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ADDRESSES

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EDUCATION

1983-1987	Ph.D., Science Education, North Carolina State University, Raleigh, NC.
1976-1977	M.A. in Biology, Appalachian State University, Boone, NC.
1973-1976	B.S. in Biology, *cum laude,* Appalachian State University, Boone, NC.

EXPERIENCE

2015- present	**Associate Department Head**, STEM Education, NCSU, Raleigh NC.
2014- present	**Alumni Distinguished Graduate Professor**, Science Education, NCSU, Raleigh NC. **Fellow,** Friday Institute for Educational Innovation, NCSU (2011- present)
2014- 2015	**Precollege Education Director**, ASSIST Engineering Center, NCSU (2012- present)
2003- 2014	**Professor**, Science Education, NCSU, Raleigh, NC. **Adjunct Professor**, Department of Computer Science, UNC, Chapel Hill, NC. **Adjunct Professor,** Biology, University of North Carolina at Wilmington
1993- 2003	**Associate Professor**, Science Education, UNC, Chapel Hill, NC. **Adjunct Associate Professor**, Department of Computer Science, UNC, Chapel Hill, NC. **Adjunct Associate Professor**, Biology, University of North Carolina at Wilmington. **Carolina Environmental Faculty,** Interdisciplinary Program, UNC, Chapel Hill.
1988-1993	**Assistant Professor and Middle Grades Program Coordinator**, Middle Grades and Science Education, UNC, Chapel Hill, NC.
1988	**Director of Teacher Education/Program Officer**, **Visiting Assistant Professor,** Department of Mathematics and Science Education, NC State University, Raleigh, NC.
1986-1987	**Curriculum Project Director**- N.C. Division of Coastal Management. **Research Assistant**, N.C. State University, Raleigh, N.C. **Associate Director**- Junior Science and Humanities Symposium.
1982-1986	**Biology Teacher**, Enloe High School, Raleigh, N.C.
1980-1982	**Science and Mathematics Teacher**, West Millbrook Junior High School, Raleigh, N.C.
1980	**Instructor**, N.C. Museum of Natural History, Raleigh, N.C. Taught natural history courses for adults and children.
1979-1980	**Research Technician**, Genetics Department, N.C. State University. Research in cytogenetics and mutagenicity.
1979	**Researcher**, Department of Entomology, N.C. State University.
1977-1979	**Instructor and Coordinator**, Department of Zoology, N.C. State University.
1978	**Instructor**, Summer programs, N.C. Museum of Natural History.
1976-77	**Teaching Assistant**, Appalachian State University. Taught General Biology and Invertebrate Zoology.

PUBLICATIONS

Books

Jones, M. G., Taylor, A., & Falvo, M. (2009). Extreme science. Arlington, VA: National Science Teachers Association Press.

Jones, M. G., Taylor, A., Broadwell, B., & Falvo, M. (2007). Nanoscale science. Arlington, VA: National Science Teachers Association Press.

Jones, M. G., Jones, B., & Hargrove, T. (2003). The unintended consequences of high stakes testing. Boulder, Co.: Rowman and Littlefield.

Jones, M.G. (1993). Sound ideas. North Carolina Estuarine Research Reserve Program: Raleigh, N.C.

Jones, M.G., Carter, G., Shaw, R., & Hill, S. (1990). Integrated science: Book 2. Durham: Carolina Academic Press.

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Jones, M.G. (1989). Project estuary. North Carolina Estuarine Research Reserve Program: Raleigh, N.C.

Miller, G.C., Jones, M.G., & Walters, J. (1987). Laboratory manual in general zoology. Winston-Salem, N.C.: Hunter Publishing Company.

Miller, G.C., & Jones, M.G. (1983). Laboratory manual in general zoology. Winston-Salem, N.C.: Hunter Publishing Company.

Miller, G.C., Jones, M.G., & Garner, F. M. (1980). Laboratory manual in general zoology. Winston-Salem, N.C.: Hunter Publishing Company.

Book Chapters

Jones, M. G., Childers, G.,Emig, B., Chevrier, J., Stevens, V., & Tan, H. (2016), The efficacy of visuohaptic simulations in teaching concepts of thermal energy, pressure and random motion, In N. Papadouris, A. Hadjigeorgiou, & C. Constantinou (Eds), Insights from research in science teaching and learning (pp.73-86), Springer, Neatherlands.

Lee, T. & Jones, M. G. (in press). Instructional representations as tools to teach systems thinking. In K. Daniel, Towards a Framework for Representational Competence in Science Education, Dordrecht, The Netherlands: Springer.

Jones, M. G. (2015). Science Kits. L. Rennie and R. Gunstone (Eds), Encyclopedia of Science Education. (pp. 1-2). Springer, Netherlands.

Jones, M.G. & Magana, A. (2015). Haptic technologies to support learning. In J.M. Spector (Ed.), Encyclopedia of Educational Technology, Sage Publications, (pp. 331-332), Thousand Oaks, CA: Sage.

Mayes, R., Lehr, R., & Jones, M. G. (in press). Chapter 10: Using Mathematics, Information and Computer Technology, and Computational Thinking. In C. Schwarz (Ed). Next Generation Science Standards Practices. National Science Teachers Association.

Blonder, R., Benny, N., & Jones, M. G. (2014). Teaching self-efficacy of science teachers. In C. Czerniak, R. H. Evans & J. Luft (Eds.), The role of science teachers' beliefs in international classrooms: From teacher actions to student learning, (pp. 3-15). Sense Publishers, Rotterdam.

Childers, G. & Jones, G. (2014). Students as virtual scientists: A review of remote microscopy use in education. In A. Mendez-Vilas (Ed.), Microscopy: advances in scientific research and education (1195-1198). Formatex Research Center: Spain.

Jones, M. G. & Legon, M. (2014). Teacher attitudes and beliefs: Reforming practice. In N. Lederman & S. Abell, (Eds), Handbook of Research on Science Teaching, (pp. 830-847). Routledge, NY.

Jones, M. G. (2013). Conceptualizing size and scale (pp. 147-154). In R. Mayes & L. Hatfield (Eds). Quantitative Reasoning in Mathematics and Science Education, Mongraph No. 3.

Jones, M. G., & Broadwell, B. (2008). Visualizing without vision. In J. Gilbert, M. Nakhleh, and M. Reiner (Eds.) Visualization: Theory and practice in science education. Springer, 283-294.

Jones, M. G., & Carter, G. (2006). Science teacher attitudes and beliefs. Handbook of Research on Science Teaching. S. Abel and N. Lederman (Eds.). Lawrnce Earlbaum.

Jones, M. G. (2008). Exploring nanoscale science with middle and high school students. In A. Sweeney and S. Seal (Eds.), Nanoscale science and engineering education: Issues, trends, and future directions. American Scientific Publishers, Stevenson Ranch, CA.

Paechter, M., Jones M. G., Tretter, T., Bokinsky, A., Kubasko, D., Negishi A. & Andre, T. (2006). Hands-on in science education: Multimedia instruction that is appealing to female and male students. In D. Grabe & L. Zimmermann (Eds.), Multimedia Applications in Education (p. 78-85). Graz: FH Joanneum. (Best Paper Award, September, 6th 2006).

Jones, M.G., & Edmunds, J. (2005). Models of elementary science instruction: Roles of science resource teachers. In K. Appleton, (Ed.). Elementary science teacher education: Contemporary issues and practice. Mahwah, New Jersey: Lawrence Erlbaum in association with AETS.

Jones, M. G., Bokinsky, A., Tretter, T., Negishi, A., Kubasko, D., Superfine, R., Taylor, R. (2003). Atomic force microscopy with touch: Educational applications. Science, technology and education of microscopy: An overview, vol. II, (pp. 776-686). A. Mendez-Vilas, (Ed.). Madrid, Spain: Formatex.

Taylor, R., Borland, D., Brooks, F., Falvo, M., Guthold, M., Hudson, T., Jeffay, K., Jones, M. G., Marshburn, D., Papadakis, S., Qin, L., Seeger, A., Smith, F., Sonnenwald, D., Superfine, R., Washburn, S., Weigle, C., Whitton, M., Williams, P., Vicci, L., Robnette, W. (2004). Visualization and natural control systems for microscopy. In C. Johnson and C. Hansen (Eds.). Visualization handbook. Burlington MA: Academic Press, 875-900.

Malloy, C., & Jones, M. G. (2001). An investigation of African-American students' mathematical problem solving. In J. Sowder & B. Schappelle (Eds.) Research, reflection, and practice, (pp. 91-195). Reston, VA: NCTM.

Superfine, R., Falvo, M., Steele, J., Matthews, G., Guthold, M., Erie, D., Helser, A., Jones, M. G., Taylor, R., Washburn, S. (2000). Touching on the nanometer scale: Slip, roll and tear. In Microbeam Analysis 2000, 165, (pp. 369-370). Institute of Physics Conference Series.

Jones, M. G., & Carter, G. (2000). Grupos pequenos e construoes partilhadas. In J. J. Mintzes, J. H. Wandersee, & J. D. Novak (Eds.), Ensinando ciencia para a compreensao: Uma visao construtivista (pp. 232-247). Lisbon, Portugal: Platano Edicoes Tecnicas. (Portuguese translation of English edition).

Jones, M.G., & Carter, G. (1997). Small groups and shared constructions. In J. Mintzes, J. Wandersee, & J. Novak, (Eds.), Teaching science for understanding: A human constructivist view (pp. 261-278). Educational Psychology Series, San Diego, CA: Academic Press.

Jones, M.G. (1996). The constructivist leader. In J. Rhoton & P. Bowers (Eds.), Issues in science education, (pp. 140-148). Arlington, VA: National Science Teachers Association.

Jones, M.G. (1995). Gender equity for the twenty-first century. In B. Day (Ed.), Education for the twenty-first century: Key issues: leadership, legislation, and learning (pp. 425-440). Austin, TX: The Delta Kappa Gamma Society International.

Refereed Publications

Jones, M. G., Childers, G., Andre, T., Corin, E., & Hite, R. (2016, Submitted). Citizen scientists and non-

citizen scientist hobbyists: Motivation, benefits, and influences.

Hite, R., Jones, M.G., Childers, G., Chesnutt, K., Corin, E. N., & Pereyra, M. (Submitted, 2017). Teachers' Pedagogical Perceptions of Novel 3-D, Haptic-Enabled, Virtual Reality Technology. Manuscript submitted for publication.

Gardner, G., Jones, M. G., Albe, V., Blonder, R., Laherto, A., & Paechter, M. (2016). Factors Influencing Postsecondary STEM Students' Views of the Public Communication of an Emergent Technology: a Cross-National Study from Five Universities. Research in Science Education, 1-19.

Jones, M. G., Hite, R., Childers, G., Corin, E., Pereyra, M., & Chesnutt, K., (2016). Perceptions of presence in 3-D, haptic-enabled virtual reality instruction. International Journal of Education and Information Technologies, 16, 73-81.

Hite, R.**,** Jones, M. G., & Jur, J. S. (2016). Engineering imagination with ideation. Journal of Interdisciplinary Teacher Leadership, 1(1).

Forrester, J. H., Jones, M. G., & Gardner, G. (2017). Competitive Science Events: Who participates and why? Manuscript under review.

Jones, M. G., Childers, G., Andre, T., Corin, E., & Hite, R. (2016). Citizen scientists and science hobbyists: Educating the life-long learner. In J. Lavonen, K. Juuti, J. Lampiselkä, A. Uitto & K. Hahl (Eds.), Electronic Proceedings of the ESERA 2015 Conference. Science education research: Engaging learners for a sustainable future*,* Part 8, (pp. 150-159). Helsinki, Finland: University of Helsinki. ISBN 978-951-51-1541-6

Jones, M. G., Corin, E., Andre, T., Childers, G., & Stevens, V. (2016). Factors contributing to lifelong science learning: Amateur astronomers and birders. Journal of Research in Science Teaching, 54(3), 412-433.

Hite, R., Jones, M. G., Andre, T., Childers, G., and Corin, E. (2016 submitted). Female and minority experiences in an astronomy hobby.

Corin, E., Jones, M. G., Andre, T., Childers, G., & Stevens, V. (2016 submitted). Comparison of the influences, interests, motivations and participation of male and female STEM hobbyists in young adulthood, middle adulthood, and older adulthood. Paper submitted for review.

Corin, E., Jones, M. G., Andre, T., & Childers, G., (in press). Characteristics of Lifelong Science Learners: An Investigation of STEM Hobbyists. International Journal of Science Education.

Jones, M. G., & Hite, R. (2016, May). An Exploration of 3-D, Haptic-enabled Virtual Reality Technologies in Educational Research. Research presented to the NC State Virtual Reality Working Group, Friday Institute for Educational Innovation, Raleigh, NC.

Magana, A., Sanchez, K., Shaikh, U., Jones, M. G.,Tan, H. (2016 in press). Exploring multimedia principles for supporting conceptual learning of electricity and magnetism with visuohaptic simulations. Computers in Education.

Delgado, C., Jones, G., You, H. S., & Halberda, J. (2016 in press). Scale and evolutionarily-based approximate number system: An exploratory study. International Journal of Science Education.

Madden, L., & Jones, M. G., & Childers, G. (2016, in press). Teacher graduate education: Modes of communication within synchronous and asynchronous communication platforms. Journal of Classroom Interactions.

Childers, G. & Jones, M. G. (in press). Learning from a distance: High school students' perceptions of

virtual presence, motivation, and science identity during a remote microscopy investigation. International Journal of Science Education.

Forrester, J., & Jones, M. G. (2015). The Tears and Trophies of Science Competitions. Science Scope, 38(8), 6,8-9.

Jones, M. G., Hite, R., Childers, G., Corin, E., Pereyra, M., Chesnutt, K., & Goodale, T. (2015). Teachers' and Students' Perceptions of Presence in Virtual Reality Instruction. Paper presented at the World Scientific and Engineering Academy and Society: 11th International Conference on Engineering Education, University of Salerno, Salerno, 27-29 June. Salerno, Italy: WSEA.

Childers, G., Watson, K., Jones, G., Williamson, K., & Hoette, V. (2015). Touching the stars: Making astronomy accessible for students with visual impairments. Science Scope 38(9), 20-26.

Corin, E. N., Jones, M. G., Andre, T., Childers, G. M., & Stevens, V. (2015). Science hobbyists: active users of the science-learning ecosystem. International Journal of Science Education, Part B, 1-20.

Jones, M. G. (2015). Precollege Nanotechnology Education: A Different Kind of Thinking. Nanotechnology Review, 4(1), 117-127.

Lancaster, M., & Jones, M. G. (2015). Science Meets Engineering: Applying the Design Process to Monitor Leatherback Turtle Hatchlings. Science Scope, 38(9), 53-62.

Childers, G. & Jones, M. G. (2015). Students as Virtual Scientists: An Exploration of Students' and Teachers' Perceived Realness of a Remote Electron Microscopy Investigation. International Journal of Science of Education, 137(15), 2433-2452.

Jones, M.G., Paechter, M., Gardner, G., Yen, I., Taylor, A., & Tretter, T. (2013). Teachers' concepts of spatial scale. An international comparison between Austrian, Taiwanese, and the United States, International Journal of Science Education, 35(14), 2462-2482.

Jones, G., Childers, G., Emig, B., Chevier, J., Tan, H., Stevens, V., & List, J. (2014). The Efficacy of Haptic Simulations to Teach Students with Visual Impairments About Temperature and Pressure, Journal of Visual Impairment and Blindness, 108(1), 55-61.

Gardner, G.E., & Jones, M.G. (2014). Exploring pre-service teachers' perceptions of the risks of emergent technologies: Implications for teaching and learning. Journal of Nano Education, 6, 39-49.

Madden, L., Jones, M., G., & Blanchard, M. (2013). Shared photonarratives in an online master's course: Reflection, context and community. Contemporary Issues in Technology and Teacher Education, 13(1), 41-60.

Jones, M. G., Gardner, G., Robertson, L., & Robert, S. (2013). Science professional learning communities: Beyond a singular view of teacher development. International Journal of Science Education, 35(10), 1756-1774.

Zhu, Y. Tracy,J., Dong, D., Jiang, X., Jones, M.G., & Childers, G. (2013). Teaching a multidisciplinary nanotechnology laboratory course to undergraduate students. Journal of Nano Education,5, 1-10.

Tretter, T. R., Jones, M. G., & Falvo, M. R., (2013). Nanoscience for All: Strategies for Teaching Nanoscience to Undergraduate Freshmen Science and Non-Science Majors. Journal of Nano Education, 5(1), 1-9.

