers Association (NSTA) Conference, Chicago, IL, March 12-15, 2015.
- Tillotson, J.W., & Slykhuys, D. "Video-based Teaching Modules as a Vehicle for Promoting Effective Technology Integration in Secondary Classrooms." Paper presented at the Association for Science Teacher Education (ASTE) Conference, San Antonio, TX, January 15-18, 2014.
- Fletcher, S., & Tillotson, J.W. "Fostering Research Collaborations between Large and Small Universities: A Conversation around Science Teacher Development." Roundtable sessions presented at the Association for Science Teacher Education (ASTE) Conference, San Antonio, TX, January 15-18, 2014.
- Clough, M., Olson, J., Berg, C., Roehrig, G., Tillotson, J.W., & Kruse, J. "Developing and Maintaining High Quality Secondary Science Teacher Education Programs: Strategies for Overcoming Institutional Constraints." Workshop presented at the Association for Science Teacher Education (ASTE) Conference, San Antonio, TX, January 15-18, 2014.
- Jetty, L., Tillotson, J.W. "Reform-based Science Teaching: Explaining Variation in Secondary Science Teachers' Practice." Paper presented at the American Educational Research Association (AERA) Conference, Philadelphia, PA, April 3-7, 2014.
- Barry, D., & Tillotson, J.W. "Are Career Aspirations in Alignment with Career Attainment Patterns Among Science and Engineering Doctoral Recipients?" Paper presented at the National Association for Research in Science Teaching (NARST) Conference, Pittsburgh, PA, March 30- April 2, 2014.
- Tillotson, J.W., "The Evolution of Science Teachers' Beliefs about Effective Instruction Across Key Stages of the Career Continuum." Paper presented at the Northeast- Association for Science Teacher Education (NE-ASTE) Conference, Cornwall, NY, October 25-27, 2013.
- Tillotson, J.W. "Essential Features of Highly Effective STEM Teacher Education Programs: Lessons Learned from the IMPACT Project." Paper presented at the Iowa STEM Teacher Educators Conference, Des Moines, IA, September 20, 2013.

- Barry, D.S., & Tillotson, J.W. "Influences to Post-graduation Career Aspirations in STEM Doctoral Candidates." Paper presented at the National Association for Research in Science Teaching (NARST) Conference, Rio Grande, Puerto Rico, April 6-9, 2013.
- Tillotson, J.W., Simmons, P., Allan, E., Tharp, B., Brewton, C., Hanuscin, D., Swami, R., Shmaefsky, B., & Glass, M. "Walking the Talk—How to Proceed with the Next Generation Science Standards." Panel session presented at the National Science Teachers Association (NSTA) Conference, San Antonio, TX, April 11-14, 2013.
- Jetty, L., Tillotson, J.W., & Young, M.J. "The Periphery of Teaching: Influence of External Factors on Science Teacher Practice." Poster presented at the National Association for Research in Science Teaching (NARST) Conference, Rio Grande, Puerto Rico, April 6-9, 2013.
- Barry, D.S., & Tillotson, J.W. "Influences to Post-graduation Career Aspirations in STEM Doctoral Candidates." Paper presented at the American Educational Research Association (AERA) Conference, San Francisco, CA, April 27-May 1, 2013.
- Tillotson, J.W. (2012). "Building the Field of Science Teacher Education Research: Harnessing the Potential of Regional Research Collaboratives." Paper presented at the Northeast-Association for Science Teacher Education (NE-ASTE) Conference, Cornwall, NY, October 24-26, 2012.
- Jetty, L., Barry, D., & Tillotson, J.W. (2012). "Science Teacher Practice in the Classroom: Predicting Reform-based Pedagogy." Paper presented at the Association for Science Teacher Education (ASTE) Conference, Clearwater, FL, January 4-7, 2012
- Barry, D., Tillotson, J.W., & Wilmoth, J. (2012). "Student Science Self-efficacy: What Factors Matter in Predicting Positive Attitudes Toward Science?" Paper presented at the Association for Science Teacher Education (ASTE) Conference Clearwater, FL, January 4-7, 2012
- Dolphin, G., & Tillotson, J.W. (2012). "How the Expressed Epistemologies of Secondary Science Teachers Relate to their Classroom Practice: Implications for Teacher Education." Paper presented at the Association for Science Teacher Education (ASTE) Conference, Clearwater, FL, January 4-7, 2012
- Tillotson, J.W., & Nyberg, L.M. (2012). "What is the ASTE?" Paper presented at National Science Teachers Association Conference (NSTA), Indianapolis, IN, March 29-April 1, 2012
- McCormack, A., Wojnowski, B., Brewton, C., Tillotson, J.W., Shmaefsky, B., Warfield, K., Sadler, T., & Swami, R. "Building Scientific Minds with the NSTA Alliance of Affiliates." (2012). Panel session presented at National Science Teachers Association Conference (NSTA), Indianapolis, IN, March 29-April 1, 2012
- Tillotson, J.W., Young, M.J., & Yager, R.E. (2012). "A Longitudinal Study of How Preservice Program Experiences Influence Secondary Science Teachers' Beliefs and Practices." Paper presented at the American Educational Research Association (AERA) Conference, Vancouver, BC, Canada, April 13-17, 2012.
- Simmons, P., Yager, R.E., Tillotson, J.W., Young, M.J., Barry, D., Jetty, L., & Dolphin, G. (2012). "A Retrospective and Prospective View of Two Studies on Science Teacher Education from 1993-2011: Salish and IMPPACT." Paper presented at the National Association for Research in Science Teaching (NARST) Conference, Indianapolis, IN, March 25-28, 2012.
- Barry, D., Dolphin, G., Jetty, L., Young, M.J., & Tillotson, J.W. (2011). "Science Teachers' Beliefs about Reformed Science Teaching and Learning: A Quantitative Analysis Using the BARSTL Questionnaire." Paper presented at the Association for Science Teacher Education (ASTE) Conference, Minneapolis, MN, January 19-23, 2011
- Young, M.J., Tillotson, J.W., Yager, R.E., & Penick, J.E. (2011). "Secondary Science Teachers' Perceptions on Professional Development: Findings from the IMPPACT Project." Paper presented at the Association for Science Teacher Education (ASTE) Conference, Minneapolis, MN, January 19-23, 2011
- Dolphin, G., & Tillotson, J.W. (2011). "The Rookies: A Case Study of Three First-Year Science Teachers in a Rural School." Paper presented at the Association for Science Teacher Education (ASTE) Conference, Minneapolis, MN, January 19-23, 2011

- Jetty, L., Young, M.J., Barry, D., Dolphin, G., & Tillotson, J.W. (2011). "Visions of Good Teaching: A Qualitative Description of Teachers' Beliefs." Paper presented at the Association for Science Teacher Education (ASTE) Conference, Minneapolis, MN, January 19-23, 2011
- Dolphin, G., Jetty, L., Barry, D., Young, M.J., & Tillotson, J.W. (2011). "A tale of Three Universities: How Pre-service Science Teachers Experience Three Different Teacher Education Programs and the Development of their Beginning Repertoire." Paper presented at the Association for Science Teacher Education (ASTE) Conference, Minneapolis, MN, January 19-23, 2011
- Tillotson, J.W., & Young, M.J. (2011). "The IMPPACT Project: A Longitudinal Analysis of Science Teachers' Pedagogical Beliefs." Paper presented at the Association for Teacher Education (ATE) Conference, Orlando, FL, February 12-16, 2011
- Tillotson, J.W., & Young, M.J. (2011). "Longitudinal Research on the Impact of Pre-Service Programs on Secondary Science Teachers' Beliefs and Practices." Paper presented at the National Association for Research in Science Teaching (NARST) Conference, Orlando, FL, April 3-6, 2011
- Tillotson, J.W., Young, M.J., Yager, R.E., & Penick, J.E. (2010). "Assessing the Influence of Science Teacher Preparation on Reform-based Beliefs and Practices." Paper presented at the School Science and Mathematics (SSMA) Annual Conference, Fort Myers, FL, November 4-6, 2010.
- Tillotson, J.W., & Young, M.J. (2010). "The Influence of Critical Learning Experiences on Science Teachers' Beliefs and Classroom Practices: Findings from the IMPPACT Study." Paper presented at the 12th Annual International Conference on Education (ATINER), Athens, Greece, May 24-27, 2010.
- Young, M.J., & Tillotson, J.W. (2010). "The Impact of Critical Learning Experiences on Science Teacher Development." Paper presented at the National Association for Research in Science Teaching (NARST) Conference, Philadelphia, PA, March 21-24, 2010.
- Young, M.J., Dolphin, G.R., Harwood, E., & Tillotson, J.W. (2010). "Keeping Science Teachers in the Classroom: Professional Development Experiences that Make a Difference." Paper presented at the National Science Teachers Association (NSTA) Conference, Philadelphia, PA, March 18-21, 2010.
- Young, M.J., Tillotson, J.W., Yager, R.E., Dolphin, G.R., Jetty, L., Sadeghpour-Kramer, M., & Maher, T. (2010). "Investigating the Meaningfulness of Preservice Programs Across the Continuum of Teaching: The IMPPACT of Teacher Preparation Programs on Science Teacher Beliefs and Practices." Themed paper set presented at Association for Science Teacher Education (ASTE) Conference, Sacramento, CA, January 13-17, 2010.
- Tillotson, J.W., Young, M.J., Dolphin, G.R., & Jetty, L. (2010). "A Comparative Analysis of Pre-Service, Early-Induction, and Post-Induction Science Teachers' Beliefs about Student Learning: Findings from the IMPPACT Study." Paper presented at the International Conference on Education (HICE), Honolulu, HI, January 7-10, 2010.
- Tillotson, J.W., Young, M.J., & Yager, R.E. (2010). "The IMPPACT Project as a Model for Conducting Mixed-Methods Research on the Effectiveness of Teacher Education Programs." Paper presented at the International Conference on Education (HICE), Honolulu, HI, January 7-10, 2010.
- Tillotson, J.W., & Young, M.J. (2009). "Investigating the Meaningfulness of Preservice Programs Across the Continuum of Teaching: The IMPPACT Project". Poster presented at the National Science Foundation (NSF) DRK-12/TPC Conference for Principal Investigators, Washington, DC, November 9-10, 2009.
- Young, M.J., & Tillotson, J.W. (2009). "The Role University Science Faculty Members Play in the Education of Future Science Teachers." Paper presented at the School Science and Mathematics (SSMA) Annual Conference, Reno, NV, October 22-24, 2009.
- Harwood, E., Young, M.J., Dolphin, G., & Tillotson, J.W. (2009). "Parent Education as a Predictor of Student Interest in Science." Paper presented at the School Science and Mathematics (SSMA) Annual Conference, Reno, NV, October 22-24, 2009.
- Tillotson, J.W., Young, M.J., Harwood, E., & Dolphin, G.R. (2009). "Perceived Instructional Influences Reported by Early-induction and Post-induction Science Teachers Participating in the IMPPACT Study." Paper presented at the School Science and Mathematics (SSMA) Annual Conference, Reno, NV, October 22-24, 2009.