Robertson, L. & Jones, M.G. (2013). Chinese and US middle school science teachers' autonomy, motivation, and instructional practices. International Journal of Science Education, 35(9), 1454-1489. doi:10.1166/jne.2013.1031

Jones, M.G., Blonder, R., Gardner, G., Albe, V., Falvo, M., Chevrier, J. (2013). Nanotechnology and nanoscale science: educational challenges educating the next generation. International Journal of Science Education, 35(9), 1490-1512.

Jones, M. G., Gardner, G., Lee, T., Poland, K., & Robert, S. (2013). The impact of microbiology instruction on students' perceptions of the risks of microbial illness. International Journal of Science Education, Part B: Communication and Public Engagement, 3(3), 199-213.

Jones, M. G., Childers, G., Stevens, V., & Whitley, B. (2012). Citizen scientists: Investigating science in the community, The Science Teacher, 79(9), 54-57.

Taylor, A., & Jones, M. G. (2012). Students' and teachers' application of surface area to volume relationships. Research in Science Education, 41(3), 357-368.

Jones, M. G., Forrester, J., Taylor, A., & Gardner, G. (2012). Accuracy of measurement estimation: Context, units, and logical thinking. School Science and Mathematics, 112(3), 171-178.

Jones, M. G., Forrester, J. H., Robertson, L. E., Gardner, G. E., & Taylor, A. R. (2012). Students' accuracy of measurement estimation in students with visual impairments. The Journal of Visual Impairment and Blindness, 106(6), 339-350.

Jones, M. G., Robertson, L., Gardner, G., Dotger, S., & Blanchard, M. (2012). Differential use of elementary science kits: One size does not fit all. International Journal of Science Education, 34(15), 2371-2391.

Gardner, G. E. & Jones, M. G. (2011). Perspectives and practices: Biology graduate teaching assistants' framing of a controversial socioscientific issue. International Journal of Science Education. 33(8), 1031-1054.

Gardner, G., & Jones, M. G. (in press). Pedagogical preparation of the science graduate teaching assistant: Challenges and implications. Science Educator, 20(2), 31-41.

Gardner, G., & Jones, M. G. (2011). Science instructors' perceptions of the risks of biotechnology: Implications for science instruction. Research in Science Education, 41(5), 711-738.

Jones, M. G., Taylor, A., & Forrester, J. (2011). Developing a scientist: A retrospective look. International Journal of Science Education, 33(12), 1653-1673.

Jones, M.G., Krebs, D., & Banks, A. (2011). We scream for Nano Ice Cream. Science Activities, 48(4), 107-110.

Jones, M. G., Gardner, G., Taylor, A., Wiebe, E., & Forrester, J. (2011). Conceptualizing magnification and scale: The roles of spatial visualization and logical thinking. Research in Science Education, 41(3), 357-368.

Tretter, T., Jones, M. G., & Falvo, M. (2010). Impact of introductory nanoscience course on college freshmen's conceptions of spatial scale. Journal of Nano Education, 2, 53-66.

Gardner, G., Jones, M. G., Taylor, A., & Forrester, J. (2010). Students' risk perceptions of nanotechnology applications: Implications for science education. International Journal of Science Education, 32(14), 1951-1969.

Gardner, G., Jones, M. G., & Ferzli, M. (2009). Popular media in the biology classroom: Viewing popular science skeptically. The American Biology Teacher, 71(6), 351- 354.

Gardner, G., & Jones, M. G. (2009). Bacteria buster: Testing antibiotic properties of silver nanoparticles, The American Biology Teacher, 71(4), 231-234.

Gardner, G., Jones, M. G., & Falvo, M. (2009). "New Science" and societal issues: Considering the ethics of nanosensors. The Science Teacher, 76(7), 49-53.

Robertson, L., & Jones, M. G. (2009). Biological clocks and circadian rhythms. Science Scope, 32, 6, 41-47

Jones, M. G., & Taylor, A. (2009). Developing a sense of scale: Looking backward. Journal of Research in Science Teaching, 46(4), 460-475.

Wiebe, E. N., Minogue, J., Jones, M. G., Cowley, J., & Krebs, D. (2009). Haptic Feedback and Students' Learning about Levers: Unraveling the Effect of Simulated Touch. Computers and Education, 53, 667-676.

Jones, M. G., Taylor, A., & Broadwell, B. (2009). Concepts of scale held by students with visual impairment. Journal of Research in Science Teaching, 46(5), 506-519.

Taylor, A., Jones, M.G., Broadwell, B., & Oppewal, T. (2008). Creativity, inquiry, or accountability? Scientists' and teachers' perceptions of science education. Science Education, 92(6), 1058-1075.

Taylor, A., & Jones, M. G. (2008). Proportional reasoning ability and concepts of scale: Surface area to volume relationships in science. International Journal of Science Education, 31(9), 1231-1247.

Minogue, J., & Jones, M. G. (2008). Measuring the Impact of Haptic Feedback Using the SOLO Taxonomy. International Journal of Science Education, 31, 1359-1378.

Jones, M. G., Tretter, T., Taylor, A., & Oppewal, T., (2008). Experienced and novice teachers' Concepts of spatial scale. International Journal of Science Education, 30 (3), 409-429.

Jones, M. G., Taylor, A., & Broadwell, B. (2009). Estimating linear size and scale: Body rulers. International Journal of Science Education, 31 (11), 1495- 1509.

Kubasko, D., Jones, M. G., Tretter, T. & Andre, T. (2008). Is it live or is it Memorex? Students' synchronous and asynchronous communication with scientists. International Journal of Science Education, 30(4), 495- 514.

Taylor, A., Jones, M. G., & Pearl, T. (2008). Bumpy, Shaky, Sticky: Nanoscale science and the curriculum. Science Scope, 31, 28-35.

Minogue, J., Jones, M. G., Broadwell, B., & Oppewal, T. (2006). The impact of haptic augmentation on middle school students' conceptions of the animal cell. Journal of Virtual Reality, 10, 3-4, 293-305.

Jones, M. G., Tretter, T., Paechter, M., Kubasko, D., Andre, T., Negishi, A., Bokinsky, A. (2007). Differences in African American and European American students' engagement with nanotechnology experiences: Perceptual position or assessment artifact? Journal of Research in Science Teaching, 44, (6), 787-789.

Jones, M. G., Taylor, A., Minogue, J., Broadwell, B., Wiebe, E., & Carter, G. (2007). Understanding scale: Powers of ten. Journal of Science Education and Technology Education, 16(2), 191-202.

Minogue, J. and Jones, M. G. (2005). Haptics in education: Exploring and untapped sensory modality. Review of Educational Research. 76(3), 217-348.

Minogue, J., Jones, M. G., and Broadwell, J. (2006). Exploring cells from inside out: New tools for the classroom. Science Scope, 29(6), 28-32.

Jones, M. G., Minogue, J., Oppewal, T., Cook, M., & Broadwell, B. (2006). Visualizing without vision at the microscale: Students with visual impairment explore cells with touch, Journal of Science Education and Technology, 15, 1573-1839.

Jones, M. G. & Rua, M. (2008). Conceptual representations of flu and microbial illness held by students, teachers, and medical professionals. School Science and Mathematics, 108(6), 263-278.

Falvo, M., Jones, M. G., Broadwell, B. (2006). Self-Assembly – How nature builds. Science Teacher, 73(9), 54-57.

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Hardin, B., Jones, M. G., Figueras, O. (2005). More Than clocks and calendars: The construction of timekeepers by eleven kindergarten children in Mexico and the United States. Journal of Research in Childhood Education, 19,(3), 223- 224.

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Moyer, P. & Jones, M.G. (2003). Controlling choice: Teachers, students, and manipulatives in mathematics classrooms. School Science and Mathematics, 104, 16-31.

Jones, M. G., Andre, T., Kubasko, D., Bokinsky, A., Tretter, T., Negishi, A., Taylor, R., Superfine, R. (2004). Remote atomic force microscopy of microscopic organisms: Technological innovations for hands-on science with middle and high school students. Science Education, 88, 55-71.

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Jones, M. G., Hargrove, T., & Jones, B. (2003). The failed metaphors of teaching. The School Administrator, 60(11), 26-28.

Carter, G., Jones, M.G., & Rua, M. (2003). The effects of partner's ability on the achievement and conceptual organization of high achieving fifth grade students. Science Education, 87(1), 94-111.

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Jones, M. G., & Brader-Araje, L. (2002). The impact of constructivism on education: Language, discourse, and meaning. American Communication Studies, 5, 1-10.

Andre, T., Jones, M. G., Superfine, R., & Taylor, R. (2001). Andre, T., Jones, M. G., Superfine, R., & Taylor, R. (2001). Helping teachers and students use advanced technology in teaching high school science: A preliminary feasibility study of the use of a WWW-controlled atomic force microscope in high school science. Technology and Teacher Education Annual, 3, 2510-2515.

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Jones, M. G., Brader-Araje, L., Carboni, L., Carter, G., Rua, M. (1999) Paradoxes of progress: The intersection of science tools, exploration, and competition. In G. H. Hildebrand (Ed.), Gazing into the future: Proceedings of the gender and science education (GASE) colloquium, Boston, The University of Melbourne, Parkville, Vic., Chapter 11.

Jones, M.G., Rua, M., Carter, G. (1999). Children's concepts: Tools for transforming science teachers' knowledge. Science Education, 83, 545-557.

Jones, M. G., Carter, G., & Rua, M. (2000). Exploring the development of conceptual ecologies: Communities of concepts related to convection and heat, Journal of Research in Science Teaching, 37, 139-159.

Jones, M.G., Howe, A., Rua, M. (2000). Gender differences in students' experiences, interests, and attitudes toward science and scientists. Science Education, 84, 180-192.

Jones, M.G. (1999). Cooperative logic: Which school is a "true" middle school? In S. Totten (Ed.), Preparing middle level educators: Practicing what we preach (pp. 16-20). NY: Falmer.

Jones, M.G. (1999). Adolescent profiles: Characteristics of early adolescence. In S. Totten (Ed.), Preparing middle level educators: Practicing what we preach (pp. 249-252). NY: Falmer.

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PRESENTATIONS AND PAPERS
National and International Presentations

Corin E., Jones, M. G., Andre, T., & Childers, G. (April,2017). Free-Choice STEM Learning: American Adults' Influences, Choices, and Motivations Compared by Age and Gender. American Educational Research Association, San Antonio, TX.

Ennes, M., Jones, M. G., Chesnutt, K., & Englehardt, H. (April, 2017). Educator Self-Efficacy in Informal Science Centers. American Educational Research Association, San Antonio, TX.

Childers, G., Jones, M. G., Chesnutt, K., Corin, E. & Andre, T. (April, 2017). STEM Career Choices and Science Leisure-Learning Interests. National Association of Research in Science Teaching, San Antonio, TX.

Corin, E., Jones, M. G., Andre, T., & Childers, G. (April, 2017). Gender and Age Cohort Differences in Motivations, Participation Choices in Free Choice STEM-learning Activities. National Association of Research in Science Teaching, San Antonio, TX.

Ennes, M., Jones, M. G., Chesnutt, K., & Englehardt, H. (April, 2017). Perceived levels of self-efficacy in informal science educators. National Association of Research in Science Teaching, San Antonio, TX.

Hite, R., Jones, M. G., Childers, G., Ennes, M., Chesnutt, K., Pereyra, M., & Cayton, E. (April, 2017). Relating Cognitive Development to Perceptions of Virtual Presence in 3-D, Haptic-Enabled, Virtual Reality Science Instruction. Paper presentation for the National Association for Research in Science Teaching (NARST) Conference, San Antonio, TX.

Hite, R., Jones, M. G., Childers, G., Ennes, M., Chesnutt, K., Pereyra, M., & Cayton, E. (April, 2017). Classifying Learning Activities in 3-D, Haptic-Enabled, Virtual Reality Science Instruction through Students' Questioning. Poster presentation for the American Educational Research Association (AERA) Conference, San Antonio, TX.

Hite, R., Jones, M. G., Childers, G., Ennes, M., Chesnutt, K., Pereyra, M., & Cayton, E. (April, 2017). Cognitive Development and Virtual Presence in 3-D, Haptic-Enabled, Virtual Reality Science Instruction. Paper presentation for the American Educational Research Association (AERA) Conference, San Antonio, TX.

Jones, M. G., Cayton, E., Chesnutt, K., Ennes, M., & Hite, R. (April, 2017). Electrifying Ideas for Teaching Energy. Workshop presented at the National Science Teachers Conference, Los Angeles, CA.

Hite, R., Jones, M. G., Ennes, M., Chesnutt, K., Cayton, E., & Childers, G. (April, 2017). Cracking the Case: Integrating Biology and Engineering in Case Studies. Workshop presented at the National Science Teachers Conference, Los Angeles, CA.

Chesnutt, K., Jones, M. G., Cayton E., Ennes, M., & Hite, R. (April 2017). Packing Your Scale Backpack: Research-Based Science Resources For Learning About Size and Scale. Workshop presented at the National Science Teachers Conference, Los Angeles, CA.

Hite, R., Jones, M. G., Childers, G., Ennes, M., Chesnutt, K., Pereyra, M., Cayton, E., & Stanley, R. (2017, January). The Utility of 3-D, Haptic-Enabled, Virtual Reality for Learning Complex Biological Systems: Students' Understanding of the Human Heart. Research paper presented for the Association for Science Teacher Education (ASTE) National Conference, Des Moines, IA.

Jones, M. G., Hite, R., Sounder, A. (2017, January). Virtual Reality STEAM Changes Student Outcomes. Paper presented at the Future of Education Technology Conference, Orlando, FL.

Girard, R., Lytle, E., Hollard, J., & Jones, M. G. (2017, February). Immerse Students in STEAM Using Virtual Reality. Paper presented at the TCEA Convention, Austin, TX.

Hite, R., Jones, M. G., & Childers, G., (2016, October). A Proposed Research Agenda for 3-D, Haptic-enabled, Virtual Reality Technology in 6-12 Science Instruction. Paper presentation for the South West Chapter of the Association for Science Teacher Education (ASTE) Regional Conference, Tyler, TX.

Ennes, M., Jones, M. G., Burns, K., Covel, J., Johnson, D., Lannoye-Hall, C. (2016, September). Improving Educator Self-Efficacy in Teaching Science Concepts. Presented at Association of Zoos and Aquariums Annual Conference, San Diego, CA.

Pereyra, M., & Jones M. (2016, September). I Latin American and Caribean Open Science Forum, CILAC 2016, Montevideo, Uruguay.

Gardner, G. E., Jones, M. G., & Ramos, M. (July, 2016). Cognition at the extremes: Undergraduate biology students' concepts of extreme spatial scales. Paper presented at the annual meeting of the Society for the Advancement of Biology Education Research (SABER), Minneapolis, MN.

Hite, R., Jones, M. G., & Childers, G. (April, 2016). Students' and Teachers' Perceptions of Presence and Preferences for 3-Dimensional, Haptic-Enabled, Virtual Reality Science Instruction. Paper presented at the National Association of Research in Science Teaching, Baltimore, DC.

Hite, R., Jones, M. G., Andre, T., Childers, G., & Corin, E. (April, 2016). An Exploration of Racial and Ethnic Participation in Science-Based Hobbies. Paper presented at the National Association of Research in Science Teaching, Baltimore, DC.

Jones, M. G., Childers, G., Andre, T., Corin, E., & Hite, R. (April, 2016). Citizen Scientists' and Science Hobbyists' Science Capital: Factors Influencing Development and Engagement for Lifelong Learning. Paper presented at the National Association of Research in Science Teaching, Baltimore, DC.

Lee, T., Jones, M. G., Glass, B., Chesnutt, K. (April, 2016). Teaching Water Cycle With a Systems Thinking Approach. Paper presented at the National Association of Research in Science Teaching, Baltimore, DC.

Aksit, O., Chesnutt, K., Glimcher, S., Jones, M. G. (April, 2016). Exploring the Cross-Disciplinary Collaborations between Engineers and Educators at Engineering Research Centers. Paper presented at the National Association of Research in Science Teaching meeting, Baltimore, MD.

Childers, G. & Jones, G. (April, 2016). Remote Learning Environment Model: Constructs Influencing Students' Perceptions of Remote Microscopy Investigations. Paper presented at the National Association of Research in Science Teaching meeting, Baltimore, MD.

Corin, E., Jones, M. G., Andre, T., & Childers, G. (April, 2016). Members of 10 STEM Hobby Groups: A Comparison Study. Paper presented at the National Association of Research in Science Teaching, Baltimore, DC.

Jones, M. G., Childers, G., Andre, T., Corin, E., & Hite, R. (April, 2016). Lifelong Learners and Science Capital: Motivation, Development, and Engagement of Citizen Scientists and Science Hobbyists. Paper presented at the American Educational Research Association, Washington, D.C.

Corin, E., Jones, M. G., Andre, T., & Childers, G. (April, 2016). A Recipe for Lifelong Learning: A Closer Look at 10 Groups of STEM Hobbyists. Paper presented at the American Educational Research Association, Washington, D.C.

Gardner, G., Jones, M. G., & Paechter, M. (April, 2016). Communicating Science to the Public: Undergraduate Science Students' Perceptions About an Emergent Technology. Paper presented at the American Educational Research Association, Washington, D.C.

Chesnutt, K., Aksit, O., Glimcher, S., Jones, M. G. (April, 2016). Epistemological Beliefs, Education Outreach and Collaborations Between Engineers and Educators. Paper presented at the American Educational Research Association, Washington, D.C.

Lee, T., Jones, M. G., Glass, B., Chesnutt, K. (April, 2016). The Application of Systems Thinking in Teaching about the Water Cycle. Paper presented at the American Educational Research Association, Washington, D.C.

Gardner, G., Jones, M.G., & Ramous-Frkuska, M. (April, 2016). Undergraduate Biology Students' Conceptions of Extreme Spatial Scales. Paper presented at the National Science Teachers Association, Nashville, TN.
Jones, M. G. & Andre, T. (2016). Master Science Hobbyists. Poster presented at the NSF AISL PI meeting, Washington DC.

Lee, T. & Jones, G. (January, 2016). Teaching Systems in the Context of the Water Cycle. Paper presentation at the Association for Science Teacher Education International Conference, Reno, NV.

Childers, G. & Jones, G. (January, 2016). A Model of Remote Learning Environments: Exploring High School Students' Perceptions of Virtual Presence, Motivation, and Science Identity during a Remote Microscopy Investigation. The Association for Science Teacher Education International Conference, Reno, NV.

Hite, R., Jones, M.G., Childers, G., Chesnutt, K., Corin, E. N., & Pereyra, M. (2016, January). Teachers' Pedagogical Perceptions of Novel 3-D, Haptic-Enabled, Virtual Reality Technology. Paper presentation at Association for Science Teacher Education National Conference, Reno, NV.

Gardner, G. E., Jones, M. G., & Ramos, M. (April, 2016). Undergraduate biology students' conceptions of extreme spatial scales. Paper presented at the annual meeting of the Society for College Science Teachers (SCST), Nashville, TN.

Hite, R., Jones, M. G., Childers, G., Chesnutt, K., Corin, E., & Pereyra, M. (2016, January). Teachers' Pedagogical Perceptions of Novel 3-D, Haptic-Enabled Virtual Reality Technology. Paper presented at the international meeting of the Association for Science Teacher Education, Reno, NV.

Jones, M. G., Childers, G., Andre, T., Corin, E., & Hite, R. (2015, September). Citizen scientists and science hobbyists: Educating the Life-long Learner. Paper presented at the European Science Education Association, Helsinki, Finland.

White, I. & Jones, M. G. (2015, August). Publishing in science education journals. Workshop presented at the European Science Education Association, Helsinki, Finland.

Jones, M. G., Hite, R., Childers, G., Corin, E., Pereyra, M., Chesnutt, K., & Goodale, T. (June, 2015). *Teachers' and Students' Perceptions of Presence in Virtual Reality Instruction.* Invited paper presented at the World Scientific and Engineering Academy and Society: 11th International Conference on Engineering Education, Salerno, Italy.

Corin, E. N., Jones, M. G., Andre, T., Childers, G. M., Hite, R. (April, 2015) Science Hobbyists as Learners and Educators: Participation in the STEM Learning Ecosystem. Paper presentation at American Education Research Association Conference, Chicago, IL.

Corin, E. N., Jones, M. G., Andre, T., Childers, G. M., Hite, R. (April, 2015) Where do they fit? Astronomy and Birding Hobbyists in the STEM Learning Ecosystem. Paper Presentation at the National Association for Research in Science Teaching Conference, Chicago, IL.

Hite, R., Jones, M. G., Andre, T., Corin, E. N., Childers, G. M. (April, 2015) Minority Engagement in Science Hobbies: Discussion of Social Barriers, Motivation Influencing Science Self-Efficacy and Identity. Paper presented at the National Association for Research in Science Teaching Conference, Chicago, IL.

Childers, G. & Jones, G. (April, 2015). Is it Real? Students' and Teachers' Perceived Perceptions of Virtual Presence during a Remote Microscopy Investigation. National Association for Research in Science Teaching, Chicago, IL.

Childers, G. & Jones, M. G. (2015, January). An Exploration of Students' and Teachers' Perceived Realness of a Remote Electron Microscopy Investigation. Presentation at the 2015 meeting of the Association of Science Teacher Educators, Portland, OR.

Jones, M. G., Andre, T., Childers, G., Corin, E. & Hite, R. (2015, January). The Intersection of Formal and Informal Science Education: Development, Motivations, and Contributions of Amateur Astronomers and Birder Hobbyists. Presentation at the 2015 meeting of the Association of Science Teacher Educators, Portland, OR.

Lee, T. & Jones, M. G. (2015, January). An Exploration of Systems Thinking among Elementary Pre-Service Teachers: Selection and Use of Multiple Pictorial Representations for a Proposed Lesson on the Water Cycle. Presentation at the 2015 meeting of the Association of Science Teacher Educators, Portland, OR.

Corin, E. N., Jones, M. G., Childers, G. M., Hite, R. (October, 2014). Childlike Wonder: Using Science Hobbies and Hobbyists to Facilitate a Lifetime Engagement with Science. Presentation at 2014 National Science Teachers Association Area Conference, Richmond, VA.

Jones, M. G., Taylor, A. R., Corin, E. N., Hite, R., Childers, G. M., Walz. J. (October, 2014). Breathtaking Science: Exploring the Hidden and Unexpected Worlds at the Nanoscale. Presentation at 2014 National Science Teachers Association Area Conference, Richmond, VA.

Jones, M. G. (February, 2014). Where are the women and minority fossil collectors? Invited presentation, North American Paleontological Convention, Gainsville, Florida.

Jones, G., Andre, T., Childers, G., & Corin, E. (April, 2014). Science Hobbyists: A New Generation of Community-Based Educators. American Educational Research Association, Philadelphia, PA.

Madden, L., Jones, G., & Childers, G. (April, 2014). New Pedagogical Tools- New Interaction Patterns: Science Teacher Interactions in Distance Education for Professional Development. American Educational Research Association, Philadelphia, PA.

Jones, G., Taylor, A., Childers, G., Corin, E., & Hite, R. (April, 2014). Geometry of Life. National Science Teacher Association, Boston, MA.

Childers, G., Jones, G., Corin, E., & Hite, H. (April, 2014). Exploring the Unseen World: Nano-Structures and Nano-Inspired Innovations. Workshop for Bilingual Educators. Portland State University, Portland, OR.

Andre, T., Jones, G., Childers, G., Corin, E. (April, 2014). Astronomy and Birding Hobbyists' Development, Motivations, and Informal Science Education. Iowa Academy of Education, University of Iowa, Cedar Falls, IA.

Gardner, G. & Jones, M. G. (March, 2014). Teacher's perceptions of pacing guides as a tool to teach science. National Association for Research in Science Teaching, Pittsburgh, PA.

Jones, G., Andre, T., Childers, G., & Corin, E. (March, 2014). Teaching Outside the Box: Science Hobbyists' Role in Science Education. National Association for Research in Science Teaching, Pittsburgh, PA.

Jones, G., Paechter, M., Laherto, A., Albe, V., Gardner, G., & Childers, G. (March, 2014). Risks of Nanotechnology: An International Study of the Perceptions of Engineering and Science Students. National Association for Research in Science Teaching, Pittsburgh, PA.

Madden, L., Jones, G., & Childers, G. (March, 2014). Speak, Chat, or Write: Differential Interactions in Science Teacher Professional Development with Distance Education Tools. National Association for Research in Science Teaching, Pittsburg, PA.

Jones, M. G., Andre, A., Childers, G., & Corin, E. (2014, January). The forgotten tribe: Science hobbyists as teachers. Paper presented at the Association for Science Teacher Education International Conference, San Antonio, TX.

Madden, L., & Jones, M. G., & Childers, G. (2014, January). Science teacher graduate education: Modes of communication within synchronous and asynchronous communication platforms. Paper presented at the Association for Science Teacher Education International Conference, San Antonio, TX.

Hoette, V., Kron, R., Meredith, K., Russell, R., Watson, K., Heatherly, S., Wiliamson, K., Reichart, D., Haislip, J., Gurton, S., Hurst, A., Jones, G., Childers, G., Colby, J., Lehman, E., Phalen, L. (January, 2014). Skynet Junior Scholars: Sharing the Universe with Blind/Low Vision Youth. American Astronomical Society Conference, Washington, D.C.

Corin, E. N., Jones, M. G., Andre, T., Childers, G. M. (2013, January) Astronomy Hobbyists: Factors that Influenced Career Choices. The Association for Science Teacher Education International Conference, Charleston, SC.

Jones, G., Taylor, A., Childers, G., Corin, E., & Hite, R. (November, 2013). Geometry of Life. National Science Teacher Association, Charlotte, NC.

Jones, G., Taylor, A., Childers, G., Corin, E., & Hite, R. (November, 2013). Sensors in Your Bellybutton. National Science Teacher Association, Charlotte, NC.

Andre, T., Jones, M. G., Childers, G. M., Corin, E. N. (2013, October). Science Hobbyists' Development, Motivations, and Contributions to Informal Science Education: Design and Preliminary Qualitative Analysis. Paper presented at the Northeastern Educational Research Association, Rocky Hill, CT.

Andre, T., Jones, M. G., Childers, G. M., Corin, E. N. (2013, October). Science Hobbyists' Development, Motivations, and Contributions to Informal Science Education: Design and Preliminary Qualitative Analysis. Presented at Northeastern Educational Research Association, Rocky Hill, CT.

Jones, G., Childers, G., Emig, B., Chevrier, J., Stevens, V., & Tan, H. (September, 2013). Learning in a Virtual World: Teaching Concepts of Heat, Pressure and Random Motion. European Science Education Research Association, Nicosia, Cypress.

Jones, M. G., Childers, G., Emig, B., Chevrier, J., Stevens, V., & Tan, H. (2013, April). Learning in a virtual world: Teaching concepts of heat, pressure and random motion. National Association for Research in Science Teaching (NARST), 2013 International Conference, Puerto Rico.

Childers, G., Jones, M. G., Emig, B., Chevrier, J., Stevens, V., & Tan, H. (2013, April). Haptic worlds: New learning environments for teaching students with visual impairments about particulate matter. National Association for Research in Science Teaching (NARST), 2013 International Conference, Puerto Rico.

Madden, L., & Jones, M. G., (2013, April). Photonarratives in an online master's course: A viable way to enhance teacher reflection and build community. National Association for Research in Science Teaching (NARST), 2013 International Conference, Puerto Rico.

Delgado, C., Jones, M. G., You, H. S., Robertson, L., & Halberda, J. (2013, April). Size and scale tasks and their relation to evolutionarily-based and culturally-based knowledge. National Association for Research in Science Teaching (NARST), 2013 International Conference, Puerto Rico.

Corin, E., & Jones, M. G. (2013, January). Astronomy hobbyists: Factors that influenced career selection. Paper presented at the Association of Science Teacher Education conference, Charleston, SC.

Childers, G, Jones, M. G., Emig, B., Stevens, V., & List, J. (2013, January). The efficacy of haptic simulations to teach students with visual impairment about temperature and pressure. Paper presented at the Association of Science Teacher Education conference, Charleston, SC.

Jones, M., Childers, G., Emig, B., Chevrier, J., Stevens, V., & Tan, H. (2013, January). The Efficacy of haptic simulations in teaching concepts of heat, pressure and random motion. Paper presented at the Association of Science Teacher Education conference, Charleston, SC.

Jones, M.G., & Andre, T. (2012, March). Master science hobbyists and Citizen Scientists: Characteristics motivations, experiences, and career trajectories. Paper presented at the National Science Foundation meeting of ISE.

Jones, M. G., Gardner, G., & Lee, T. (2012, March). Microbiology instruction: Students' perceptions of risks related to microbial illness. Paper presented at the National Association of Research in Science Teaching meeting, Indianapolis, IN.

Madden, L., & Jones, M.G., (2012, March). Photonarratives in an online master's course: A viable way to enhance teacher reflection and build community? Paper presented at the National Association of Research in Science Teaching meeting, Indianapolis, IN.

Zhu, Y., Tracy, J., Dong, J., Xianoning, J., & Jones, M. G. (2012, March). NUE: Bottom-up meets top-down: An integrated undergraduate nanotechnology laboratory at NC State University. Paper presented at the NUE NSF conference, Arlington, VA.

Madden, L., Jones, M. G., & Blanchard, M. (2012, April). Photonarratives in an online master's course. Paper presented at the SITE conference, Austin, TX.

Jones, M. G., Taylor, A., Childers, G., & Falvo, M. (2012, March). Sticky, shaky, bumpy: Nanoscale science. Workshop presented at the National Science Teachers Association. Indianapolis, IN.

Jones, M. G. (2012, November). Nanotechnology Education. Presentation at the Nanotechnology Informal Science Education Network (NISENET) meeting. Boston, MA.

Jones, M. G. (2012, October). Four Views of Visualization in Science and Education. Invited presentation at the IEEE SCIVIZ Conference, Seattle, WA.

Jones, M. G. (2012, May). Quantitative Reasoning: Conceptualizing size and scale. Invited paper presented at the International STEM Research Symposium: Quantitative Reasoning in Mathematics and Science Education, Savannah, GA.

Tan, H., Bennett, D., Bertoline, G., Chevrier, J. & Jones, M. G. (2011, September). The role of visuohaptic simulations in conceptualizing non-contact electrostatic forces. Paper presented at the European Science Education Association annual meeting. Lyon, France.

Jones, M.G., Paechter, M., Yen, C., Gardner, G., Taylor, A., Tretter, T. (2011, September). US, Austrian, and Taiwanese teachers' concepts of spatial scale. Paper presented at the European Science Education Association annual meeting. Lyon, France.

Jones, M.G. (2011, September). Scale: A Big Idea of Science. Invited presentation, Universite' de Grenoble, Grenoble, France.

Paechter, M. & Jones, M. G. (2011, September). Promoting female and male students' interests in science by hands-on experiences. Paper presented at the EARLI conference, Exeter, UK.

Madden, L. & Jones, M. G. (2011, October). Photonarratives. Paper presented at the New Jersey Science Teachers Convention.

Zhu, Y., Tracy, J.B., Dong, J., Jiang, X.N. & Jones, M. G. (2011, November). NUE: Bottom-Up Meets Top-Down - An Integrated Undergraduate Nanotechnology Laboratory. Paper presented at the ASME International Mechanical Engineering Congress and Exposition, Denver, CO.

Jones. M. G. (2011, June). Atoms to Elephants: Implications of size and scale for nanotechnology. Keynote address STEM Innovation^4 Conference. MathScience Innovation Center. Richmond, Va.

Jones. M. G. (2011, June). Sticky, Shaky, Bumpy: The Nano World. Workshop given at the STEM Innovation^4 Conference. MathScience Innovation Center. Richmond, Va.

Forrester, J., Jones, M. G., & Gardner, G. (2011, April). The influence of participation in a competitive science event on subsequent academic major choice. Paper presented at the annual meeting of the American Educational Research Association Annual Meeting, New Orleans, LA.

Jones, M.G., Paechter, M., Gardner, G., Yen, C., Taylor, A., Tretter, T. (2011, April). Concepts of spatial scale: An international comparison. Paper presented at the annual meeting of the American Educational Research Association Annual Meeting, New Orleans, LA.

Grant, G., Jones, M. G., Robert, S. (2011, April). Understanding pre-service teachers' frameworks for perceiving the risks of new technologies. Paper presented at the annual meeting of the National Association for Research in Science Teaching, Orlando, FL.

Jones, M.G., Paechter, M., Gardner, G., Yen, C., Taylor, A., Tretter, T. (2011, April). Metric or English spatial scales? An international comparison of teachers' concepts. Paper presented at the annual meeting of the National Association for Research in Science Teaching, Orlando, FL.