- Tillotson, J.W., Young, M.J., & Yager, R.E. (2009). "The IMPPACT Project as a Model for Conducting Mixed-Methods Research on the Effectiveness of Teacher Education Programs." Paper presented at the Association of Teacher Educators (ATE) Summer Conference, Reno, NV, August 2-5, 2009.
- Tillotson, J.W. (2009). "Establishing a New Gold Standard: Redefining Excellence in Teacher Education for the 21st Century." Keynote address at the International Conference on Education, Kenyatta University, Nairobi, Kenya, July 8-10, 2009.
- Tillotson, J.W. (2009). "The IMPPACT Project: A Study of How Pre-service Teacher Education Program Experiences Influence Science Teachers' Epistemological Beliefs and Classroom Practices." Paper presented at the International Conference on Education, Kenyatta University, Nairobi, Kenya, July 8-10, 2009.
- Young, M.J., & Tillotson, J.W. (2009). "Perceptions of Departmental Climate: Differences by Sex." Poster presented at the 3rd Annual Conference on Understanding Interventions That Broaden Participation in Research Careers, Bethesda, MD, May 2009.
- Young, M.J. & Tillotson, J.W. (2009). "The Influence of Departmental Climate on Female Engineering Professors." Paper presented at National Association for Research in Science Teaching (NARST) Annual Conference, Garden Grove, CA, April 17-21, 2009.
- Tillotson, J.W., Young, M.J., Preczewski, P., & Jones, R. (2009). "Working in the Trenches: An Analysis of Induction and Post-induction Science Teachers' Instructional Beliefs and Practices and the Links to Their Pre-service Preparation." Paper presented at National Association for Research in Science Teaching (NARST) Annual Conference, Garden Grove, CA, April 17-21, 2009.
- Preczewski, P., Mittler, A., & Tillotson, J.W. (2009). "Understanding Secondary Students' Acquisition of Scientific Literacy." Paper presented at National Association for Research in Science Teaching (NARST) Annual Conference, Garden Grove, CA, April 17-21, 2009.
- Tillotson, J.W., & Young, M.J. (2009). "Examining Science Teachers' Instructional Practices Relative to their Preservice Program Experiences: Findings from the IMPPACT Project." Paper presented at the Association for Science Teacher Education (ASTE) Conference, Hartford, CT, January 7-10, 2009.
- Sadeghpour-Kramer, M., Dunkhase, J., Yager, R., Tillotson, J.W., & Young, M.J. (2009). "New Teacher's Perceptions of School Culture and Its Influence on Their Beliefs and Actions: A Case Study from the NSF-funded IMPPACT Project at Syracuse University, The University of Iowa, and North Carolina State University." Paper presented at the Association for Science Teacher Education (ASTE) Conference, Hartford, CT, January 7-10, 2009.
- Preczewski, P., Young, M.J., & Tillotson, J.W. (2009). "Correlating Teachers' Beliefs about Reformed Teaching to Actual Reformed Teaching Practice Using BARSTL and RTOP." Paper presented at the Association for Science Teacher Education (ASTE) Conference, Hartford, CT, January 7-10, 2009.
- Tillotson, J.W., Young, M.J., Yager, R.E., & Penick, J.E. (2009). "A Longitudinal Study of the Influence of Preservice Science Teacher Preparation Programs on Science Teacher Development: Findings from the IMPPACT Project." Paper accepted for presentation at the European Science Education Research Association (ESERA) Conference, Istanbul, Turkey, August 31-September 4, 2009. (I was not able to attend the conference due to schedule conflicts).
- Tillotson, J.W., & Young, M.J. (2008). "Pre-Service Program Experiences that Matter: A Multi-University Comparison." Paper presented at the Association for Science Teacher Education- Northeast (ASTE-NE) Regional Conference, Pocono, PA, October 16-17, 2008.
- Preczewski, P., Tillotson, J.W., Dotger, S., & Jones, R. (2008). "Science Literacy among Preservice Elementary and Early Childhood Educators." Paper presented at the Association for Science Teacher Education- Northeast (ASTE-NE) Regional Conference, Pocono, PA, October 16-17, 2008.
- Yager, R.E., Tillotson, J.W., & Young, M.J. (2008). "A Model for Analyzing the Role of Science Teacher Preparation Programs in Promoting Scientific Literacy." Paper presented at the Association for Teacher Education (ATE) Conference, Washington, DC, August 3-5, 2008.

- Young, M.J. & Tillotson, J.W. (2008). "Negotiating the Path to the Professoriate: A Study of Mechanical Engineers." Paper presented at the Annual American Society of Engineering Education Conference (ASEE), Pittsburg, PA, June 2008.
- Tillotson, J.W., & Young, M.J. (2008). "Science Teachers' Beliefs Regarding the Impact of Preservice Program Experiences." Paper presented at American Education Research Association (AERA) Conference, New York, NY, March 22-26, 2008.
- Tillotson, J.W. & Young, M.J. (2008). "The Impact of Pre-service Program Experiences on Early-Induction and Post-Induction Science Teachers' Epistemological Beliefs." Paper presented at the National Association for Research in Science Teaching (NARST) 2008 International Conference, Baltimore, MD, March 30-April 3, 2008.
- Bianchini, J, Crawford, B., Davis, B., Luft, J., Olson, M., Tillotson, J.W. (2008). "Beginning/Newly Qualified Science Teachers: Guiding this Emerging Domain." Symposium presented at the National Association for Research in Science Teaching (NARST) 2008 International Conference, Baltimore, MD, March 30-April 3, 2008.
- Preczewski, P.J., Tillotson, J.W., & Young, M.J. (2008). "Determination and Correlation of Factors Influencing the Reformed Science Teaching and Learning Questionnaire." Paper presented at the Association for Science Teacher Education (ASTE) International Conference, St. Louis, MO, January 9-13, 2008.
- Young, M.J., Tillotson, J.W., Yager, R.E., Penick, J.E., Holtz, K.J., Preczewski, P.J., Glowacki, J., Maher, T., Ploegstra, J., Sadeghpour-Kramer, M., & Soldat, C. (2008). "Investigating the Meaningfulness of Preservice Programs Across the Continuum of Teaching (IMPPACT) in Science Education: Year One Results, Issues, and Reflections." Themed paper set presented at the Association for Science Teacher Education (ASTE) International Conference, St. Louis, MO, January 9-13, 2008.
- Tillotson, J.W., & Holtz, K.J., (2007). "Exploring the Links between Pre-Service Program Experiences and the Central Tasks of Learning to Teach." Paper presented at the Northeast- Association for Science Teacher Education (NE-ASTE) Conference, Amherst, MA, October 18-19, 2007.
- Holtz, K.J., & Tillotson, J.W. (2007). "Leaving the Nest: Beginning Teachers Reflecting on their New Reality." Paper presented at the Northeast- Association for Science Teacher Education (NE-ASTE) Conference, Amherst, MA, October 18-19, 2007.
- Preczewski, P., Jones, R.L., Tillotson, J.W., & Dotger, S. (2007). "Determining Factors of Scientific Literacy Using Structural Equation Modeling." Paper presented at the Northeast- Association for Science Teacher Education (NE-ASTE) Conference, Amherst, MA, October 18-19, 2007.
- Tillotson, J.W. & Young, M.J. (2007). "Investigating the Meaningfulness of Preservice Programs Across the Continuum of Teaching in Science Education (IMPPACT Project): Exploring the Links between Preservice Programs, Pedagogical Beliefs and Classroom Performance." Paper presented at the European Science Education Research Association (ESERA) Conference, Malmo, Sweden, August 21-25, 2007.
- Preczewski, P., Mittler, A. & Tillotson, J.W., (2007). "Investigating Scientific Literacy Differences between Germany and the United States." Paper presented at the Building a Scientifically Literate Population and Workforce for the 21st Century Conference, Uniondale, NY, March 15-16, 2007.
- Young, M.J. & Tillotson, J.W., (2007). "The IMPPACT Project: Investigating the Role of Pre-service Science Teacher Education Programs in Promoting Scientific Literacy." Poster presentation at the Building a Scientifically Literate Population and Workforce for the 21st Century Conference, Uniondale, NY, March 15-16, 2007.
- Tillotson, J.W., Young, M.J., Yager, R.E., Penick, J.E., Luft, J., & Ford, D., (2007). "Teacher Professional Continuum Research: Cross-Project Comparisons of Practical, Theoretical and Methodological Considerations in Conducting Large-Scale Teacher Education Research Studies." Special colloquium presentation at the National Association for Research in Science Teaching (NARST) International Conference, New Orleans, LA, April 15-18, 2007.