Robert, S., Jones, M. G. & Robertson, L. (2011, April). Teachers' perspectives of professional learning communities in schools. Paper presented at the annual meeting of the National Association for Research in Science Teaching, Orlando, FL.

Robertson, L., & Jones, M. G. (2011, April). Autonomy and self-determination theory in different contexts: A comparison of middle school science teachers' motivation and instruction in China and the United States. Paper presented at the annual meeting of the National Association for Research in Science Teaching, Orlando, FL.

Forrester, J., Jones, M. G., & Gardner, G. (2011, April). Competitive science events and academic major choice. Paper presented at the annual meeting of the National Association for Research in Science Teaching, Orlando, FL.

Jones, M. G. (2010, November). Vizualizing Spatial Scale. Invited presentation to the Nanotechnology Informal Science Education Network, San Franciso, CA.

Gardner, G. E., & Jones, M. G. (2010, November). Biology instructors' perceptions of the human health and environmental risks from biotechnology. Paper presented at the annual meeting of the National Association of Biology Teachers (NABT) Biology Research Symposium, Minneapolis, MN.

Paechter, M. & Jones, M.G. (2010, September). Promoting Female and Male Students' Interest in Science by Hands-on Experiences. In Proceedings of the PREDIL Networking Conference and Workshop (pp. 25-27). Ruzemborok: Catholic University, Ružomberok, Slovakia.

Jones, M.G., Paechter, M., Gardner, G., Yen, I., Taylor, A., & Tretter, T. (2010, July). Teachers' concepts of spatial scale. An intercultural comparison between Austrian, Taiwanese, and the United States. Paper presented at the International Society of the Learning Sciences annual meeting, Chicago, IL.

Jones, M. G., Gardner, G., Taylor, A., Wiebe, E., Forrester, J. (2010, May). Conceptualizing magnification and scale: The roles of spatial visualization and logical thinking. Paper presented at the annual meeting of the American Educational Research Association, Denver, CO.

Taylor, A. & Jones, M. G. (2010, May). Fish gills to feathers: Factors that influence students' understandings of surface area to volume. Paper presented at the annual meeting of the American Educational Research Association, Denver, CO.

Gardner, G., & Jones, M.G. (2010, May). Science instructors' views on the risks of biotechnology. Paper presented at the annual meeting of the American Educational Research Association, Denver, CO.

Robertson, L., Jones, M. G., Gardner, G., Dotger, S. (2010, March). Elementary science kits: Differential use for instruction and assessment. Paper presented at the annual meeting of the National Association of Research in Science Teaching, Philadelphia, PA.

Gardner, G. & Jones, M.G. (2010, March). Biotechnology and risk: Perceptions of science instructors. Paper presented at the annual meeting of the National Association of Research in Science Teaching, Philadelphia, PA.

Taylor, A. & Jones, M. G. (2010, March). Applying science concepts: Factors that influence students' understandings of surface area to volume. Paper presented at the annual meeting of the National Association of Research in Science Teaching, Philadelphia, PA.

Penny, S., & Jones, M.G. (2010, March). One person can change a village: The differential impact of nutrition education on non-US born students and their families. Paper presented at the annual meeting of the National Association of Research in Science Teaching, Philadelphia, PA.

Jones, M. G. & Taylor, A. (2010, March). Scale, magnification and zooming: Logical thinking and spatial visualization. Paper presented at the annual meeting of the National Association of Research in Science Teaching, Philadelphia, PA.

Jones, M.G., Taylor, A., Robertson, L., Gardner, G., Thurmond, B., Robert, S. (2010, March). Extreme science: Scales from nano to galactic. Paper presented at the National Science Teachers Association, Philadelphia, PA.

Robertson, L., Gardner, G. E., Jones, M. G., & Dotger, S. (2010, March). Exploring the pros and cons of an elementary science kit program. Paper presented at the annual meeting of the National Science Teachers Association (NSTA), Philadelphia, PA.

Gardner, G. E., & Jones, M. G. (2009, December). Risk and education: Perceptions and practices of science educators. Poster symposium presented at the annual meeting of the Society of Risk Analysis (SRA), Baltimore, MD.

Jones, M. G., Blanchard, M., & Falvo, M. (2009, November). Extreme science: Scales from nano to galactic. Paper presented at the regional meeting of the National Science Teachers Association, Fr. Lauderdale, Florida.

Gardner, G. E., & Jones, M. G. (2009, November). Graduate Teaching Assistants on Science Technology and Society: Graduate teaching assistants' perspectives and practices. Paper presented at the annual meeting of the National Association of Biology Teachers (NABT), Denver, CO.

Gardner, G. E., & Jones, M. G. (2009, October). Science graduate teaching assistants' pedagogical preparation: Perspectives and practices. Paper presented at the annual meeting of the Southeastern Association of Science Teacher Education (SASTE), Kennesaw, GA.

Jones, M. G., Taylor, A. R., Gardner, G. E., Forrester, J., & Robertson, L. (2009, August). Concepts of surface area to volume and magnification: The roles of logical thinking and spatial visualization. Paper presented at the annual meeting of the European Science Education Research Association (ESERA), Istanbul, Turkey.

Gardner, G. E., & Jones M. G. (2009, May). Graduate teaching assistants' instructional framing of the social and ethical implications of genetically-modified crops. Poster presented at the Symposium on Life Sciences Education sponsored by the North Carolina Biotechnology Center, Research Triangle Park, NC.

Jones, M.G. (April, 2009). The role of haptics- Learning through touch. Hasselblad Seminar: Understanding the roles of Molecules- From Physics to Life. Lisebergbyn Karralund, Sweden. Invited Presentation.

Jones, M.G. (April, 2009). Nanoscience Education. Hasselblad Seminar: Understanding the roles of Molecules- From Physics to Life. Lisebergbyn Karralund, Sweden. Invited Presentation.

Jones, M. G., & Gardner, G. (2009, May). Nanoscience for Educators. Invited workshop presented at the Nanotechnology Today, Tomorrow and Future Lecture Series, sponsored by the Institute for Advanced Learning and Research, Danville, VA.

Gardner, G., Jones, M. G., Taylor, A., Forrester, J., Krebs, D., & Robertson, L. (2008, April). Risk perception and the knowledge deficit model: Nanotechnology undergraduate education. Paper presented at the annual meeting of the National Association for Research in Science Teaching, Garden Grove, CA.

Robertson, L., Jones, M. G., Gardner, G., Dotger, S., & Krebs, D. L. (2009, April) Elementary science kits: Classroom practices, instructional strategies, and assessment types. Poster presented at the annual meeting of the American Educational Research Association (AERA), San Diego, CA.

Forrester, J., Jones, M. G., Taylor, A., & Gardner, G. (2009, April). Linear estimation: Contexts and spatial abilities. Paper presented at the annual meeting of the National Association for Research in Science Teaching (NARST), Garden Grove, CA.

Tretter, T, Jones, M. G., & Wolf, J. (2009, April). Durability of conceptions of big ideas in nanoscience. Paper presented at the annual meeting of the National Association for Research in Science Teaching (NARST), Garden Grove, CA.

Jones, M. G., & Taylor, A. (2009, April). Reflections of scientists and engineers: Developing a sense of scale. Paper presented at the annual meeting of the National Association for Research in Science Teaching (NARST), Garden Grove, CA.

Taylor, A., & Jones, M. G. (2009, April). Students' and teachers concepts of surface area to volume in science contexts: Factors that Influence the understandings of the concept of scale . Paper presented at the annual meeting of the National Association for Research in Science Teaching (NARST), Garden Grove, CA.

Jones, M.G., & Taylor, A. (2009, April). Developing a sense of scale: Looking Backward. Paper presented at AERA, San Diego, CA.

Taylor, A., & Jones, M. G. (2009, April). Factors that influence students' and teachers' understandings of surface area to volume in science contexts. Paper presented at AERA, San Diego, CA.

Gardner, G., Jones, M. G., Taylor, A., Forrester, J., Krebs, D., & Robertson, L. (2009, April). Risk perception and the knowledge deficit model: Nanotechnology undergraduate education. Paper presented at the annual meeting of the National Association for Research in Science Teaching (NARST), Garden Grove, CA.

Taylor, A., & Jones, M.G. (November, 2008). What factors influence a concept of scale? Paper presented at the annual meeting of the School Science and Math Association, Raleigh, NC.

Jones, M.G., & Taylor, A. (November, 2008). Learning about scale: A retrospective look Paper presented at the annual meeting of the School Science and Math Association, Raleigh, NC.

Gardner, G., Jones, M. G., Taylor, A., Forrester, J., Krebs, D., & Robertson, L., (2008, November). Nanotechnology in undergraduate education: Preparing future developers, appliers, and communicators of nanoscience. Paper presented at the annual meeting of the School Science and Math Association, Raleigh, NC.

Robertson, L., Jones, M.G., Gardner, G., & Dotger, S. (November, 2008). Unpacking the kit: How do elementary science kits affect classroom culture? Paper presented at the School Science and Mathematics Association Annual Conference, Raleigh, NC.

Krebs, D., Jones, M. G., & Banks, A. (November, 2008). The incorporation of nanoscience into chemistry lessons involving ice cream. Paper presented at the School Science and Mathematics Association Annual Conference, Raleigh, NC.

Cowley, J., Wiebe, E. N., Minogue, J., Jones, M. G., & Krebs, D. (September, 2008). Haptic Feedback in the Instructional Environment and its Relationship to Visual Attention and Learning. Presented at the Human Factors and Ergonomic Society Annual Meeting, New York, NY.

Jones, M. G., Forrester, J., Krebs, D., Gardner, G., Robertson, L., Falvo, M., Taylor, A. (October, 2008). Extreme Science: Size and Scale. Paper presented at the National Science Teachers' Association Regional Conference, Charlotte, NC.

Gardner, G., Jones, M. G., Taylor, A., Forrester, J., Krebs, D., & Robertson, L. (October, 2008). Risky business: Students' perceptions of the risks and benefits of nanotechnology applications. Paper presented at the National Science Teachers' Association Regional Conference, Charlotte, NC.

Gardner, G., & Jones, M. G. (October, 2008,). What they say and how they say it: Media framing of controversial biology issues. Paper presented at the annual meeting of the National Association of Biology Teachers, Memphis, TN.

Jones, M.G., & Taylor, A. (2008). Developing a sense of scale: Looking backward. Paper presented at the Mid-Atlantic Association of Science Teacher Education Annual Meeting, Lake Lure, NC.

Forrester, J., Jones, M. G., Taylor, A., & Gardner, G. (2008). Accuracy of linear estimation: Contexts and spatial abilities. Paper presented at the Mid-Atlantic Association of Science Teacher Education Annual Meeting, Lake Lure, NC.

Jones, M. G., Taylor, A. (March, 2008). Understanding scale: Teachers' trajectory of knowledge. Paper presented at the American Educational Research Association Annual Meeting. NY.

Taylor, A., and Jones, M. G. (March, 2008). Students' understanding of surface area-to-volume relationships. Paper presented at the American Educational Research Association Annual Meeting. New York, NY.

Forrester, J., Jones, M. G., Taylor, A., Broadwell, B., & Oppewal, T. (March, 2008). Experiences, relationships, and identify formation: Factors influencing a scientist's career choice. Paper presented at the American Educational Research Association Annual Meeting. NY.

Tretter, T., Jones, M.G., & Wolf, J. (March, 2008). Instructional impact on high school physics students' nanoscience conceptions. Paper presented at the American Educational Research Association Annual Meeting. New York, NY.

Jones, M.G., Taylor, A., Forrester, J., Falvo, M., Krebs, D., Robertson, L., & Gardner, G. (March, 2008). Monsters to mice: Size and scale across the sciences. Workshop presented at the National Science Teachers Association Annual Meeting. Boston, Mass.

Tretter, T. & Jones, M. G. (April, 2008). Nanoscience instruction in physics. Paper presented at the National Association of Research in Science Teaching Annual International Conference, Baltimore, MD.

Taylor, A., & Jones, M. G. (April, 2008). Crossroads of science and mathematics: The intersection of scale and proportional reasoning. Paper presented at the National Association of Research in Science Teaching Annual International Conference, Baltimore, MD.

Jones, M. G., Tretter, T., Taylor, A., Oppewal, T. (April, 2008). Novice and experienced teachers' concepts of scale. Paper presented at the National Association of Research in Science Teaching Annual International Conference, Baltimore, MD.

Forrester, J., Jones, M. G., Taylor, A., Broadwell, B., & Oppewal, T. (April, 2008). Growing a scientist: Scientists experiences, relationships and identity formation. Paper presented at the National Association of Research in Science Teaching Annual International Conference, Baltimore, MD.

Wiebe, E., Jones, M.G., Minogue, J., Cowley, J., & Krebs, D. (April, 2008). Unraveling the influence of haptic feedback on students' learning about levers. Paper presented at the National Association of Research in Science Teaching Annual International Conference, Baltimore, MD.

Gardner, G., & Jones, M. G. (2008, March). An assessment of the impacts of education on undergraduates' risk perception of emergent science and technology. Poster session presented at the annual North Carolina State University Graduate Student Research Symposium, Raleigh, NC.

Jones, M. G., Falvo, M., & Taylor, A. (January, 2008). Nanoscience and the future. International web seminar presented by the National Science Teachers Association.

Jones, M. G., Falvo, M., & Taylor, A. (January, 2008). Nanoscale science. International web seminar presented by the National Science Teachers Association.

Jones, M. G., Tretter, T., Taylor, A., & Oppewal, T. (December, 2007). Novice and experienced teachers' concepts of size and scale: Accuracy, Boundaries, and experiences. Paper presented at the Hawaii International Conference on Education. Honolulu, Hi.

Jones, M.G., Falvo, M., & Taylor, A. (2007). Nanoscale science: Characteristics. Global Web seminar presented fort the National Science Teachers Association, Arlington, Va.

Jones, M.G., Falvo, M., & Taylor, A. (2007). Nanoscale science. Privacy and the Environment. Global Web seminar presented fort the National Science Teachers Association, Arlington, Va.

Jones, M.G., Falvo, M., & Taylor, A. (2007). Innovations in nanoscale science. Podcast presented for the National Science Teachers Association, Arlington, Va.

Jones, M.G., Falvo, M., & Taylor, A. (2007). Nanoscale science. Symposium presented at the National Science Teachers Association Regional Conference, Birmingham, Ala.

Jones, M. G. (2007). Designing and implementing NanoDays. Invited presentation made to the Nanotechnology Informal Science Education Net, San Francisco, CA.

Jones, M. G,. (June 2007). Understanding science at the nanoscale: Conceptual boundaries, anchors, and holes. Invited presentation, Gordon Conference: Educational Research and Practice, Lewiston,ME.

Jones, M. G., Taylor, A., Minogue, J., Broadwell, B., Wiebe, E., Carter, G. (April 2007). The efficacy of 'Powers of Ten': Concepts of size and scale. Paper presented at the National Association of Research in Science Teaching, New Orleans, LA.

Minogue, J., Jones, M.G., Oppewal, T., & Broadwell, B. (April 2007). Haptic feedback and the structure of observed learning outcomes. Paper presented at the National Association of Research in Science Teaching, New Orleans, LA.

Taylor, A., Jones, M. G., Broadwell, B., Oppewal, T. (April 2007). Coordinating science learning: Navigating tensions between scientists and science education. Paper presented at the National Association of Research in Science Teaching, New Orleans, LA.

Jones, M. G. (April 2007). Visually impaired students' rationales of scale and scaling. Paper presented at the National Association of Research in Science Teaching, New Orleans, LA.

Jones, M. G. (April 2007). Inclusionary science teaching: Visualizing science phenomena. Invited paper presented at the National Association of Research in Science Teaching, New Orleans, LA.

Tretter, T., & Jones, M. G. (April 2007). Nanoscience course impact on conceptions of scale. Paper presented at the National Association of Research in Science Teaching, New Orleans, LA.

Jones, M. G., Falvo, M., Taylor, A., & Kubasko, D. (March 2007). Science at the Smallest of Scales. Paper presented at the National Science Teachers Association, St. Louis, MO.

Jones, M. G., Taylor, A., Minogue, J., Broadwell, B., Wiebe, E., & Carter, G. (January, 2007). Understanding scale: Powers of Ten. Paper presented at the Association of Science Teacher Education, Clearwater, Florida.

Minogue, J., & Jones, M. G. (January, 2007). The (Potential) Role of Haptic Technology in Science Education. Paper presented at the Association of Science Teacher Education, Clearwater, Florida.

Tretter, T., Jones, M.G., & Falvo, M. (April 2006). Nanoscience course impact on conceptions of spatial scale. Presented at the American Educational Research Assocation, Chicago, Ill.

Jones, M. G., Taylor, A., Minogue, J., Dotger, S., Broadwell, B., Oppewal, T., & Kubasko, D. (April, 2006). Nanobots, self-cleaning toliets, and stink-free socks: nanotechnology and nanoscale science. Workshop presented at the National Science Teachers Assocation, Anaheim, CA.

Tretter, T., & Jones, M. G. (April, 2006). Conceptions of spatial scale: Leaping into other worlds. Paper presented at the American Educational Research Association, San Francisco, CA.

Tretter, T., Jones, M. G., Minogue, J. (April, 2006). Navigating across spatial scales in science: Different worlds, unifying concept. Presented at the National Association of Research in Science Teaching (NARST) Conference, San Francisco, CA.

Jones, M. G., Minogue, J., Broadwell, B., & Oppewal, T. (April, 2006). The impact of haptic feedback on students' understandings of the animal cell. Presented at the National Association of Research in Science Teaching (NARST) Conference, San Francisco, CA.

Jones, M. G., Minogue, J., Broadwell, B., Patrick, M., & Oppewal, T. (April, 2006). Visualizing without vision at the microscale: Students with visual impairment explore cells with touch. Presented at the National Association of Research in Science Teaching (NARST) Conference, San Francisco, CA.

Dotger, S., Jones, M. G., & Broadwell, B., (2006). Using kits to revitalize elementary science: An on-going analysis of teachers' conceptions. Paper presented at the Association of Science Teacher Education.

Jones, M. G. (October 14, 2005). Nanotechnology education: Exploring new possibilities for women and minorities, James Madison University.

Jones, M. G. (July, 2005). "I see it better when I feel it": Haptics and visualization at the nano and microscales. Invited presentation given to the Gordon Conference- Visualization in Science Education, Queens College, Oxford, United Kingdom.

Jones, M.G. (June, 2005). Case studies in teacher action research. Invited presentation given to the Interantional Conference on Action Research and Professional Development in Science, Taipai University, Taiwan.

Jones, M.G. & Minogue, J. (January, 2005). Do hands-on experiences make a difference? A study of haptic feedback devices and science learning. Presented at the Association for the Education of Teachers in Science (AETS) Conference, Colorado Springs, CO.

Minogue, J., Jones, M.G., Kubasko, D., Tretter, T., Dotger, S., & Oppewal, T. (April, 2005). Nanoscience education: Teaching tools for the exploration of this emerging field. Presented at the National Science Teachers Association (NSTA) Conference, Dallas, TX.

Minogue, J., Jones. M.G., Tretter, T. (April, 2005). Virtual hands-on experiences: A study of haptic feedback devices and science learning. Presented at the National Association of Research in Science Teaching (NARST) Conference, Dallas, TX.

Minogue, J., Jones. M.G., Tretter, T., Negishi, A., & Taylor, R. (April, 2005). Investigating the efficacy of haptic science instruction. Presented at the American Educational Research Association (AERA) conference, Montreal, Canada.

Jones, M. G., Tretter, R., Paechter, M., Kubasko, D., Bokinsky, A., Andre, T., & Negishi, A. (2005, April). Spectator or participant? African-American students' writing about science. Paper presented at the American Educational Research Association Annual Meeting.

Tretter, T., Jones, M.G., Andre, T., Negishi, A., & Minogue, J. (2005, April). Conceptual distances and conceptual boundaries: Students' and adults' conceptualizations of spatial scale in science. Paper presented at the American Educational Research Association Annual Meeting.

Painter, J., Jones, M.G., Tretter, T., & Kubasko, D. (2005, April). Pulling back the curtain: Revealing and changing students' perceptions of scientists. Paper presented at the National Association of Research in Science Teaching Meeting, Dallas, TX.

Tretter, T., Jones, M.G., Andre, T., Negishi, A., & Minogue, J. (2005, April). Scale of scientific phenomena: Demarcation of distinct spatial scales in experts' and students' cognitive frameworks. Paper presented at the National Association of Research in Science Teaching Meeting, Dallas, TX.

Jones, M. G., Tretter, T., Paechter, M., Kubasko, D., & Andre, T. (2005, April). Differences in African-American and Euro-American students' perceptions of science instruction. Paper presented at the National Association of Research in Science Teaching Meeting, Dallas, TX.

Dotger, S., & Jones, M.G. (2005, April). The mis-match between goals and results: Looking at the nature of science through the reflective judgement model. Paper presented at the National Association of Research in Science Teaching Meeting, Dallas, TX.

Jones, M. G., (2005, January). Future directions in equity research- defining the science education matrix. Paper presented at the Association for the Education of Teachers In Science Annual Meeting, Colorado Springs, CO.

Tretter, T., Jones, M. G., Andre, T., Kubasko, D., Bokinsky, A., Negishi, A., Taylor, R., & Superfine, R. (2004, April). Conceptual ecology of scale. Paper presented at the American Educational Research Association, Annual Meeting, San Diego, CA.

Jones, M. G., Tretter, T., Bokinsky, A., Negishi, A. (2004, April). Touch and vision: Haptic feedback and 3-dimensional learning. Paper presented at the American Educational Research Association, Annual Meeting, San Diego, CA.

Jones, M. G., Tretter, T., Bokinsky, A., Negishi, A., Taylor, R., & Superfine, R. (2004, April). Seeing or feeling? Haptic perception and 3-dimensional conceptualizations. Paper presented at the National Association of Research in Science Teaching Annual Meeting. Vancouver, Canada.

Kubasko, D., Jones, M. G., Tretter, T., Andre, T. (2004, April). Talking science with scientists: Students synchronous versus asynchronous communication. Paper presented at the National Association of Research in Science Teaching Annual Meeting. Vancouver, Canada.

Tretter, T., Jones, M. G., Andre, T., Kubasko, D. (2004, April). How small is small? Students' conceptions of scale. Paper presented at the National Association of Research in Science Teaching Annual Meeting. Vancouver, Canada.

Tretter, T., Jones, M. G., Negishi, A., & Minogue, J. (2004, April). Scale as a unifying theme in science—Size matters. Paper presented at the National Science Teachers Association Annual Meeting, Atlanta, GA.

Jones, M. G., & Tretter, T. R. (2003, October) Investigating viruses with touch: Nanotechnology and science inquiry. Poster presented at NSF Division Research, Evaluation, and Communication Meeting for PIs and Contractors, Arlington, VA.

Jones, M. G. (2003). Nanotechnology and science education, Invited Seminar, Purdue University.

Jones, M. G., Tretter, T. R., Negishi, A., Taylor, R., Superfine, R., Andre, T., Kubasko, D., & Bokinsky, A. (2003, April) Putting hands-on science to the test: Students' haptic experiences with microbes. Paper presented at the American Educational Researchers Association Annual Meeting, Chicago, IL.

Jones, M. G., Andre, T., Negishi, A., Tretter, T. R., Kubasko, D., Bokinsky, A., Taylor, R., & Superfine, R. (2003, March) Hands-on science: The impact of haptic experiences on attitudes and concepts. Paper presented at the National Association for Research in Science Teaching Annual Meeting, Philadelphia, PA.

Hardin, B., & Jones, M. G. (2002, November). Bearers of time: The construction of temporal identity by kindergarten children in Mexico and the United States. Paper presented at the Conference of the National Association for the Education of Young Children, New York.

Jones, M. G. & Helser, A. (2002, October). Reaching into microspace/Using the nanomanipulator in an educational setting. Invited Paper presented to the National Research Center for Micro- and Nanotechnology, Technical Univesrity of Denmark, Copenhagen, Denmark.

Jones, M.G., Bokinsky, A., & Helser, A. (2002, October). Using nanotechnology to investigate viruses. Invited presentation given to Swedish students, Malmo Museum of Science and Teachnology, Malmo, Sweden.

Jones, M. G., Andre, T., Kubasko, D., Bokinsky, A., Negishi, A., Taylor, R., and Superfine, R. (2002, April). Touching viruses: The impact of haptic experiences on students' attitudes and concepts. Paper presented at the National Association of Research in Science Teaching Annual Meeting, New Orleans, La.

Jones, M. G., Andre, T., Kubasko, D., Bokinsky, A., Negishi, A., Taylor, R., and Superfine, R. (2002, April). Touching the unseen**.** Paper presented at the American Educational Research Association Annual Meeting, New Orleans, La..

Jones, M. G., Bokinsky, A., Andre, T., Kubasko, D., Negishi, A., Taylor, R., and Superfine, R. (2002, March). NanoManipulator applications in education: The impact of haptic experiences on students' attitudes and concepts. Paper presented at IEEE Computer Science Haptics Symposium, Orlando, Fl.

Jones, M. G., Andre, T., Kubasko, D., Taylor, R., and Superfine, R. (2002, January). Virtual hand-on experiences: The use of haptics in students' investigations of viruses. Paper presented at the Association of Educators of Teachers of Science Conference, Charlotte, NC.

Jones, M.G., and Bokinsky, A. (October 2001). Investigating viruses with touch. Paper presented at the Research on Learning Technologies and Technology Supported Education, NSF-DFG, Tubengen, Germany.

Jones, M. G., Andre, T., Superfine, R., and Taylor, R. (2001, March). The intersection of scientists, nanotechnology, touch, and gender: Students' use of nanotechnology to investigate virus structure. Paper presented at the National Association of Research in Science Teaching Conference, St. Louis, Mo.

Jones, M. G., Andre, T., Superfine, R., and Taylor, R. (2001, April). Students and scientists investigating viruses with touch. Paper presented at the American Educational Research Association Conference, Seattle, Wa.

Jones, M. G., Andre, T., Superfine, R., and Taylor, R. (2001, January). Touching viruses across space: Nanotechnology outreach and science inquiry. Paper presented at the Association of Educators of Teachers of Science Conference, Costa Mesa, Ca.

Jones, M. G., Andre, T., Superfine, R., and Taylor, R. (2001, March). Helping teachers and students use advanced technology in teaching high school science: A preliminary feasibility study of the use of a WWW-controlled atomic force microscope in high school science. Paper presented at the SITE Conference, Orlando, Fl.

Jones, M. G. (2000, September). Tests and the impact on how and what teachers teach. Invited presentation for the Hechinger Institute on Education and the Media and Johnson Foundation Conference, Racine, Wi.

Jones, M. G., (2000, April). Running with scissors: The impact of high stakes testing on science instruction. Paper presented at the American Educational Research Association Annual Meeting, New Orleans, La.

Jones, M.G., (2000, April). Now you see it, now you don't: The impact of high stakes testing on science instruction. Paper presented at the National Association of Research in Science Teaching Annual Meeting, New Orleans, La.

Jones, M.G., Palmatier, B., Demmick, L., and Pedde, P. (1999, October) Showcase of global marine and aquatic investigations. Paper presented at the National Marine Educators Conference, Charleston, SC.

Jones, M.G., Palmatier, B., Demmick, L., and Pedde, P. (2000, March) Teaching science with inquiry. Presentation made at the National Science Teachers Association, Orlando, Fl.

Jones, M. G., Brader-Araje, L., Carboni, L., & Rua, M. (1999, April). Coloring outside the lines: Science tool use, control, authority, and gender. Paper presented at the American Educational Research Association Annual Meeting, Montreal, Canada.

Jones, M.G., Carter, G., & Rua, M. (1999, April). Concept mapping, interviews, diagrams, observations, and card sorting: Which window into the mind? Paper presented at the National Association of Research in Science Teaching Annual Meeting, Boston, Mass.

Jones, M.G., Brader-Araje, L., Carboni, L., Carter, G., & Rua, M. (1999, March). Coloring outside the lines: The intersection of science tools, exploration and competition. Paper presented at the National Association of Research in Science Teaching Annual Meeting, Boston, Mass.

Rua, M., & Jones, M.G. (1999, April). Pieces of the story: Students', teachers', and medical professionals' beliefs about bacteria and viruses. Paper presented at the American Educational Research Association Annual Meeting, Montreal, Canada.

Jones, M.G., Brader-Araje, L., Carboni, L., Carter, G., & Rua, M. (1999, April). Paradoxes of progress: The intersection of science tools, exploration, and competition. Paper presented at the Gender in Science Education Conference, Boston, Mass.

Jones, M.G.(1999, January). Bringing the outdoors in: Integrating environmental education in teacher education. Paper presented at the American Educational Research Association Annual Meeting, Austin, Tx.

Jones, M.G., Rua, M., & Carter, G. (1998, April). The effects of partner's ability on the achievement and conceptual organization of high-achieving fifth-grade students. Paper presented at the American Educational Research Association Annual Meeting, San Diego, Ca.

Rua, M., & Jones, M.G. (1998, April). Fifth-grade students and teachers' understandings of bacteria and viruses. Paper presented at the American Educational Research Association Annual Meeting, San Diego, Ca.

Jones, M.G., Rua, M., & Carter, G. (1998, April). The effects of partner's ability on the achievement and conceptual organization of high-achieving fifth-grade students. Paper presented at the National Association of Research in Science Teaching Annual Meeting, San Diego, Ca.

Rua, M., & Jones, M.G. (1998, April). Fifth-grade students and teachers' understandings of bacteria and viruses. Paper presented at the National Association of Research in Science Teaching Annual Meeting, San Diego, Ca.

Vesilind, E., & Jones, M.G. (1997, March). Jello in the trenches: A readers theater about metaphor and professional growth in student teachers' stories. Paper presented at the National Council of Teachers of English Conference, Charlotte, NC.

Jones, M.G., Carter, G., & Rua, M. (1997, March). Science teachers' conceptual growth within vygotsky's zone of proximal development. Paper presented at the National Association of Research in Science Teaching Annual Meeting, Chicago, Ill.

Jones, M.G., Carter, G., & Rua, M. (1997, March). Science teachers' conceptual growth within vygotsky's zone of proximal development. Paper presented at the American Educational Research Association, Chicago, Ill.

Rua, M., & Jones, M.G. (1997, March). Students' and teachers' mental models of germs and illness. Paper presented at the National Association of Research in Science Teaching, Chicago, Ill.

Jones, M. G. (1997, March). Implications of feminism for curriculum and instruction. Paper presented at the AERA Professors of Curriculum Conference, Chicago, Ill.

Jones, M.G. (1997, March). Walkin' the talk in the 90's: Exemplary studies of gender education. Paper presented at the American Educational Research Association, Chicago, Ill.

Vesilind, E., & Jones, M.G. (1997, March). Jello in the trenches: A readers theater about metaphor and professional growth in student teachers' stories. Paper presented at the American Educational Research Association, Chicago, Ill.

Jones, M.G,(1996, December). Engaging families in exploring science. Paper presented at the Global Summit on Science and Science Education, San Francisco, CA.

Jones, M.G,. & Rua, M. (1996, November). Family science. Paper presented at the National Science Teachers Association Regional Conference, Atlanta, GA.

Jones, M.G,. & Rua, M. (1996, March). Wet, wild, and wacky water activities. Paper presented at the National Science Teachers Association, St. Louis, MO.

Jones, M.G., & Vesilind, E. (1996, April). Situated science: Defining science in the context of reform. National Association of Research in Science Teaching, St. Louis, MO.

Jones, M.G., & Vesilind, E. (1996, April). Situated science: Defining science in the context of reform. American Educational Research Association, NY.

Rua, M., Jones, M.G., & Carter, G. (1996, April). Teachers' conceptual growth within Vygotsky's zone of proximal development, National Association of Research in Science Teaching, St. Louis, MO..

Jones, M.G., & Vesilind, E. (1995, April). Through a sideways door: A resource model of science teacher change. Paper presented at the National Association of Research in Science Teaching Annual Meeting, San Francisco, CA.

Jones, M.G. & Carter, G. (1995, April). The effects of ability-paired interactions on concept attainment. Paper presented at the American Educational Research Association Annual Meeting, San Francisco, CA.

Jones, M. G., Carter, G. (1994, March). Verbal and non-verbal behavior of ability-grouped dyads. National Association for Research in Science Teaching, Anaheim, CA.

Jones, M. G. (1994, March). Sound ideas: Strategies for teaching estuarine and marine science, National Science Teachers Association, Anaheim, CA.

Jones, M. G., & Vesilind, E. (1994, April). Changes in the structure of pedagogical knowledge of middle school preservice teachers. Paper presented at the 1994 American Educational Research Association Annual Meeting, New Orleans, LA.

Jones, M.G. (1993, November). Get your feet wet: Head for the marsh. Paper presented at the National Middle School Conference, Portland, OR.