- Tillotson, J.W., Young, M.J., Yager, R.E., Penick, J.E., Sadeghpour-Kramer, M., Maher, T., and Anderson, R. (2007). "Investigating the Meaningfulness of Pre-service Programs Across the Continuum of Teaching (IMPPACT) in Science Education: Identifying Issues, Negotiating Problems, Preliminary Results and Reflections." Conference symposium presented at the Association for Science Teacher Education (ASTE) International Conference, Clearwater, FL, January 4-6, 2007.
- Tillotson, J.W. & Diana, T. (2006). "Rural Science Teachers' Beliefs about the Impact of Science Education Standards." Paper presented at the Northeast- Association for Science Teacher Education (NE-ASTE) Conference, Amherst, MA, October 18-19, 2006
- Tillotson, J.W., & Young, M.J. (2006). "The IMPPACT Project: Researching the Influence of Preservice Programs on Science Teachers' Beliefs and Practices across the Career Continuum." Conference paper presented at the Association for Science Teacher Education (ASTE) International Conference, Portland, OR, January 12-15, 2006.
- Uludag, N., Abell, S., & Tillotson, J.W. (2006). "Using Action Research in Alternative Certification Programs: Findings from Research and Practice." Conference paper presented at the Association for Science Teacher Education (ASTE) International Conference, Portland, OR, January 12-15, 2006.
- Tillotson, J.W., Yager, R.E., Penick, J.E., Young, M.J., Luft, J., Czerniak, C., Gess-Newsome, J., & Anderson, R. (2006). "Identifying Issues, Problems, and Barriers and Seeking Solutions to Exploring the Teacher Education Continuum: Examples from Investigating the Meaningfulness of Preservice Programs Across the Continuum of Teaching (IMPPACT) in Science Education." Special colloquium presentation at the National Association for Research in Science Teaching (NARST) International Conference, San Francisco, CA, April 3-6, 2006.
- Tillotson, J.W., & Young, M.J. (2006). "Investigating the Meaningfulness of Preservice Programs Across the Continuum of Teaching in Science Education: The IMPPACT Project." Poster presentation presented at the International Conference on Education (HICE), Honolulu, HI, January 6-9, 2006.
- Diana, T.J., & Tillotson, J.W. (2005). "The Influence of a Research-based Rationale on Science Teachers' Beliefs and Practices Across Key Stages of Teacher Development." Conference paper presented at the Association for Science Teacher Education (ASTE) International Conference, Colorado Springs, CO, January 19-23, 2005.
- Harris, R., Penick, J., Tillotson, J.W., Varrella, G, Enger, S., Dass, M., & Veronesi, P. (2005). "Rationale papers in methods Courses: Part V Teaching with Purpose." Conference roundtable presented at the Association for Science Teacher Education (ASTE) International Conference, Colorado Springs, CO, January 19-23, 2005.
- Tillotson, J.W., & Young, M.J. (2005). "The IMPPACT Project: A Study of the Influence of Preservice Programs Over Time." Conference paper presented at the Northeast- Association for Science Teacher Education (NE-ASTE) Fall Conference, Amherst, MA, October 27-28, 2005.
- Tillotson, J.W., Diana, T.J., Young, M.J., & Fidler, C. (2005). "An Examination of Preservice Science Teachers' Beliefs and Practices Concerning Reform-Oriented Instruction." Paper presented at the Association for the Education of Teachers in Science (AETS) International Conference, Colorado Springs, CO, January 19-23, 2005.
- Diana, T.J., & Tillotson, J.W. (2005). "The Influence of a Research-based Rationale on Science teachers' Beliefs and Practices Across Key Stages of Teacher Development." Paper presented at the Association for the Education of Teachers in Science (AETS) International Conference, Colorado Springs, CO, January 19-23, 2005.
- Harris, R., Penick, J., Tillotson, J.W., Varrella, G, Enger, S., Dass, M., & Veronesi, P. (2005) "Rationale papers in methods Courses: Part V Teaching with Purpose." Conference roundtable presented at the Association for the Education of Teachers in Science (AETS) International Conference, Colorado Springs, CO, January 19-23, 2005.
- Tillotson, J.W., Young, M.J., & Fidler, C.G. (2004). Preservice Science Teachers' Beliefs about Effective Instruction. Paper presented at the Northeast- Association for the Education of Teachers in Science (NE-AETS) Conference, Syracuse, NY, October 14-15, 2004.
- Tillotson, J.W., Diana, T.J., Uludag, N., & Ochanji, M. (2004). "The Impact of Standards on Science Education Programs in High-Needs Rural Schools." Peer reviewed paper presented at the National Association for Research in Science Teaching (NARST) International Conference, Vancouver, BC, Canada, April 1-3, 2004.

- Tillotson, J.W., Diana, T.J., Ochanji, M.K., & Uludag, N. (2004). "The Impact of Standards on Science Education Programs in High-Needs Rural Schools." Peer reviewed paper presented at the Association for the Education of Teachers in Science (AETS) International Conference, Nashville, TN, January 7-11, 2004.
- Diana, T.J., & Tillotson, J.W. (2004). "Students' Perceptions of the Secondary Science Teacher Preparation Program at Syracuse University." Peer reviewed paper presented at the Association for the Education of Teachers in Science (AETS) International Conference, Nashville, TN, January 7-11, 2004.
- Veronesi, P., & Tillotson, J.W. (2004). "From Action Research to a Science Symposium on Education." Peer reviewed paper presented at the Association for the Education of Teachers in Science (AETS) International Conference, Nashville, TN, January 7-11, 2004.
- Monhardt, R., Veronesi, P., & Tillotson, J.W. (2003). "In Search of Minority Science Teachers." Peer reviewed paper/poster presented at the Association for the Education of Teachers in Science (AETS) International Conference, St. Louis, MO, January 29-February 2, 2003.
- Harris, R., Penick, J., Bonnstetter, R., Dass, M., Enger, S., Tillotson, J.W., Varrella, G., Veronesi, P., & Weld, J. (2002). "Rationale Papers in Methods Courses." Peer reviewed panel discussion session held at the Association for the Education of Teachers in Science (AETS) International Conference, Charlotte, NC, January 10-13, 2002.
- Tillotson, J.W., Diana, T., Ochanji, M.K., & Uludag, N. (2002). "The Impact of Reform on Science Education Programs in High-Needs Rural Schools." Paper presented at the Northeast- Association for the Education of Teachers in Science (NE-AETS) Conference, Syracuse, NY, October 10-11, 2002.
- Abrams, E., Tillotson, J.W., Planalp, R., Senge, K, Mueller, A. (2002). "Developing a Community of Inquiry." Paper presented at the National Association for Research in Science Teaching (NARST) International Conference, New Orleans, LA, April 5-10, 2002.
- Tillotson, J.W., & Uludag, N. (2001). "Videoconferencing as a Vehicle for the Professional Development of Science Teachers." Paper presented at the Northeast- Association for the Education of Teachers in Science (NE-AETS) Conference, Syracuse, NY, October 11-12, 2001.
- Tillotson, J.W., Ochanji, M., & Guven, D. (2001). "Characteristics of Science Education Programs in High-Needs Rural School Districts in NYS." Paper presented at the Northeast- Association for the Education of Teachers in Science (NE-AETS) Conference, Syracuse, NY, October 11-12, 2001.
- Tillotson, J.W., & Ochanji, M. (2001). "Promoting Preservice Teachers' Understanding of the Nature of Science through Collaborative Learning." Paper presented at the Association for the Education of Teachers in Science (AETS) International Conference, Costa Mesa, CA, January 18-21, 2001.
- Harris, R., Penick, J., Bonnstetter, R., Dass, M., Enger, S., Tillotson, J.W., Varrella, G., Veronesi, P., & Weld, J. (2001). "Rationale Papers in Methods Courses." Panel discussion held at the Association for the Education of Teachers in Science (AETS) International Conference, Costa Mesa, CA, January 18-21, 2001.
- Ochanji, M.K., & Tillotson, J.W. (2000). "Using a Collaborative Learning to Improve Undergraduate Chemistry Students' Knowledge of the Nature of Science." Paper presented at the Northeast- Association for the Education of Teachers in Science (NE-AETS) Conference, Syracuse, NY, October 26-27, 2000.
- Tillotson, J.W. (2000). "Preservice Science Teachers as a Conduit for Reform in Rural Schools." Paper proposal submitted for peer review for the Northeast- Association for the Education of Teachers in Science (NE-AETS) Conference, Syracuse, NY, October 26-27, 2000.
- Tillotson, J.W. (2000). "Preservice Science Teachers: A Conduit for Reform in Rural Schools." Paper presented at the National Association for Research in Science Teaching (NARST) International Conference, New Orleans, LA, April 28-May 1, 2000.
- Tillotson, J.W. (2000). "Science Teacher Development through Action Research." Paper presented at the National Science Teachers Association (NSTA) Western Area Conference, Boise, ID, October 5-7, 2000.