Jones, M.G., & Vesilind, E. (1993, August). Changes in the structure of pedagogical knowledge in mathematics and science preservice teachers. Paper presented at the Third International Seminar on Misconceptions and Educational Strategies in Science and Mathematics, Ithaca, NY.

Carter, C., & Jones, M. G. (1993, April). The relationship between ability-paired interactions and the development of fifth graders' concepts of balance. Paper Presented at the National Association for Research in Science Teaching Annual Conference, Atlanta, GA

Jones, M.G., Markham, K., Mintzes, J. (1993, April). The structure and use of biological knowledge in novice and experienced students: Mammals III. Paper presented at the National Association for Research in Science Teaching Annual Meeting, Atlanta, GA.

Mintzes, J., Markham, K., & Jones, M.G. (1993, April). The structure and use of biological knowledge in novice and experienced students: Mammals II. Paper presented at the National Association for Research in Science Teaching Annual Meeting, Atlanta, GAa.

Markham, K., Mintzes, J., & Jones, M.G. (1993, April). The structure and use of biological knowledge in novice and experienced students: Mammals I. Paper presented at the National Association for Research in Science Teaching Annual Meeting, Atlanta, Georgia.

Jones, M. G. (1993, January). Changes in preservice science teachers' concepts of effective teaching. Paper presented at the National Meeting of the Association for the Education of Teachers in Science, Charleston, SC.

Jones, M. G. (1992, December). Family science. Paper presented at the National Science Teachers Area Convention, Charlotte, NC.

Jones, M.G. (1992, March). Cooperative learning: Developmentally appropriate for adolescents. Paper presented at the National Middle School South Region Conference, Nashville, Tenn.

Jones, M.G. (1992, March). Cooperative learning strategies: Ideas and techniques. Paper presented at the National Middle School South Region Conference, Nashville, Tenn.

Jones, M.G. (1992, March). Cooperative problem-solving for the middle level classroom. Paper presented at the National Middle School South Region Conference, Nashville, Tenn.

Jones, M. G. (1992, November). Family science: A model for parent participation in middle-level schools. Paper presented at the National Middle School Association Annual Conference, San Antonio, TX.

Jones, M.G. (1992, March). On the road to expert science teaching: Student teacher-pupil interactions. Paper presented at the National Association of Research in Science Teaching Annual Meeting, Cambridge, Mass.

Jones, M.G. (1992, March). By the edge of the sea: Marine and aquatic activities. Paper presented at the National Science Teachers Conference, Boston, Mass.

Jones, M.G. (1992, March). Cooperative learning: Developmentally appropriate for adolescents. Paper presented at the National Middle School South Region Conference, Nashville, Tenn.

Jones, M.G. (1992, March). Cooperative learning strategies: Ideas and techniques. Paper presented at the National Middle School South Region Conference, Nashville, Tenn.

Jones, M.G. (1992, March). Cooperative problem-solving for the middle level classroom. Paper presented at the National Middle School South Region Conference, Nashville, Tenn.

Jones, M.G. (1991, December Cooperative problem-solving for the middle level classroom, Paper presented at the National Middle School Conference, Louisville, KY.

Jones, M.G. (1991, July). Competitive science: Gender differences in the physical and biological sciences. Paper presented at the Sixth International GASAT Conference, Victoria, Australia.

Jones, M.G. (1991, April). The impact of transition from junior highs to middle schools on science programs. Paper presented at the National Association of Research in Science Teaching Conference, Fontana, WI.

Jones, M.G. (1990, December). Changing student misconceptions through cognitive conflict and cooperative learning. Paper presented at the National Science Teachers Association Regional Conference, Washington, D.C.

Jones, M.G., DeLucia, S. & Davis, J. (1990, November). The impact of middle school organizational changes on science instruction. Paper presented at the National Middle School Association, Long Beach, California.

Jones, M.G. (1990, August). Where the river meets the sea: Estuarine ecology activities. Paper presented at the National Marine Education Conference, Hilo, Hawaii.

Jones, M.G. (1990, July). Cognitive conflict and cooperative Learning. Paper presented at the International Association for the Study of Cooperative Education Conference, Baltimore, MD.

Jones, M.G. (1990, April). Get your feet wet: Head for the estuary. Paper presented at the National Science Teachers National Convention, Atlanta, GA.

Jones, M.G. (1990, April). Cognitive conflict and cooperative learning. Paper presented at the National Association for Research in Science Teaching Annual Conference, Atlanta, GA.

Jones, M.G. (1989, March). T-Zone, target students and science classroom interactions. Paper presented at the annual meeting of the National Association of Research in Science Teaching, San Francisco, CA.

Burke, W. & Jones, M.G. (1989, October). Teacher education through partnership: A model of collaboration. Paper presented at the National Middle School Association Annual Conference, Toronto, Canada.

Jones, M.G. (1989, March). Gender differences in student-teacher interactions in physical science and chemistry Classrooms. Paper presented at the annual meeting of the Association for Supervision and Curriculum Development, Orlando, FL.

Jones, M.G. (1988, April). Gender differences in student-teacher interactions in physical science and chemistry classes. Paper presented at the National Association for Research in Science Teaching. St. Louis, MO.

Wheatley, J., and Jones, G. (1986, March). Characteristics of cooperative student-teacher relationships. Paper presented at the National Science Teacher Association Annual Meeting. San Francisco, CA.

Regional, State and Local

Jones, G., Cayton, E., Chesnutt, K. , Ennes, M., & Justice, N., (2016, October). The Power School: Electrifying Ideas for Teaching Energy. NC Science Teachers Association Annual Meeting. Greensboro, NC.

Chesnutt, K., Jones, M.G., Cayton, E., Ennes, M., & Huff, P. (2016, October). Packing your scale backpack: Resources for enhancing out-of-school learning of size and scale. NC Science Teachers Association Annual Meeting. Greensboro, NC.

Ennes, M., Jones, M. G., Chesnutt, K. (2016, September). Improving Informal Educator Self-Efficacy in Teaching Science Concepts. Presented at Environmental Educators of North Carolina Conference. Black Mountain, NC.

Jones, G., Hite, R., Pereya, M., Ennes, M., Cayton, E., Chesnutt, K. (2016, April). Cracking the case: Investigating science and engineering with case studies. Scaling STEM: Strategies that Engage the Mind, Research Triangle Park, NC

Jones, M. G., Hite, R., Chesnutt, K., Corin, E., Pereyra, M., & Childers, G. (2015, November). Bypass misonceptions! Strategies to teach heart anatomy and physiology. Workshop presented at the NC Science Teachers Association, Winston-Salem, NC.

Jones, M. G., Muth, J., Justice, N., Corin, E. & Cayton, E. (2015, November). Engineering innovation: Creating smaller, faster and more efficient electronics. Workshop presented at the NC Science Teachers Association, Winston-Salem, NC.

Corin, E., Jones, M. G., Hite, R., Pereyra, M., Chesnutt, K., & Childers, G. (2015, November). Preparing for a lifetime of science: Science hobbies and informal interests. Workshop presented at the NC Science Teachers Association, Winston-Salem, NC.

Jones, M. G., Hite, R., Chesnutt, K., Corin, E., & Pereyra, M. (2015, November). Cracking the Case II: Decoding even more engineering principles using case studies. Workshop presented at the NC Science Teachers Association, Winston-Salem, NC.

Jones, G., Hite, R., & Chesnutt, K. (2015, November). Science hobbyists and citizen scientists: Characteristics, motivations, experiences, and career trajectories. Invited research presentation to the Chancellor of NC State University, Raleigh, NC.

Jones, M. G., Hite, R., & Chesnutt (2015, June). Engineering with virtual reality I. Presentation to the NCSU Engineering Camp.

Hite, R., Chesnutt, K., Jones M.G. (2015, July). Exploring science concepts for students with visual impairments. Friday Institute for Educational Innovation, Raleigh, NC

Jones, M. G., Hite, R, Chesnutt, K. (April, 2015). One health sensor competition, Wake County Public Schools, Raleigh, NC.

Green, K., Hite, R., Jones, M.G., Kimball, L., Keech, C., Samuels, M., Walz, J. (2015, April). Partnerships for STEM education. Presentation at the Scaling STEM Conference, Durham, NC.

Jones, M. G., Corin, E., Andre, T., Childers, G., & Hite, R (2015, March). Informal education: Characteristics of hobbyists and citizen scientists. University of North Carolina at Chapel Hill.

Jones, M. G., Corin, E., Andre, T., Childers, G., & Hite, R (2015, March). Development of hobby interests over time, Presentation to Informal Educators, NC State University.

Jones, M. G., Hite, R., Chesnutt, K., & Corin, E. (2015, March). STEM Expo. Centennial Middle School, Raleigh, NC.

Jones, M. G., Corin, E., Andre, T., Childers, G., & Hite, R (2015, March). Social justice and access to STEM hobbies. Research presentation, NC State University.

Chesnutt, K., Jones, M.G. (2015, February). Carbon sequestration poster judge. Wake STEM Early College High School, Raleigh, NC.

Childers, G., Jones, M.G., Hite, R., & Corin, E. (January, 2015). Nanoscience: Size and scale. North Duplin Jr. - Sr. High School, Mt. Olive, NC

Jones, M.G., Hite, R., Corin, E., Taylor, A. (2014, November). Cracking the case: Decoding engineering principles using case studies. Workshop presented at the NC Science Teachers Conference, Winston-Salem, NC.

Jones, M.G., Hite, R., Taylor, A. Corin, E., (2014, November). Science and engineering share-a-thon. Workshop presented at the NC Science Teachers Conference, Winston-Salem, NC.

Jones, M. G. (2014, October). Strategies for teaching nanotechnology. Presentation to the NCSU Science Teachers Association. Raleigh, NC.

Corin, E., Jones, M. G., Andre, T., Chiders, G., & Hite, R. (2014, October). Eager to teach: Perspectives from astronomy and birding Hobbyists. Paper presented at the Mid Atlantic Association of Science Teacher Educators Conference, Blowing Rock, NC.

Hite, R., Jones, M. G., Andre, T., Childers, G., & Corin, E. (2014). Female and minority under-representation in science hobbies: Implications for expansion of the STEM pipeline. Paper presented at the Mid Atlantic Association of Science Teacher Educators Conference, Blowing Rock, NC.

Corin, E.N., Jones, M.G. (2014, May). Amateur astronomers and birders engaged in learning and teaching: A comparison of Science Hobbyists. Poster presentation at the North Carolina State University STEM Education Research Symposium, Raleigh, NC.

Gardner, G.E., Jones, M.G., Paechter, M., Albe, V., Blonder, R., & Laherto, A. (2014, May). Scientists learning to communicate: An international comparison of undergraduate student perceptions of science communication training. Paper presented at the first international conference of the Tennessee Association of Science Department Chairs: The Role of Multidisciplinary Research in Teaching and Learning. Morristown, TN.

Corin, E. N., Jones, M. G., Andre, T., Childers, G. M. (2013, May) Astronomy hobbyists: Factors that influenced career choices. North Carolina State University STEM Education Research Symposium, Raleigh, NC.

Corin, E. N., Jones, M. G., Andre, T., Childers, G. M. (2013, August) Who are astronomy hobbyists? Carolina Association of Planetarium Educators Conference, Chapel Hill, NC.

Jones, G. and Childers, G. (April, 2013). Nanotechnology engineering teacher training, North Carolina State University. Raleigh, NC.

Jones, G., Childers, G., Corin, E., & Hite, R. (November, 2013). Habits of highly effective people, Workshop for Durham County Teachers. Durham, NC.

Jones, G., Childers, G., Corin, E., & Hite, R. (November, 2013). Nanotechnology workshop for educators. Marbles Science Museum, Raleigh, NC.

Jones, G., Childers, G., Corin, E., & Hite, R. (October, 2013). Nanotechnology integration in curricula, Workshop for Durham County Teachers. Durham, NC.

Jones, G., Childers, G., Corin, E., & Hite, R. (August, 2013). Nanotechnology, engineering, and STEM integration, Workshop for Centennial Middle School Teachers. Raleigh, NC.

Corin, E. N., Jones, M. G., Andre, T., Childers, G. M. (May, 2013) Astronomy hobbyists: Factors that influenced career choices. North Carolina State University STEM Education Research Symposium, Raleigh, NC.

Jones, M.G., Tracy, J., Childers, G., Leagon, M., Corwin, E., Taylor, A., & Falvo, M. (2012, November). What is the big deal about nanotechnology? Workshop presented to the NC Teachers Association Annual Meeting, Winston-Salem, NC.

Jones, M. G. (2011). Nanotechnology: Big ideas and new science. Presentation to Wake County Public Schools Principals and Teachers, Raleigh, NC.

Jones, M. G., Falvo, M., Taylor, A., Broadwell, B., and Childers, G. (2011). Nanoscale science. NC Science Leaders Association Annual Meeting, Greensboro, NC.

Jones, M. G., Taylor, A., Woolard, L., Englehardt, H., Hall, A. (2011). Nano Palooza: Nanotechnology for teachers. NC Science Teachers Association Annual Meeting, Greensboro, NC.

Jones, M.G. (2010). Understanding scale. Poster presented at the Friday Institute for Educational Innovation Advisory Board. Raleigh, NC.

Jones, M.G. (2011). New directions in materials science: Making stuff workshop. Presented at the NM Museum of Life and Sciences, Durham,NC.

Jones, M. G.,Tracy, J., & Woolard, L. (2010). Nanospintronics: New advancements in science. Workshop presented at the NC Science Teachers Association Annual Meeting, Greensboro, NC.

Jones, M. G., Taylor, A., Falvo, M., Hall, A., & Robert, S. (2010). Modeling phenomena at the extremes of science. Workshop presented at the NC Science Teachers Association Annual Meeting, Greensboro, NC.

Jones, M. G. (2010). Extreme science workshop, Chowan Middle School, Tyner, NC.

Jones, M. G., Taylor, A., Falvo, M., Gardner, G., Thurmond, B., Robert, S. (2009). Extreme science: Scales from nano to galactic. Presentation to the NC Science Teachers Association, Greensboro,NC.

Jones, M. G., & Falvo, M. (2009). What is nanotechnology and why should you care? Scaling Ideas from the Nanometer to the Marketplace. NC Nanotechnology Commercialization Conference. Raleigh, NC. Invited presentation.

Jones, M. G. (2009). Faculty perspectives on research support. Presentation made to the Research Support Council, NCSU, Raleigh, NC.

Jones, M.G. (2009). Family science. Wiley Elementary School, Raleigh,NC.

Jones, M. G., Falvo, M., Robertson, L., and Krebs, D. (2008). Extreme science: Scales from nano to galactic. Invited workshop, Secondary Professional Development Institute. Durham Public Schools, Durham, NC.

Jones, M. G. & Taylor, A. (2007). Introduction to nanotechnology. Workshop presented at the NC Museum of Life and Sciences, Durham, NC.

Jones, M.G., Taylor, A., & Krebs, D. (2007). Meet a scientist. Presentation made at the Morehead Planetarium and Science Center, UNC, Chapel Hill, NC.

Jones, M. G., Taylor, A., Forrester, J., Krebs, D., Robertson, L., & Gardner, G. (2007). Exploring science at the nanoscale. Workshop presented at Stough Elementary School, Raleigh, NC.

Jones, M. G. (2007), Collaborating in the academy. Presentation to the assistant professor's discussion group, NCSU, Raleigh, NC.

Jones, M. G., Falvo, M., Taylor, A., Kubasko, D., Forrester, J., Gardner, G., Robertson, L., Krebs, D. (2007). Nanoscale science. Workshop presented at the NC Science Teachers Association Annual Meeting, Greensboro, NC.

Jones, M. G., Taylor, A., Falvo, M., Forrester, J., & Kubasko, D. (2006). No stink socks, stronger bikes, and cancer-destroying nanobots: Exploring nanotechnology. Workshop presented at the NC Science Teachers Association Annual Meeting, Greensboro, NC.

Jones, M. G., Taylor, A., Scott,J., Nifong, J. (2006). Polishing the stone with Japanese lesson study: Teachers sharing model lessons. Presentation made to the NC Science Teachers Association Annual Meeting, Greensboro, NC.

Jones, M. G., (2005). Teaching nanotechnology. Presentation made to the Technology Education Department students, NCSU.

Jones, M. G., Broadwell, B., Falvo, M., Flores, A., & Oppewal, T. (2005). Advancements in nanotechnology and nanoscale science, Paper presented at the North Carolina Science Teachers Association Annual Meeting, Greensboro, NC.

Jones, M. G. and Spires, H. (2004). Research-driven innovation for 21st Century Education. Keynote Speaker. EDTECH 2004.

Jones, M. G., Falvo, M., Minogue, J., & Broadwell, B. (2004). It's a Small, Small World: Teaching about nanotechnology, Paper presented at the North Carolina Science Teachers Association Annual Meeting, Greensboro, NC.

Jones, M. G., Tretter, T. R., Kubasko, D., Negishi, A., Minogue, J., Superfine, R., & Taylor, R., (2003, November) Fighting Back: The War Against Viruses. Paper presented at the North Carolina Science Teachers Association Annual Meeting, Greensboro, NC.

Jones, M. G. (2002, November 13). Leadership for teachers. Presentation made to the NC Science Teachers Association, Greensboro, NC.

Jones, M. G., Bokinsky, A., Kubasko, D., Tretter, T., Mabry, K., Day, N., & Sidensticker, L. (2002). Hands-on experiences with viruses. Presentation made to the North Carolina Science Teachers Conference, Greensboro,NC.

Tretter, T., Jones, M. G., Kubsko, D., Negishi, A., & Bokinsky, A. (2002). Size is important. Presentation made to the North Carolina Science Teachers Conference, Greensboro, NC.

Jones, M. G., Kubasko, D., Andre, T., Taylor, R., Superfine, R., Negishi, A., Daye, N., Smith, B., Dennision, P. (2001, November). Virtual hands-on experiences: Using technology for students to touch viruses. Presentation made to the North Carolina Science Teachers Conference, Greensboro, NC.

Jones, M.G.. (2001, February). The impact of high-stakes testing in North Carolina. Invited presentation made to Carolina Chapter of Phi Delta Kappa, University of North Carolina, Chapel Hill, NC.

Jones, M. G., (and 14 Durham Public School Teachers) (2000). Zany, bizarre and engaging science investigations that invite inquiry. Presentation made to the North Carolina Science Teachers, Greensboro, NC.

Hargrove, T.Y., Jones, M.G., Jones, B., Hardin, B., Chapman, L. and Davis, M. (2000, February). Assessing the ABCs: The impact of high-stakes testing in North Carolina. Presentation made to the Southeast Education Alliance Board of Directors, Kenansville, NC.

Hargrove T.Y., Jones, M.G., Jones, B., Hardin, B., Chapman, L. and Davis, M. (2000, February). Assessing the ABCs: The impact of high-stakes testing in North Carolina. Presentation made to Phi Delta Kappa, University of North Carolina at Wilmington, Wilmington, NC.

Jones, M.G., Hardin, B., Jones, B., Chapman, L., Davis, M. (2000, March). The impact of high stakes assessment on science instruction. Paper presented at the annual meeting of NCARE, Chapel Hill, NC.

Hargrove T.Y., Jones, M.G., Jones, B., Hardin, B., Chapman, L. and Davis, M. (2000, March). The impact of high-stakes testing in North Carolina and changing assessment for the future. Presentation made to The Southeast Education Alliance, Kenansville, NC.

Jones, M.G., Hardin, B., Jones, B., Davis, M., & Chapman, L. (1998, September). Science and the state's ABC program. Paper presented at the Mid-Atlantic AETS Conference, Chapel Hill, NC.

Jones, M.G. & Rua, M. (1998, November). GLOBAL science leaders for the 21st century. Workshop presented at the North Carolina Science Teachers Association, Greensboro, NC.

Carboni, L., Brader-Araje, L., Jones, M. G., & Rua, M. (1999, April). Science tool use, control, authority, and gender. Paper presented at the North Carolina Association of Research in Education Annual Meeting, Chapel Hill, NC.

Vesilind, E., Horne, C., & Jones, M. G. (1999, March). Favorite units, activities and explorations from the middle grades teacher education program, UNC-CH. Paper presented to the North Carolina Middle School Association Annual Meeting, Greensboro, NC.

Jones, M. G. (1998, January). Science education: bridging the future. Keynote Address, Teacher Conference, NC Museum of Life and Sciences, Durham, NC.

Jones, M.G. & Vesilind, E. (1997, October). Defining science in the context of reform. Paper presented at the Mid-Atlantic AETS Conference, Mt. Lake, VA.

Jones, M.G. & Rua, M. (1997, November). Operation primary physical science. Paper presented at the North Carolina Science Teachers Association, Winston-Salem, NC.

Brader-Araje, L. & Jones, M.G. (1997, November). Tools of gender: Conversation space and control during dyad interaction. Paper presented at the Eighth annual Duke University Women's Studies Graduate Research Conference, Durham, NC.

Jones, M.G., & Vesilind, E. (1996, February). Situated science: Defining science in the context of reform. North Carolina Association of Research in Education, Chapel Hill, NC.

Jones, M.G,. & Rua, M. (1996, March). Wet, wild, and wacky water activities. Paper presented at the North Carolina Middle School Association, Greensboro, NC.

Rua, M., Jones, M.G., & Carter, G. (1996, February). Teachers' conceptual growth within Vygotsky's zone of proximal development, North Carolina Association of Research in Education, Chapel Hill, NC.

Jones, M.G., Rua, M., & Norris, G. (1996, November). Project WET: An interdisciplinary environmental curriculum. A preconference short course offered at the North Carolina Science Teachers Association, Greensboro, NC.

Jones, M.G. (1996, June). Gender activities for students, teachers, and parents. Paper presented at the Public Schools of North Carolina "Excellence Through Equity and Diversity" Conference, Greensboro, NC.

Jones, M.G,. & Rua, M. (1995, November). Wet, wild, and wacky water activities. Paper presented at the North Carolina Science Teachers Association, Winston-Salem, NC.

Jones, M. G. (1995, March). Implementing and assessing the new science NC Standard Course of Study: Focusing on conceptual understanding. Presentation to the North Carolina Middle School Conference, Greensboro, NC.

Jones, M. G. (1995, November). Leadership/literacy: Middle school reform. Presentation to the Delta Kappa Gamma Society International, Chapel Hill, NC.

Jones, M.G. (1994, November). Family Science. Short course. North Carolina Science Teachers Association. Raleigh, NC.

Jones, M. G. (1994, May). Science stereotypes and gender. Keynote Address, Expanding Your Horizons Conference, Science and Mathematics Alliance, Chapel Hill, NC.

Jones, M.G. (1994, March). Body works: Using whole body activities with middle school students. Workshop presented at the N.C. League of Middle Level Schools Conference, Greensboro, NC.

Jones, M.G. (1993, November). Sound ideas: Wetland activities. Workshop presented at the North Carolina Science Teachers Association, High Point, NC.

Jones, M.G. (1993, November). TEACH-STAT: Turning kids into private detectives. Workshop presented at the North Carolina Science Teachers Association, High Point, NC.

Jones, M.G. (1993, November). Elementary make-and-take. Workshop presented at the North Carolina Science Teachers Association, High Point, NC.

Carter, G., & Jones, M.G. (1993, January). The effects of ability-paired interactions by fifth-graders on balance concept attainment. Paper presented at the N.C. Association for Research in Education, Greensboro, NC.

Jones, M.G. (1993, January). Case study: Improving mathematics and science instruction in elementary schools. Paper presented at the N.C. Association for Research in Education, Greensboro, NC.

Jones, M.G. (1993, March). Exploring North Carolina's sounds and marshes. Presentation to the N.C. League of Middle Level Schools, Greensboro, NC.

Jones, M. G. (1992, December). North Carolina's FIRST elementary science project: A statewide teacher leadership development model. Presentation to the National Science Teachers Area Convention, Charlotte, NC.

Jones, M.G. (1992, September). Cooperative learning. Workshop presented to Duke University, Durham, NC.

Jones, M.G. (1992, May). Shifting research paradigms: Interactions to cognition. Presentation to the North Carolina State University Research Institute, Raleigh, NC.

Jones, M.G. & Carter, G. (1992, March). Encouraging family involvement in science and math. Presentation to the N.C. League of Middle Level Schools Conference, Winston-Salem, NC.

Jones, M.G., & Vesilind, E. (1992, February). Changes in student teacher-pupil interactions: Cognitive restructuring or paralysis? Paper presented at the North Carolina Association for Research in Education, Chapel Hill, NC.

Jones, M.G. (1991, October). Family science nights in your schools, Workshop presented at the North Carolina Science Teachers Conference, Raleigh, NC.

Jones, M.G. (1991, October). Designing great activities, Presentation to the North Carolina Science Teachers Conference, Raleigh, NC.

Jones, M.G. (1991, October). Sex equity in education, Presentation to the American Association of University Women, Chapel Hill, NC.

Jones, M.G. (1991, May). Get your feet wet: Head for the estuary, Paper presented at the North Carolina Science Teachers Spring Conference, Chapel Hill, NC.

Jones, M.G. (1991, March). Active involvement in learning. Preconference Session, N.C. League of Middle Level Schools Conference, RTP.

Jones, M.G. (1991, February). Cooperative problem solving. Invited Address, Catholic Diocese of Charlotte, Greensboro, NC.

Jones, M.G. (1991, February). No contest: Gender differences in student research, Paper presented at the N.C. Association for Research in Education, Chapel Hill, NC.

Jones, M.G. (1990, July). Cooperative learning: developmentally appropriate for the middle level student, Keynote Address given at the UNC-G Middle Grades Conference, Greensboro, NC.

Jones, M.G. (1990, June). Project Estuary. Paper presented at the Mid-Atlantic Marine Education Conference, Beaufort, NC.

Jones, M.G. (1990, March). Cooperative learning and cognitive conflict. Paper presented at the North Carolina Association for Research in Education Conference, Research Triangle Park, NC.

Jones, M.G. (1990, March). Cooperative problem-solving for the middle level educator. Paper presented at the North Carolina League of Middle Level Schools Conference, Charlotte, NC.

Jones, M.G. (1990, January). Characteristics of excellent research, Paper presented at the Junior Science and Humanities Symposium, UNC-CH, NC.

Jones, M.G. (1989, November). Save our sounds- Project Estuary. Presentation at the North Carolina Science Teachers Association, Charlotte, NC.

Jones, M.G. (1989, November). Cooperative problem solving. Presentation made to the Annual Education Conference, Diocese of Raleigh, Greensboro, NC.

Jones, M.G. (1989, July). Cooperative problem-solving for early adolescents. Presentation to the East Carolina Middle School Conference, Greenville, NC.

Jones, M.G., & Moore, C. (1989, January). Cooperative learning. Paper presented at the annual meeting of the North Carolina League of Middle Level Schools. Research Triangle Park, NC.

Burke, B., Jones, M.G., & Moore, C. (1989, January). Teacher education through partnership: The UNC model. Paper presented at the annual meeting of the North Carolina League of Middle Level Schools. Research Triangle Park, NC.

Jones, M.G. (1989, April). An overview of NC's National Estuarine Research Reserve System. Paper presented at the meeting of the Mid-Atlantic Marine Educators Association, Beaufort, NC.

Jones, M.G. (1989, July). Cooperative problem solving for early adolescents. Paper presented at the East Carolina University Middle School Conference, Greenville, NC.

Jones, M.G. (1989, November). Save our sounds: Project Estuary. Paper presented at the N.C. Science Teacher's Annual Meeting. Charlotte, NC.

Jones, M.G. (1988, November). Get your feet wet: Head for the estuary. Paper presented at the annual meeting of the North Carolina Science Teachers Association, Asheville, NC.

Jones, M.G. (1988, November). The missing half in science. Paper presented at the annual meeting of the North Carolina Science Teachers Association, Asheville, NC.

Jones, M.G., MacAller, T., Dorsey, L., Bailey, J., & Bedwell, N. (1988, November). Enhancing problem-solving through cooperative learning. Paper presented at the annual meeting of the North Carolina Science Teachers Association, Asheville, NC.

Jones, M.G., & Woolard, E. (October, 1987). Technology and the future- An integrated approach to math and science. Paper presented at the 16th Annual N.C. State Mathematics Conference, Raleigh, NC.

Jones, M.G. (1985, March). EQUALS. Paper presented at the N.C. Conference on Mathematics and Science: Issues and Concerns regarding Enrollment of Women and Minorities in Mathematics and Science, Raleigh, NC.

Other Professional Presentations/Professional Meetings Attended

Statistics Interdisciplinary Workshop, NCSU (February, 2015).
Microaggressions in Everyday Life: Implications for Higher Education, October, 2014)
Diversity Workshop, 2014.
Taskstream: Artifacts and Assessment, Raleigh, NC (December 14, 2006).
Advancing Nanoscience Education Workshop, SRI International, Menlo Park, CA (March 28, 2005).
National Science Supervisors Association, Anaheim, Ca. (March, 1994).
North Carolina Science Supervisors Association, Chapel Hill, NC (April 1994).
SDPI Conference on the Standard Course of Study, Raleigh, NC (April 1994).
Project Learning Tree Facilitators Training, Salter Path, NC (October 12- 13, 1994).
Mathematics and Science Education Research Institute, Raleigh, NC (May 1993).
Asa T. Spaulding Sr. Memorial Lecture Presented by Vanessa Siddle Walker, (October 7, 1993).
N.C. Equity Conference on Gender Equity in Schools, Raleigh, NC (June 12, 1993).
NCSSA/NSSA Leadership Development Conference, Charlotte, NC (December 9, 1992).

Ira Gordon Lecture, Chapel Hill, NC (February 4, 1992).

GRANTS

Federally Funded Grants

2016 NRT-DESE: Data-Enabled Research Traineeships in the Science and Engineering of Atomic Structure (SEAS), (E. Dickey PI), NSF, $2,555,633.
2016 Promoting STEM Interests and Careers through FAME (Families and Museums Exploring), NSF, $852,959.
2016 Power America: Next Generation Electronics Manufacturing Innovation Institute, US Department of Energy, $249,238.
2015 Research Triangle Nanotechnology Network, (J. Jones PI), NSF, $30,183.
2015 Power America: Next Generation Electronics Manufacturing Innovation Institute, US Department of Energy, $43,600.
2015 Teacher STE2WARD: Science Teachers Examining the Environment With Argumentation, Research and Discovery, NSF, $1,199,916 (Submitted)
2014 Wearable Nanodevices, Linking Health and Environment: RET in Engineering and Computer Science Site, NSF $499,796, Co-PI.
2012 NERC for Advanced Self-Powered Systems of Sensors and Technologies (ASSIST), NSF $18,500,000.
2011 Master Science Hobbyists: Characteristics, Motivations, Experiences, and Career Trajectories, NSF $286,912.
2011 NSF CCI: Center for Molecular Spintronics. Supplement $7,450.
2010 FIRE: Conceptualizing Non-Contact Forces: The Efficacy of Visuohaptic Simulations, NSF, $399,886.
2010 Bottom-Up Meets Top-Down: An Integrated Undergraduate Nanotechnology Laboratory, NSF, 200,000.
2009 NSF CCI: Center for Molecular Spintronics, NSF, $1,413,493.00.
2006 Teaching nanoscale engineering across undergraduate disciplines, NUE NSF, $200,000
2005 NIRT: Bio-inspired Actuating Structures, NSF $1,721,234
2004 Scale and Scaling Across Science Domains, NSF, $700,000
2003 NUE: Building Models and Manipulating Molecules-Active Learning for Nanoscience Education, NSF $100,000.
2002 Global Science Leaders II, Eisenhower Grants, $30,000.
2002 Durham Science Leaders, Eisenhower Grants, $30,000.
2001 Investigating Viruses with Touch: Nanotechnology and Science Inquiry, NSF, $767,320.
2000 Triangle Science Education Cooperative, Eisenhower Grants, $120,000.
1998 Global Science Leaders for the 21st Century, Eisenhower Grants $90,000.
1998 Family Science and Family Math for Hispanic Families, Eisenhower Grants $30,000.
1996 Integrating the ABC'S, Eisenhower Grants, $28,000.
1996 Operation Primary Physical Science, Eisenhower Grants, $28,000.
1996 Operation Primary Physical Science, NSF, $40,000.
1995 Science and and Mathematics for Students and their Families: Family Math and Family Science, Eisenhower Grants, $35,000.
1995 Tools for Cognition: Middle Grades Mathematics Manipulatives Project. Eisenhower Grants $35,000.
1995 Reforming the Preparation of Elementary Teachers of Science, Eisenhower Grants, $35,000.
1994 Conceptual Science II, Eisenhower Grants, $35,000.
1994 Science and Mathematics for Students and Their Families: Family Science/Family Math, Eisenhower Grants, $35,000.
1993 Conceptual Science, Eisenhower Grants $30,000.
1993 North Carolina Family Science Education Project, Eisenhower Grants $30,000.
1992 N.C. Estuarine Research Reserve Education Project $10,000.
1991 Family Science Literacy Project, Eisenhower Grants $25,000.
1991 Teach STAT, National Science Foundation $123,609.
1990 Getting It Together: Middle Grades Mathematics Manipulatives Project. Eisenhower Grants, $19,296.
1990 Hands-On Science For Elementary Teachers. Eisenhower Grants, $19,086.
1990 North Carolina Estuarine Research Project, National Oceanographic and Atmospheric Administration, $19,876.
1990 Middle Grades Mathematics Manipulatives-Short Project, Eisenhower Grants $450.
1990 Middle Grades Cooperative Mathematics, Eisenhower Grants $19,876.