- Simmons, P., Yager, R., Craven, J., Tillotson, J.W., Brunkhorst, H., Gallagher, J., Duggan-Haas, D., McGlamery, C. (2000). "From Theory to Practice: How Research in Science Teacher Education Changes Teacher Education Programs." Panel discussion held at the National Association for Research in Science Teaching (NARST) International Conference, New Orleans, LA, April 28-May 1, 2000.
- Tillotson, J.W. (2000). "Linking Pre-service and In-service Teacher Development: Action Research in the Rural School Environment." Paper presented at the Association for the Education of Teachers in Science (AETS) International Conference, Akron, OH, January 5-9, 2000.
- Freedman, R., Penick, J., Bonnsetter, R., Dass, M., Enger, S., Tillotson, J.W., Varrella, G., Veronesi, P., & Weld, J. (2000). "Rationale Papers in Methods Courses: Part II." Panel discussion held at the Association for the Education of Teachers in Science (AETS) International Conference, Akron, OH, January 5-9, 2000.
- Tillotson, J.W. (1999). "Rural Science Education Reform through Action Research." Paper presented at the Northeast Association for the Education of Teachers in Science (NE-AETS) Fall Conference, Syracuse, NY October 14-15, 1999.
- Tillotson, J.W. (1999). "The Impact of a State-mandated Science Curriculum on Teachers' Beliefs and Decision-making." Paper presented at the National Association for Research in Science Teaching (NARST) Annual Conference in Boston, MA, March 1999.
- Stiles, J., Tillotson, J.W., Monhardt, R., & Veronesi, P. (1999). "Shooting at a Moving Target: A Forum on Preparing Science Teachers for the 21st Century." Panel discussion held at the National Science Teachers Association (NSTA) Annual Conference in Boston, MA, March 1999.
- Tice, C., & Tillotson, J.W. (1999). "The Results of Curricular Integration of Science, Mathematics, & Language Arts: A Case Study." Paper presented at the National Science Teachers Association (NSTA) Annual Conference in Boston, MA, March 1999.
- Tillotson, J.W. (1999). "The Impact of a State-Mandated Science Curriculum on Teachers' Beliefs and Decision-making." Paper presented at the Association for the Education of Teachers in Science (AETS) Annual International Conference in Austin, TX, January 1999.
- Colburn, A., & Tillotson, J.W. (1999). "Inquiry and Constructivism for Science Methods Students." Paper presented at the Association for the Education of Teachers in Science (AETS) Annual International Conference in Austin, TX, January 1999.
- Freedman, R., Penick, J., Dass, P., Bonnsetter, R., Tillotson, J.W., Veronesi, P., & Enger, S. (1999). "Rationale Papers in Methods Courses: A Discussion." Panel discussion at the Association for the Education of Teachers in Science (AETS) Annual International Conference in Austin, TX, January 1999.
- Tillotson, J.W. (1998). "Preparing Constructivist Science Teachers: Influential Features of a Model Preservice Program." Paper presented at the National Association for Research in Science Teaching (NARST) Annual Conference in San Diego, CA, April 1998.
- Tillotson, J.W. (1998). "An Innovative Approach to Preparing Constructivist Science Teachers." Paper presented at the National Science Teachers Association Annual (NSTA) Conference in Las Vegas, NV, April 1998.
- Tillotson, J.W. (1998). "The Marriage of STS and Science Teacher Education." Paper presented at the National Association for Science, Technology, & Society (NASTS) Annual Conference in Naperville, IL, March 1998.
- Tillotson, J.W. (1998). "A Cycle of Excellence in Science Teacher Development." Paper presented at the Association for the Education of Teachers in Science (AETS) Annual International Conference in Minneapolis, MN, January 1998.
- Robinson, J.B., Tillotson, J.W., et al., (1998). "Improving Science Teacher Education Based on Research on Thinking and SALISH I Results." Panel discussion at the Association for the Education of Teachers in Science (AETS) Annual International Conference in Minneapolis, MN, January 1998.
- Tillotson, J.W. (1997). "A Cycle of Excellence in Professional Teacher Development." Paper presented at the Northeast Association for the Education of Teachers in Science (NE-AETS) Fall Conference, Syracuse, NY, October 1997.

- Veronesi, P., & Tillotson, J.W. (1997). "Meeting the Standards: What's a Teacher to Do?" Workshop conducted at the National Association of Science, Technology, & Society (NASTS) Annual Conference, Worcester, MA, March 1997.
- Tillotson, J.W., Veronesi, P.D., & Monhardt, R.M. (1997). "Science Teacher Preparation in These Postmodern Times." Paper presented at the Association for the Education of Teachers in Science (AETS) Annual International Conference in Cincinnati, OH, January 1997.
- James, R., Hamm, K., Labuda, K., Twiest, M., Hossain, K., Brunkhorst, H.K., & Tillotson, J.W. (1997). "New Science Teachers' Views of Their Preparation Programs." Paper presented at the Association for the Education of Teachers in Science (AETS) Annual International Conference in Cincinnati, OH, January 1997.
- Tillotson, J.W. (1996). "Student Achievement in New Teacher Classrooms." Paper presented at the National Association for Research in Science Teaching (NARST) Annual Conference in St. Louis, MO, April 1996.
- Tillotson, J.W., & Penick, J.E. (1996). "Science Teacher Preparation: A Three-Dimensional Analysis." Paper presented at the Association for the Education of Teachers in Science (AETS) Annual International Conference in Seattle, WA, January 1996.
- Tillotson, J.W., & Adams, P. (1995). "Trends from the Salish Data." Presentation given at the NSF Grant Proposal Writing Retreat at Purdue University in West Lafayette, IN, December 1995.
- Tillotson, J.W., Monhardt, B.M., & Veronesi, P.D. (1995). "What Scientists Say About Science." Presentation given at the Iowa Science Teachers Section (ISTA) of the Iowa Academy of Science Fall Conference in Des Moines, IA, October 1995.
- Tillotson, J.W. (1995). "Strategies for Success: Science Teaching in a Distance Education Setting." Presentation given at the Kirkwood Community College Fall Inservice Conference in Cedar Rapids, IA, August 1995.
- Tillotson, J.W. (1995). "Analysis of New Teachers and their Teaching: The Salish Project." Presentation given at the Korean Science Teachers Overseas Training Conference in Iowa City, IA, July 1995.
- Tillotson, J.W. (1995). "Accessing Resources on the Internet." Presentation given at the National Diffusion Network (NDN) Chautauqua Leadership Conference in Iowa City, IA, June 1995.
- Tillotson, J.W. (1995). "New Teachers' Perceptions of Student Learning in Science." Paper presented at the National Association for Research in Science Teaching (NARST) Annual Conference in San Francisco, CA, April 1995.
- Veronesi, P.D., Tillotson, J.W., & Monhardt, B.M. (1995). "A Comparison of the Beliefs of Male and Female Scientists Concerning the Compatibility of the Postmodern Perspective with Their View of the Nature of Science." Paper presented at the Postmodernism and Science Education Conference in Iowa City, IA, April 1995.
- Tillotson, J.W., & Adams, P. (1995). "Student Learning in Classrooms of First Year Teachers." Paper presented at the National Science Teachers Association (NSTA) Annual Meeting in Philadelphia, PA, March 1995.
- Simmons, P., Tillotson, J.W., Krockover, G., et. al. (1995). "Linking Secondary Teacher Preparation Programs: The First Year Salish Mathematics and Science Teacher Collaborative Project." Panel discussion held at the Association for the Education of Teachers in Science (AETS) Annual International Conference in Charleston, WV, January 1995.
- Tillotson, J.W., Monhardt, B., & Veronesi, P.D. (1994). "Perceptions of School Safety in Iowa: A Case Study." Paper presented at the Iowa Science Teachers Section (ISTA) of the Iowa Academy of Science Fall Conference in Des Moines, IA, October 1994.
- Tillotson, J.W., & Henriques, L. (1994). "Teaching Science Via the Iowa Communications Network: The Teacher's Perspective." Paper presented at the Iowa Science Teachers Section (ISTA) of the Iowa Academy of Science Fall Conference in Des Moines, IA, October 1994.
- Tillotson, J.W. (1994). "The Salish Project: A Model for Assessing Outcomes of Science Teacher Preparation Programs Based on New Teacher Performance." Poster presented at the Association for the Education of Teachers in Science, North Central Regional (NC-AETS) Meeting in Bettendorf, IA, October 1994.

Henriques, L., & Tillotson, J.W. (1994). "Polymers: Plastics and the Environment." Workshop presented at the National Science Teachers Association (NSTA) Annual Meeting in Anaheim, CA, April 1994.

Tillotson, J.W. (1993). "A Practitioner's View: Teaching Science in a Distance Education Setting." Presentation given at the Star Schools Science Curriculum Institute in Iowa City, IA, August 1993.

Tillotson, J.W. (1993). "Making Effective Use of the Iowa Communications Network in SS&C Classrooms." Presentation given at the Iowa Scope, Sequence, & Coordination Summer Leadership Conference in Iowa City, IA, June 1993.

INVITED LECTURES/PRESENTATIONS/WORKSHOPS

Tillotson, J.W. "Exploring the Directionality of the Relationship Between Teachers' Beliefs and Classroom Practices: A Longitudinal Study of Pre-service Science Teacher Development Across the Career Continuum." Invited research lecture given at Bogazici University, Istanbul, Turkey, December 9, 2015.

Tillotson, J.W. "Action Research: A Practitioner's Approach to Connecting Theory and Practice in STEM Classrooms." Invited lecture given at SUNY Cortland as part of the New York State STEM Master Teacher Fellows professional development lecture series, November 23, 2015.

Tillotson, J.W. "Leading an Effective Classroom Discussion? Questions Are the Answer." Invited lecture for the Syracuse University Graduate School's Certificate of University Teaching (CUT) professional development workshop series, October 14, 2015.

Tillotson, J.W. "Angel of Death: Dr. Josef Mengele and his Legacy Regarding Ethics in Science." Keynote lecture at the Spector/Warren Fellows Teaching the Holocaust Conference, Houston, TX, January 9, 2014.

Tillotson, J.W. "Building the Field of Teacher Education Research: Harnessing the Potential of ASTE." Presidential keynote address at the Association for Science Teacher Education (ASTE) Conference, Charleston, SC, January 13, 2013.

Tillotson, J.W. "A Framework for Research in Science Teacher Education: A Blueprint for Action." Invited lecture for the University of Missouri- Columbia, April 27, 2011.

Tillotson, J.W. "Best Practices in Teaching K-12 Science." Invited lecture in SPE 615 Seminar in Teaching, Syracuse University, November 30, 2011.

Tillotson, J.W. "Funding Your Doctoral program: Anticipating and Avoiding the Common Pitfalls." Syracuse University, Graduate School Workshop, September 30, 2011.

Tillotson, J.W., & Dolphin, G. "Teaching Science through Inquiry: The Learning Cycle as an Organizing Framework." Invited lecture and workshop for the Copenhagen Central School District, Copenhagen, NY, February 11, 2009.

Tillotson, J.W. "The Science of Fire." Invited workshop for the Bristol-Myers Science Horizons Summer Science Program, Cortland, NY, July 2009.

Tillotson, J.W. "Best Practices in Science Teaching," Syracuse University, Educational Leadership Class, Levy Middle School, February 23, 2009.

Tillotson, J.W., & Dolphin, G. "Promoting Effective Questioning Skills for Secondary Science Teachers through Lesson Study." Invited lecture/workshop for the Copenhagen Central School District, Copenhagen, NY, April 3, 2009.

Tillotson, J.W. "Establishing a New Gold Standard: Redefining Excellence in Teacher Education for the 21st Century." Invited keynote lecture at the International Conference on Education, Kenyatta University, Nairobi, Kenya, July 8, 2009.

- Masingila, J., & Tillotson, J.W. "Reflections on STEM Education in New York State." Empire State STEM Education Progressive Dialogue Conference, Syracuse, NY November 2, 2009.
- Tillotson, J.W. "Action Research: A Tool for Teacher Learning." Invited lecture/workshop for the Dryden Central School District, Dryden, NY Workshop, February 25, 2008.
- Tillotson, J.W. "The Science of Fire." Invited workshop for the Bristol-Myers Science Horizons Program, Cortland, NY, July 2008.
- Tillotson, J.W. "The IMPPACT Project: Implications for the Future of Pre-Service Science Teacher Education Programs." Invited lecture at the University of Iowa Science Education Center, Iowa City, IA, November 19, 2008.
- Tillotson, J.W. "Time Management." Preparing Future Faculty/Future Professoriate Project Conference, Minnowbrook Conference Center, Blue Mountain Lake, NY, May 16, 2008.
- Tillotson, J.W. & Young, M.J. "Investigating the Meaningfulness of Preservice Programs Across the Continuum of Teaching in Science Education (IMPPACT Project): Exploring the Links between Preservice Programs, Pedagogical Beliefs and Classroom Performance." Invited paper presented at the European Science Education Research Association (ESERA) Conference, Malmo, Sweden, August 21-25, 2007.
- Tillotson, J.W. "Research in Effective Teaching." Preparing Future Faculty/Future Professoriate Project Conference, Minnowbrook Conference Center, Blue Mountain Lake, NY, May 16, 2007.
- Tillotson, J.W. "Negotiating Faculty Appointments." Preparing Future Faculty/Future Professoriate Project Conference, Minnowbrook Conference Center, Blue Mountain Lake, NY, May 18, 2007.
- Tillotson, J.W. "Best Practices in Science Teaching," Syracuse University, Educational Leadership Class, Corcoran High School, September 24, 2007.
- Tillotson, J.W. "Pre-service Education: Phase I of the Teacher Professional Continuum- Early Findings and Challenges." National Science Foundation TPC Grant PI Conference, Reston, VA, May 8, 2006.
- Tillotson, J.W. "Best Practices in Science Teaching." Syracuse University Educational Leadership Class, JD Middle School, September 25, 2006.
- Tillotson, J.W. "The Level Playing Field: A New York Fairy Tale." Invited keynote lecture at the Central New York School Boards Association Legislative Conference, Ithaca, NY, February 5, 2005.
- Tillotson, J.W., & Verfuss, E. "The Science of Fire." Invited workshop presenter for the Bristol Meyers Science Horizons Program, Cortland, NY, June 29, 2005.
- Tillotson, J.W. "Inquiry-based Science Teaching Strategies: A Nature of Science Framework." Invited workshop conducted for the Jefferson-Lewis BOCES, Watertown, NY, August 16-17, 2004.
- Tillotson, J.W. "Micro-Teaching 101." Invited workshop conducted for the Syracuse University Teaching Fellows Program, Syracuse, NY, April 4, 2003.
- Tillotson, J.W. "Teaching and Learning in the Sciences." Invited workshop conducted for the Syracuse University TA Training Program, Syracuse, NY, August 2003.
- Tillotson, J.W. "Action Research in Preservice Science Teacher Education." Invited presentation given at the Science Teachers Association of New York State (STANYS) Conference, Ellenville, NY, November 2, 2003.
- Tillotson, J.W., "Especially for Secondary Science Teachers." Invited workshop conducted for the Jefferson-Lewis BOCES, Watertown, NY, November 7, 2003.

- Tillotson, J.W. "Action Research: Bridging the Gap Between Education Research and the K-12 Classroom." Invited workshop presentation conducted for the Southern Tier Teachers' Center, Endicott, NY, May 6, 2002.
- Tillotson, J.W. "Action Research: A Collaborative Journey." Invited speaker at the Southern Tier Teacher Center Network Professional Development Workshop, May 6, 2002.
- Tillotson, J.W. "A Marathon Education as a Springboard to the Future." Invited commencement speaker for the Marathon Central School, Class of 2001 graduation ceremony, June 24, 2001.
- Tillotson, J.W. "Distance Learning Video-Conferencing in the School of Education." Invited presentation to the SU School of Education Board of Visitors, October 27, 2000.
- Tillotson, J.W. "The Goals 2000 Preservice Grant Project and its Impact on Cincinnatus Central School." Invited presentation to the Board of Education of Cincinnatus Central School, February 28, 2000.
- Tillotson, J.W. "Navigating the New York State Science Standards: The Promise of Action Research." Invited professional development workshop speaker, Sackets Harbor Central School in conjunction with five other rural school districts, March 28, 2000.
- Tillotson, J.W. "The Big Question: Can You Improve Your Questioning Skills?" Invited workshop presenter, Syracuse University Host Teacher Orientation Workshop, Corcoran High School, Syracuse, NY, August 29, 2000.
- Tillotson, J.W. "Composing a Life as a Faculty Member." Invited guest speaker, EDU 781: Institutions and Processes of Higher Education course, Syracuse University, November 29, 2000.
- Tillotson, J.W. "Action Research for Rural Science Teachers." Invited workshop presenter at Marathon Central School, Marathon, NY, December 2, 1999.
- Tillotson, J.W. "Composing a Life as a Faculty Member." Invited panelist in the EDU 781: Institutions and Processes of Higher Education course, Syracuse University, December 1, 1999.
- Tillotson, J.W. "The NYS Regents System: Strengths and Weaknesses." Invited speaker in the Maxwell School of Citizenship Freshman Seminar course, Syracuse University, October 29, 1999.
- Tillotson, J.W. "Interviewing for a Faculty Position." Invited presenter at the Syracuse University TA Training Program, Syracuse, NY, October 22, 1999.
- Tillotson, J.W. "Action Research for Rural Science Teachers." Invited facilitator for the Belleville-Henderson Central School Staff Development Day, Belleville, NY, October 8, 1999.
- Tillotson, J.W. "Action Research: Questions and Answers." Invited lecture at the Graduate Seminar in Science Education, SUNY College at Brockport, Brockport, NY, September 30, 1999.
- Tillotson, J.W. "The Big Question: Can You Improve Your Questioning Skills?" Invited presenter at the Syracuse University Host Teacher Orientation Workshop, Corcoran High School, Syracuse, NY, September 1, 1999.
- Tillotson, J.W. "Action Research." Invited presenter at the Goals 2000 Preservice Project Summer Institute, Syracuse University, August 24, 1999.
- Tillotson, J.W. "Veteran's Roundtable." Invited panelist at the Freshman Forum Faculty Workshop, Syracuse University, August 24, 1999.
- Tillotson, J.W. "Teaching in a Laboratory." Invited presenter at the Syracuse University TA Training Program, Syracuse, NY, August 20, 1999.
- Tillotson, J.W. "How to Present an Effective Action Research Poster." Invited presenter for the EDU 207: The Study of Teaching course, Syracuse University, April 19, 1999.
- Tillotson, J.W. "Environmental Studies Project Training Workshop." Invited workshop facilitator for the project at SUNY College of Environmental Science and Forestry, Syracuse, NY, April 17, 1999.

Tillotson, J.W. "New Faculty Orientation Workshop." Invited facilitator for small group discussions concerning the adjustment process for new faculty members at Syracuse University, August 1998.

Tillotson, J.W. "Guest Faculty Project Reviewer." Invited reviewer of student inquiry projects for the EDU 207 course at Syracuse University, Fall 1998.

Tillotson, J.W. "Physics and Science Education: What Can We Learn From Each Other?" Department of Physics luncheon guest for an informal discussion of ideas and issues of concern to both departments, Syracuse University, November 1997.

Tillotson, J.W. "New Teachers' Perceptions of Their Multi-faceted Science Teacher Preparation Program." Invited lecture at the Mathematics Education Seminar, Syracuse University, April 1997.

HONORS AND AWARDS

- * **Outstanding Community Service Award**, Marathon Lion's Club, June 2014
- * **2012 ASTE President**, Elected by the membership of the Association for Science Teacher Education (ASTE)
- * **2011 Member of the Year Award**, Marathon Area Volunteer Ambulance Corps, Inc. (MAVAC), February 2012
- * **Joan N. Burstyn Endowed Fund for Collaborative Research Award**, School of Education, Syracuse University, December 15, 2006.
- * **Outstanding Science Teacher Educator of the Year Award**, Association for Science Teacher Education (ASTE), January 14, 2006.
- * **2006 Member of the Year Award**, Marathon Fire Department, Marathon, NY, February 2006.
- * **Excellence in Graduate Education Faculty Recognition Award**, Graduate School, Syracuse University, April 2005.
- * **Outstanding Community Service Award**, Interdenominational Protestant Campus Ministry, Syracuse University, April 2004
- * **Learning Disabilities Association of America Teacher Educator Team Award**, December 2001
- * **New Meredith Award Nominee for Excellence in Teaching and Mentoring**, Syracuse University, December 2000
- * **2000 Firefighter of the Year Award**, Harford Volunteer Fire Department, December 2000.
- * **Phi Delta Kappa Inductee**, University of Iowa, Chapter 005, October 1993
- * **Outstanding Teaching Assistant Award**, University of Iowa, 1992-1993
- * **Outstanding Senior Chemistry Major**, SUNY at Cortland, April 1991
- * **Alpha Delta Junior Class Scholarship**, SUNY at Cortland, April 1990
- * **American Chemical Society's Analytical Chemist Award**, SUNY at Cortland, April 1990
- * **Kappa Delta Pi National Education Honor Society Inductee**, SUNY at Cortland, May 1990

SERVICE AND RELATED EXPERIENCES

Board of Directors for the Truxton Academy Charter School, Truxton, NY, August 2015- present

Provide consulting advice related to the formation of a STEM-focused, K-5 public charter school that uses project-based learning to explore science, engineering, and agriculture education topics.

Chair, Department of Science Teaching, *Syracuse University*, July 1, 2017- present

Responsible for overseeing the department budget, program development, faculty mentoring and annual reviews, facilities planning, student recruitment initiatives, and policy development.

Coordinator, Adolescent Science Education 7-12 Teacher Education Program, *Syracuse University*, August 2003-June 2016

Responsible for advising undergraduate and graduate science teacher education majors, coordinating the supervision of student teachers in their various field placements, and completing reporting requirements for NCATE documentation.

CAEP/NCATE Program Area Coordinator for Science Education, *Syracuse University*, May 2003-June 2016

Develop course-embedded assessments related to CAEP/NCATE proficiencies, compile data and report annually on student outcomes related to these proficiencies, and conduct scoring institutes for participating host teachers working with student teachers in their classrooms.

New York State STEM Master Teacher Fellow Selection Panelist, SUNY Research Foundation, September 2014- present

Responsible for reviewing portfolios, conducting interviews, and selecting final recipients of the NYS Governor's STEM Master Teacher Fellow honorees.

Mentor, Future Professoriate Project (FPP), *Department of Science Teaching and the Teaching and Leadership Program, 2000-present*

Mentor doctoral students interested in pursuing a career as a faculty member in higher education through a semester-long teaching experience in one or more of my courses.

Co-Advisor (along with Dr. Sharon Dotger), *Science Education Doctoral Seminar Group, Department of Science Teaching, August 2006-May 2009*

Led a weekly workshop with doctoral students related to professional issues such as developing a research agenda, preparing for a faculty job search, and developing a dissertation proposal.

Chair, Science Education Faculty Search Committee, *College of Arts & Sciences/School of Education, 2008-2009*

Orchestrated a successful search for a new dual faculty member in the Department of Science Teaching and Teaching & Leadership Program.

Student Grade Appeal Faculty Representative, *College of Arts & Sciences, 2009-present*

Member of the committee that heard cases in which a student wished to appeal the grade they received in a particular course.

Faculty Mentoring Committee for Dr. Jason Wiles, *College of Arts & Sciences, Syracuse University*

Science education faculty representative on a team of faculty from the Biology Department assigned to mentor Dr. Jason Wiles, Assistant Professor of Life Sciences Education.

Planning Committee Member, *Syracuse/Central NY STEM Regional Dialogue Workshop, The Warehouse, Syracuse University, November 2, 2009*

Assisted with the planning and development of workshop sessions geared towards bringing together STEM faculty, business leaders, and higher education representatives from across NYS to discuss ways of improving STEM education in the region.

Faculty Commencement Marshal, *Syracuse University, 2007-present*

Support the Syracuse University commencement program by serving as a marshal responsible for coordinating the faculty processional.

Science Education Professional Development Consultant, *Copenhagen Central School District, Copenhagen, NY, December 2008-present*

Conduct professional development workshops and provide ongoing mentoring support to three novice science teachers in this high-needs rural school district.

National Advisory Panel- Preservice Science Teacher Education, *NSF-sponsored Teacher Professional Continuum (TPC) Grant, Iowa State University (Brian Hand, PI), December 2006-present*

Serve as an advisor to the project aimed at improving science teachers' ability to use writing-to-learn strategies in their laboratory courses.

National Advisory Board- NSF-sponsored STIMULATE CCLI Grant, *North Carolina State University, (Len Annetta, PI), May 2008-present*

Serve as an advisor on this project aimed at using interactive, 3-D gaming interfaces to assist pre-service science teachers in learning how to respond to dynamic classroom situations using a virtual environment.

National Advisory Board- NSF-sponsored CCLI grant, *Miami (OH) University (Elizabeth Schussler, PI), May 2008-present*

Serve as an advisor on this project aimed at implementing inquiry-based science laboratory modules in the introductory biology courses at the University of Miami (OH).

Project Evaluator, *Arthur Vining Davis Foundation Grant, University of Iowa (Brian Hand, PI), January 2009-present*

Responsible for gathering evaluation data from participants in this professional development project for secondary science teachers geared toward helping them learn strategies for using multi-modal representations of science knowledge in their instruction.

National Science Foundation Grant Proposal Panel Reviewer- Robert Noyce Math and Science Teacher Scholarship Competition, *Washington, DC, May 18-21, 2008*

Reviewed approximately fourteen NSF grant proposals as part of the panel review process using the NSF intellectual merit and broader impacts criteria.

Chair, Committee on Curriculum and Higher Degrees, School of Education, Syracuse University, August 2006- May 2009
Responsible for leading the committee that reviews all curriculum proposals for the School of Education and requests for degree program modifications.

Dean's Council At-Large Representative, School of Education, Syracuse University, August 2005- May 2007
Elected by the faculty to serve as the at-large representative on the Education Dean's Council.

Student Standards Committee, College of Arts & Sciences, Syracuse University, August 2005- present
Serve on the committee which hears cases regarding possible academic integrity violations within the College.

Science Education Faculty Search Committee Chair, Department of Science Teaching/ Teaching & Leadership Program, Syracuse University, August 2008-April 2009
Served on the search committee to hire a dual science education faculty member in the Department of Science Teaching and Teaching & Leadership Program.

Little League Baseball Coach, Crown City Little League, Cortland, NY, 2008-present
Coached 11-12 year olds in the fundamentals of baseball and sportsmanship.

Volunteer EMS Staff, New York State Empire Games- Senior Division, Cortland, NY, June 2003-2009
Volunteer as an EMT staffing various athletic events for senior citizens participating in the Empire Senior Games.

Representative, Cortland County Emergency Communications Advisory Board, Cortland, NY, 2004-2014
Provide technical advice to the Cortland County Legislature regarding the emergency communications needs of the EMS agencies in the region.

Ph.D Program Revision Committee, School of Education, Syracuse University, August 2006- 2008
Serve on the committee charged with redesigning the requirements for the Ph.D. degree in Education.

Syracuse University Bookstore Advisory Board, Syracuse University, August 2005- present
Appointed by the Dean of Education to serve as a member of the Advisory Board.

Life Science Educator Faculty Search Committee Member, Biology Department, Syracuse University, August 2006- May 2007
Served on the search committee to hire a Life Sciences Education faculty member in the Biology Department.

National Science Foundation Panel Reviewer for TPC Grants, Arlington, VA, November 2-4, 2005.
Invited to serve as a panel reviewer for the NSF Teacher Professional Continuum grant proposals during the 2005 competition.

Science Education Consultant, Integrating Disability History in Special and Inclusive Education Grant Project, Inclusive Education Program, Syracuse University, August 2001-August 2004
Will develop science curriculum materials that integrate an online Disability History Museum for use with students in grades 5-12.

Director, Northeast-Association for the Education of Teachers in Science (NE-AETS), 1998-1999
Elected to head the region and serve as the liaison with the national AETS organization.

Board of Directors, Association for the Education of Teachers in Science (AETS), 1998-1999
Serve as a regional representative participating in the governance of the AETS organization and determining the annual conference planning agenda.

Chairman, Secondary Education Program Group (SEPG), Syracuse University, 2003-2004
Chaired the secondary education faculty group responsible for oversight of all secondary teacher education programs on campus.

Science Education Consultant, Physics Frontiers Center NSF Grant Proposal, Department of Physics, Syracuse University, June - August 2001

Provided feedback and ideas for the development of a multi-million dollar grant proposal to create a physics research center at SU and provide outreach to K-12 schools.

Chair, Ad Hoc Committee on Preparing Science Teacher Educators, Association for the Education of Teachers in Science, 2002-2004

Appointed to chair this committee with the charge of drafting a set of recommendations defining the experiences required for the effective preparation of science teacher educators.

Communications Committee, Association for the Education of Teachers in Science, 2002-2004

Appointed to this committee charged with providing guidance to the Board regarding AETS print publications and electronic communications.

Policy Advisory Board, Living SchoolBook, Syracuse University, 2002-2003

Appointed to serve on this Board charged with setting policy for the School of Education with regard to projects involving the integration of educational technology.

External Tenure Review Evaluator, University of Montana, Fall 2001

Invited to serve as an external reviewer for the tenure evaluation of an Assistant Professor of Science Education.

Curriculum Development Consultant, Living SchoolBook Project, Syracuse University, August 13-15, 2001

Facilitated a team of curriculum writers in preparing inquiry-based science curriculum materials that integrate a watershed database developed by the LSB Project.

MST Book Proposal Reviewer, Houghton-Mifflin Publishers, July 2001

Reviewed an elementary science methods textbook aimed at promoting MST connections.

Promotion and Tenure Committee, School of Education, Syracuse University, August 2000- May 2001

Elected to a one-year term to evaluate five promotion and tenure candidates.

Technology Committee, School of Education, Syracuse University, August 2000- present

Involved in developing a coordination policy for technology projects within the School of Education.

Proposal Review Co-Coordinator- Strand 4A and 5, National Association for Research in Science Teaching

Co-ordinated the peer review of NARST conference proposals for the Preservice Teacher Education and the Curriculum, Evaluation and Assessment strands for the International NARST Conference.

Professional Development Consultant, Collaborative for Excellence in Teacher Preparation in Pennsylvania Grant Project, Indiana University of Pennsylvania, August 21-25, 2000

Facilitated small group sessions with faculty from fourteen colleges and universities in PA on how to use videotape analysis rubrics to evaluate their teaching practices.

Grant Writer, Tioga County Agricultural Society, January 2000-2002

Developed and submitted a number of grant proposals to various foundations and funding agencies to support a capital project at the Tioga County (NY) Fairgrounds.

Evaluation Consultant, SimScience Project, Department of Physics, Syracuse University, August 2000-present

Conducting an evaluation of a physics simulation web site developed by the Physics Department.

Freshman Forum Leader, College of Arts & Sciences, Syracuse University, 1997-present

Served as a forum leader for approximately fifteen incoming freshman students each fall.

Freshman Advisor, College of Arts & Sciences, Syracuse University, 2000-2001

Served as a volunteer freshman advisor for sixteen incoming students during the 2000-2001 academic year.

School Safety Committee, Marathon Central School, September 2000-June 2001

Aided in the development of an emergency safety and evacuation plan for the school district.

Project Evaluator, Waterbox Curriculum Validation Study, L'Agence/Sorio Corporation in association with Syracuse University, November 1999-April 2000.

Lead project evaluator of the field analysis of a water quality curriculum in NYS.

Consultant, *Environmental Studies Project*, SUNY College of Environmental Science and Forestry, March 1999-August 1999.
Created a template for revising a series of high school environmental science modules.

Ad-Hoc Committee on Regional AETS Units, *Association for the Education of Teachers in Science*, 1999.
Examined the changing structure of the regional units within the parent organization.

President, Marathon Central School Board, *Marathon Central School District*, Marathon, NY, 1998-2005
Elected to serve two consecutive terms on the local school board to oversee the financial vitality and educational mission of the district.

Consultant, *GOALS 2000 Professional Development Grant*, 1998-1999
Perform consultation to two rural school districts in Jefferson County, NY on the techniques of action research for teachers.

Educational Initiatives Committee, *Marathon Central School District*, 1999-2005
Planning group for future academic projects within the school district.

President, Marathon Community Scholarship Foundation, *Marathon, NY*, 2002-2008
Committee charged with establishing a not-for-profit scholarship foundation to support academic and scholarly awards for students within the Marathon Central School District.

School-to-Work Committee, *Marathon Central School District*, Marathon, NY 1998-1999
Serve as part of a community-based committee organized to establish a strong school-to-work program with area businesses for high school students.

Tenure Committee on Teaching, *Syracuse University*, 1998
Conducted teaching evaluations and assisted in the writing of a tenure committee report on Dr. Lon Beery.

Faculty Search Committee Member, *Syracuse University*, 1998-1999, 2005-2006
Member of the committee for a search attempting to hire two special education faculty members and one science education faculty member in the School of Education.

Faculty Advisor, *Association of Science Educators (ASE) Student Organization*, 1998-1999
Act as the faculty sponsor/advisor for the ASE club that consisted of science teaching majors. Club conducts community outreach science programs for area students.

Faculty Advisor, *Syracuse University- National Science Teachers Association (SU-NSTA) Student Chapter*, 2003-present
Act as the faculty sponsor/advisor for the newly created student chapter of this national science teacher professional organization.

New Generation of Researchers Committee, *National Association for Research in Science Teaching*, 1996-1999
Nominated to serve on this committee dedicated to expanding the research practices and perspectives of new science educators in the NARST organization.

Research Apprenticeship Committee, *School of Education*, Syracuse University, 1997-present
Evaluated research apprenticeship reports drafted by doctoral candidates in preparation for their dissertation research projects.

Coordinator, *Academy of Science Educators*, Syracuse University Professional Development School, 1996-2009
Established a series of professional development activities in science education for area science teachers, preservice science education students, and science education faculty members.

Faculty Representative, *Secondary Coordinating Council*, Syracuse University Professional Development School, 1996-2000
Acted as science education faculty contact person with regard to planning and structuring PDS events relevant to all secondary subject areas.

Awards and Scholarship Committee, *School of Education*, Syracuse University, 1996-1997
Reviewed and rated graduate student scholarship applications for approximately seventy-five candidates.

- Conference Planning Committee**, *Northeast Association for the Education of Teachers in Science Fall Conference*, Syracuse, New York, 1997-present
Edited proposal abstracts, promoted the conference via Internet listservs, and acted as a session moderator for this regional conference.
- Department of Science Teaching Representative**, *School of Education Dual Student Convocation*, Syracuse University, Fall 1997-present
Presented key program information to incoming freshman science education students enrolled in the dual Arts & Sciences and Education program.
- Faculty Participant**, *School of Education Phone Campaign*, Syracuse University, November 1997-2000
Contacted approximately twenty freshman applicants to the School of Education via telephone. Shared program information, answered specific questions about the University, and offered to schedule campus visits.
- Proposal Reviewer**, *National Association for the Education of Teachers in Science Annual Conference*, Summer 1997-present
Reviewed approximately twenty-five paper proposals in the teacher education strand.
- Proposal Reviewer**, *National Association for Research in Science Teaching (NARST)*, 1998-present
Reviewed conference paper proposals in the science teacher education strand for the NARST Annual Conferences.
- Higher Education Liaison**, *Science Teachers Association of New York State Central Region*, 1997-2004
Acted as a higher education contact person for Central Region STANYS Board. Responsible for recruiting preservice science teacher education student members.
- Publications Committee Chair**, *National Association for Science, Technology, & Society*, 1997-2000
Responsible for selecting committee members representing each of the diverse areas of NASTS, reviewing and revising the *STS Today* newsletter publication, investigating further publication opportunities for the organization, and reporting activities to NASTS Board.
- Chairman, Nominating Committee**, *Harford Volunteer Fire Department*, Harford, NY 1997-2000
Developed a slate of candidates for the annual fire department election of line officers.
- Deputy Fire Chief**, *Harford Volunteer Fire Company*, 1998- 2000.
Second-in-command of a thirty member department that provides fire and EMS coverage to the community
- Lieutenant/Emergency Medical Technician (EMT-D)**, *Marathon Area Volunteer Ambulance Corps, Inc. (MAVAC)*, April 2000-present
Provide basic life support coverage for an EMS agency serving a response area of approximately 85 square miles. Serve as an officer of the emergency squad responsible for various administrative duties and on-scene command.
- Chairman, Ways and Means Committee**, *Harford Volunteer Fire Company*, 1997-2000
Planned a series of fundraising events to generate capital to be used for fire equipment purchases.
- Grant Writer**, *Marathon Fire and Ambulance*, 2001-present
Received over \$400,000 from five separate grants funded by the Federal Emergency Management Agency (FEMA) and the New York State Legislature to purchase a new brush firefighting vehicle and associated brush firefighting equipment, 12-lead ECG defibrillation units, thermal imaging equipment, portable radios, a radio repeater system and new turnout gear.
- Grant Writer**, *Harford Volunteer Fire Company*, 1997-2000
Received a \$20,000 legislative grant from Senator James Seward's office and a \$1,000 grant from Cornell University's Office of Community Development to purchase a new fire and EMS rescue vehicle for the fire district. Also, secured a \$10,234 grant from the Federal Emergency Management Agency (FEMA) to purchase training materials and classroom presentation equipment.
- United Way Team Leader**, *Syracuse University Campus Campaign*, 1997-2003
Organized United Way faculty donation program for two campus sectors. Supervised assistants who helped carry out associated fundraising events such as campus-wide bake sale. Attended training sessions conducted by United Way administrators to better facilitate the campaign efforts.

Textbook Reviewer, *Harper Collins Publishing, 1996*

Hassard, J. (1992). Minds on science: Middle and secondary school methods. Reviewed textbook and offered feedback on proposed revisions.

Project Evaluation Consultant, *Bristol-Myers Squibb Science Horizons Project, October 1996–December 1996*

Provided technical assistance concerning the evaluation of a summer science program designed to boost middle school students' interest in science as a career option.

Workshop Assistant, *Syracuse University's Chemistry Day at the Museum of Science and Technology, November 1996*

Facilitated a hands-on workshop designed for K-6 students to teach them about properties of matter.

Conference Planning Committee, *North Central Association for the Education of Teachers in Science Fall Conference, Iowa City, Iowa, October 1996*

Coordinated facilities arrangements, AV equipment availability, and social events associated with the conference.

Grant Writing Workshop Group Leader, *NSF Grant Proposal Writing Retreat, Purdue University, December 1995*

Invited to serve as a group leader in charge of the development of the preservice and beginning teacher experiences, support systems, and professional development components of a NSF grant proposal. Involved coordinating efforts with other group leaders, 25 workshop participants, and NSF grant-writing consultants at Purdue.

Panelist, *Internal Review Board Evaluation, University of Iowa, November 1995*

Selected to be interviewed by an internal review board committee conducting an evaluation of the Science Education Center at Iowa. Interview dealt with the professional preparation that graduate students in Science Education received.

Departmental Self-Study Assistant, *Science Education Center, University of Iowa, April 1995*

Chosen by the faculty committee to conduct a focus group interview with representative graduate students from the Science Education Center concerning their evaluation of the science education program at Iowa. Interviews were videotaped and incorporated into an overall department self-study report.

Interim Project Coordinator, *Salish Research Project, University of Iowa, Fall 1993*

Held position from the time initial funding was received until a full-time Project Coordinator was hired. Established contact with nine other Salish sites, as well as personnel at National Center for Improving Science Education, the Council of Scientific Society Presidents, and the U.S. Department of Education. Orchestrated Salish Leadership Conference held in El Paso, Texas, January 1994.

Alternate Representative, *Graduate Students in Science Education, University of Iowa, 1994–1995*

Served as a department alternate on the Graduate Student Senate at the University of Iowa.

Private Chemistry Tutor, *Iowa City, Iowa, 1993*

Acted as paid tutor for high school student preparing to take SAT Standardized Achievement Exam in chemistry.

Field Trip Chaperone, *Iowa City Area Science Center, Inc., 1993*

Coordinated a science-oriented field trip for thirty junior high students including a nature hike and exploration of natural limestone caves.

President, *SUNY Cortland Chemistry Club, 1990–1991*

Provided leadership during club activities and presented budget requests to Student Activities Board.

High School GED Tutor, *Harford, New York, 1990*

Tutored an adult student to successful achievement of high school equivalency diploma.

EDITORIAL BOARDS

- Manuscript reviewer for the Journal of Science Teacher Education, 2012–present
- Manuscript reviewer for the Journal of Research in Science Teaching, 1998–present

- Manuscript reviewer for the International Journal of Science & Mathematics Education, 2003-present
- Manuscript reviewer for School Science & Mathematics, 2004-present
- Editorial Board for the Journal of Elementary Science Education, 1998-2010

RESEARCH INTERESTS

Preservice Science Teacher Education
Science Teachers' Beliefs
Rural Science Education
Undergraduate STEM Education

PROFESSIONAL MEMBERSHIPS

American Education Research Association
American Association of Colleges & Universities
American Society for Engineering Education
Association for Supervision & Curriculum Development
Association for the Education of Teachers in Science
Association for Teacher Education
National Association for Research in Science Teaching
National Association for Science, Technology, & Society
National Science Teachers Association
Northeast- Association for the Education of Teachers in Science
School Science and Mathematics Association
Science Teachers Association of New York State
American Association of Chemistry Teachers