1990 Elementary Science Project, Eisenhower Grants $19,837.
1989 Estuarine Ecology- Summer '89. Title II of the Education for Economic Security Act of 1984 (P.L. 98-377), $17,021.

Private/Corporately Funded Grants

2017 Future Scientists and Engineers: Identity Development and Career Interests, Biogen Foundation, $ $6150.
2016 NanoDays, Eastman Chemical Company, $5,000.
1994 Burroughs Wellcome Science Teaching Innovation Grants, Conceptual Science, Burroughs Wellcome Co., $40,000.
1994 Burroughs Wellcome Teaching Innovation Grant $50,000.
1985 Technology and the Future. GTE: Grant Incentives For Teachers, $15,000.

State/Regionally Funded Grants

2011 The Science Scholars Academy II: Developing 21sr Century Teacher Scholars, NC QUEST $ 150,000.
2010 The Science Scholars Academy: Developing 21st Century Teacher Scholars, NC QUEST, $299, 355.
2009 Nano-Textile Technology, UNC, $207,688, Co-PI
2008 Trajectory of Science Scholars, Math Science Partnership, Extended, $400, 569.
2007 Trajectory of Science Scholars, Math Science Partnership, $237,000
1997 Investigation of Students', Teachers', and Professionals' Concepts of Bacteria, Germs, and Viruses, Small Grants University-Based Research, $5,000.
1992 Model Clinical Network Program Induction Grant $3,750.
1993 Model Clinical Network Program Induction Grant, $3,500.
1991 Model Clinical Network Program Induction Grant, $3,750.

University/Locally Funded Grants

2016 Supporting Underserved Students In Science Education Through Graduate Studies for Inservice Teachers, $24,000, NCSU Foundation.
2015 Partnerships for STEM: Exploring New STEM Frontiers With Virtual Reality, NCSU Extension, Engagement and Economic Development, $9,348 (submitted).
2015 NC State Water Education Collaborative: Leveraging Technology to Broaden STEM Participation Through New Research, Education, and Public Engagement Networks, NCSU Research Innovation Seed Funding, $24,189. (Submitted)
2014 Engineering Guides of North Carolina, Extension, Engagement and Economic Development Seed Grant, $10,000.
2013 Diversity Award for Research Travel, $1,000.
2010 Initiative Implementation Grant: Support for NSF Center of Chemical Innovation, Center for Molecular Spintronics, Strategic Research Initiative, $50,550.
2006 Graduate Recruitment Initiative $2000.
1999 University Research Council, $2,000.
1997 Institute for Research in the Social Sciences Faculty Research Award, UNC-CH $1000.
1997 Nanomanipulator and Atomic Force Microscope, Chancellor's Technology Grants, $30,000.
1997 BRIDGES Leadership Scholarship Grant, $1,250.
1997 Research Grant, Horizon Research, $3,270.
1997 Teaching Science in the Elementary Schools, Center for Teaching and Learning Minigrant for Course Enhancement, $346.
1997 Instructional Materials for Learner-Centered Teaching, Mini-Grant for Teaching Support, Center for Teaching and Learning, $750.
1995 University Research Council, $1,500.
1994 J. Minor Gwynn Research Award, $1,500.
1992 Evaluation of An Elementary Science Teacher Leadership Model, MSEN, $6,000.
1984 Cloning and Embryonic Development. Wake County Educational Foundation Mini-Grant $432.

AWARDS AND HONORS

2017 Best Paper Award, American Education Research Association (AERA) Applied Research on Immersive Environments for Learning
2016 The Distinguished Service in University/College Science Award, NC Science Teachers Association
2016 Alumni Outstanding Research Award
2016 Research Leadership Academy
2016 NCSU Graduate Outstanding Graduate Mentor Award
2016 Academy of Outstanding Graduate Faculty Mentors
2016 National Technology Leadership Initiative (NTLI) Fellowship Award for Science Education
2015 Association for Science Teacher Education, Outstanding Science Teacher Educator of the Year Award
2014 Alumni Distinguished Graduate Professor Award
2014 Outstanding Extension Award
2014 Academy of Outstanding Faculty Engaged in Extension
2014 Alumni Association Outstanding Extension and Outreach Award
2011 Friday Fellow for Educational Innovation (2011-2016)
2010 Extreme Science, the 2010 Association of Educational Publishers Finalist Award for Science Curriculum
2006 Outstanding Paper Award, *Hands-on Science Education: Multimedia Instruction That is Appealing to Female and Male Students*, Multimedia Applications in Education, Graz Austria.
2005 Haptic Cell- SensAble Developer Challenge Award Winner: Honorable Mention
1999 Nominee- National Wetlands Education/Outreach Award
1998 Nominee- Willystine Goodsell Award, AERA
1997 N.C. Association of Research in Education- Outstanding Research Paper
1997 Nominated- 1998 NARST Outstanding Paper Award
1992 Nominee- J. Minor Gwynn Outstanding Teaching Award
1988 Association of Colleges and Schools of Education in State Universities and Land Grant Colleges- Award for Outstanding Scholarship on Teacher Education
1988 Association of Supervision and Curriculum Development- Outstanding Dissertation Award.
1987 Association of Educators of Teachers of Science: Outstanding Paper Competition: Award of Merit
1986 Finalist- National Association of Research in Science Teaching Outstanding Research Award
1986 Nominee- CSGS Annual Achievement Award for New Scholars

SCHOLARLY AND PROFESSIONAL ORGANIZATIONS
European Science Education Association
American Educational Research Association
National Association of Research in Science Teaching
Association of Educators of Teachers of Science
National Science Teachers Association
North Carolina Science Teachers Association
Phi Delta Kappa
Mid-Atlantic Association of Educators of Teachers of Science

SERVICE ACTIVITIES
Editor
Editor, International Journal of Science Education (November 2008- present)

Editorial Review Boards
Board of Reviewers- Science Education (1995-2009).
Editorial Board - Journal of Research in Science Teaching (1991-94).
Editorial Board - International Journal of Science Education (1998 - present).
Editorial Board - Journal of Science Teacher Education (2000 -2005).
Editorial Board – Journal of Nanotechnology Education (2007- present).
Editorial Board –Journal of Science and Educational Technology (2008- present)

National Service
Publications Committee, ASTE (2014-present)
NARST Program Reviewer, 2014-present
ASTE Program Reviewer, 2015

NSF Review Panel, AISL, 2015
NSF Reviewer, 2015
External Reviewer for Promotion and Tenure, Purdue University, Weizmann Institute, Israel, West Virginia University and University of Missouri (2015-2016).
Reviewer, Computers and Education (2015)
Advisory Board, FOSSIL, University of Florida 2013- present
External Reviewer, Purdue University (2014)
Distinguished Contributions Through Research Award Committee- Co-Chair, NARST (2014)
National Association of Research in Science Teaching, Conference Reviewer
Advisory Board, STUDIO STEM NSF Grant, Virginia Tech University, 2011-2014.
Advisory Board, IES ADI Implementation Project, Florida State University, 2011-2014.
NSF Review Panel Chair, Itest Proposal Panel, 2011.
External Advisor, NSF Career Grant, Clemson University, 2011.
Distinguished Contributions Through Research Award Committee, NARST, 2011-2014.
Reviewer, *Computers in Education*
External Reviewer, Promotion and Tenure, Virginia Tech, 2010.
Reviewer, Computers and Education, 2010.
Reviewer, Science Education, 2010.
Member, Committee for the Policy Statement: The Role of Research on Science Teaching and Learning, NSTA
Reviewer, Instructional Science, 2010.
Review Panel, NSF, 2010.
Reviewer, NARST program proposals, (2011).
Reviewer, NSTA Press (2011).
Reviewer, NSTA Press (2009).
Reviewer, European Science Education Research Association Conference (2009).
National Science Teachers Association Research Position Statement Panel (2009).
External reviewer, University of Wisconsin-Milwaukee Research Growth Initiative (RGI) (2008, 2009).
International Web Seminar for Teachers- Jones, M. G., Falvo, M., & Taylor, A. (January, 2008). Nanoscience and the future. International web seminar presented by the National Science Teachers Association.
International Web Seminar for Teachers - Jones, M. G., Falvo, M., & Taylor, A. (January, 2008). Nanoscale science. International web seminar presented by the National Science Teachers Association.
Executive Review Board, AERA, 2008.
Reviewer, French Embassy, Partner University Fund, Micro and Nano technology proposal.
Reviewer, ASTE conference proposals, 2008
Reviewer, NARST conference proposals, 2008
Reviewer, Journal of The Learning Sciences, 2008.
Reviewer, Journal of Engineering Education, 2007.
Reviewer, NARST conference proposals, 2007.
Reviewer, ASTE conference proposals, 2007.
Faculty external review, University of Georgia.
RAISE Invitational Conference.
American Educational Research Association AERJ Reviewer (2006).
National Association of Research in Science Teaching, Conference Reviewer (2006).
Nanoscale Informal Science Education Network, Advisor 2005-2007).
Journal of Research in Science Teaching reviewer (2006).
National Science Teachers Association book reviewer (2006).
NSF, Nanoscale Informal Science Education Network, Advisor
School Science and Mathematics Awards Selection Committee (2006)
NSF CAREER Review Panel (November 2005)
Rice University, NSF Center for Biological and Environmental Nanotechnology Advisory Board (2004 to present)
Co-Chair Dissertation Award Committee, National Association of Research in Science Teaching (2004- present)
Reviewer NSF, Developmental and Learning Sciences (2004)
Oversight Committee, AETS (2003- Present)
School Science and Mathematics Endowment Committee (2004- present)
NSF Review Panel- IERI (2004)
Reviewer, NSF Division of Research, Evaluation, and Communication (2003)

Committee Member National Association for Research in Science Teaching Dissertation Award Committee (2003-2006)
NSF Review Panel- Teacher Professional Continnum (2003)
Reviewer for American Educational Research Journal
Reviewer for the Journal of Educational Policy, Research, and Practice
Reviewer for the Journal of Science Teacher Education
Reviewer for the International Journal of Science Education
Reviewer for Science Education
Reviewer for American Educational Research Journal.
Reviewer for Journal of Research in Science Teaching.
IEEE Virtual Reality 2003 Program committee.
Board of Directors, SciQuest Foundation (2000- present).
NSF Review Panel, Research on Learning in Education (ROLE) Division, July, 2001).
Reviewer, NSF Site Visit to MIT, March, 2002.
Association of Educators of Teachers of Science Equity Committee (2002-2003)
IEEE Haptics Symposium Conference Reviewer, 2001.
AERA Session Discussant, 2002.
Mentor, NSF-DSG Research Exchange (October, 2001- May, 2002).
Executive Board Member, National Association of Research in Science Teaching (1999-2001)
National Association of Research in Science Teaching- Masters Award Committee (2003)
National Association of Research in Science Teaching-Outstanding Dissertation Awards Committee (1995, 1996).
National Association of Research in Science Teaching-Program Committee (1994-98).
Program Strand Coordinator, National Association of Research in Science Teaching (1994-1998).
Referee, AERA Division K, Section 1, (1998).
Honorary Advisor, Institute for High Intelligence Education, Hong Kong.
Publications Committee, Association for the Education of Teachers of Science.
External Reviewer For Promotion and Tenure, Women's Studies Program, University of Hawaii at Manoa.
External Reviewer For Promotion and Tenure, Department of Science Education, East Carolina University.
Presentation- Gender Equity in Middle Schools, Center for Early Adolescence, District-wide Planning Institute, June 25, 1994.
Advisory Board, Center for Early Adolescence (1994).
Advisory Board, Center for Early Adolescence, Middle Grades Institute (1994).
Advisory Board, Science Education and Quantitative Literacy Project, Oberlin College (1994-96).
National Science Scholars Program- Selection Committee (1993-94).
Reviewer- Benchmarks for Science Literacy, American Association the Advancement of Science (1993-94).
National Association for Research in Science Teaching- Masters Award Committee (1990-present).
National Science Foundation, Review Panel, Teacher Enhancement (1990).

State, Regional and Local Service

Demonstrations, Spring Fever Family Event, Centennial Middle School. (May 2016)
Virtual Reality zParty, (May 20, 2016)
Webinar, Addressing Broader Impacts. NCSU (April, 2016).
Science Festival (2016- 2017)
Energy Expo, Marbles Kids Museum, January 2017).
STEM Investigations, Guildford County Schools (January 2017).
NanoDays 2017, NCSU (April 2017).
Judge for Special Award, NC Science and Engineering Fair (April 2016)
Virtual reality for teaching health, Centennial Middle School (May 2015)
Engaging Students in Research, Ligon Middle School (October 2014).
Judge, Sensor Symposium at Ligon Middle School, (November 2014).
STEM Family Night Carroll Middle School, (June 2014)Presenter, Exploring the Unseen World: Nano-Structures and Nano-Inspired Innovations (April 2014).
Investigating Science With Virtual Reality, Centennial Middle School (November-December 2014).
Steering Coordinating Committee, Wake NCSU Stem Early College High School, (2014-2015).
Congressional STEM App Contest, NCSU Organizer (2014)
Kenan Fellows, Selection Committee (2014, 2015).

STEM Family Night, Carroll Middle School (November 2014)
Judge Carbon Sequestration Project, STEM Early College High School (February, 2015)
Family STEM Program, Centennial Middle School (2013, 2014, 2015).
Board of Directors, NC Science Olympiad (2000-present).
Judge, Nanotechnology Research, Wake County Public Schools, September 2010-11.
Judge, Centennial Middle School Science Fair, Raleigh, NC 2013, 2014.
Presenter, NanoDays Marbles Childrens Museum, April 2011.
Presenter, Carnival of Science and Math, Stowe Elementary School, October 2010.
Board of Directors, NC Science Olympiad (2007-11).
Science Fair Judge, Centennial Middle School, Raleigh NC, February 2011.
Science Teacher Workshop, Chowan Middle School, Tyner, NC. June, 2010.
Exhibit Advisor, Discovery Place, Charlotte, NC, January 2009.
Presenter, Carnival of Science and Math, Stowe Elementary School, October 2009.
Science Fair Judge, Centennial Middle School, Raleigh NC, January 2009.
Presenter, Wiley Science Night, Wiley Elementary School, March 2009.
Presenter, Carnival of Science and Math, Stowe Elementary School, October 2008.
Scale Workshop, MAZE Days for Students with Visual Impairment, UNC-CH, April, 2008.
Advisor, Scale Exhibit Morehead Planetarium and Science Center, Chapel Hill, NC.
Board of Directors, NC Science Olympiad (2007).
Science Nanotechnology Café, NC Museum of Life and Sciences.
Co-Chair, Education Working Group, Nanotechnology Initiative, N C Board of Science and Technology
Central Regional Science Fair Judge (2004).
Durham Public Schools K-8 Infrastructure Committee 2001-present. (Chair of the Professional Development Committee)
Project Learning Tree Workshop (2001).
Coordinated elementary science staff development for 180 elementary teachers for five sessions, Durham North Carolina.
Speaker, Science Spectacular, Pearsontown Elementary School, Durham, NC. (2000)
Board of Directors, North Carolina Association for Research in Education (1998-99).
Coordinator, Professional Development Schools Book Inquiry Group, McDougle Middle School (1997-99).
Advisory Board, EMPOWER SCIENCE NSF Grant, NCSU.
Advisory Board, The Early Recognition and Cultivation of Potential, U.S. Department of Education.
Conducted a Family Science Program, Frank Porter Graham Elementary School, Chapel Hill, NC (November, 1998).
Taught model science classes one morning a week, Grady Brown Elementary School (1996-98).
Operation Primary Physical Science Mini-conference, November 1997, Winston Salem, NC.
Integrating Science Through the ABC's Teacher Workshop, November 1997, Winston Salem, NC.
Advisory Board, Program for Precollege Science and Mathematics Education (1990 - present).
Phi Delta Kappa- Research Award Committee Chair (1994-2002).
Phi Delta Kappa- Dissertation Award Committee Chair (1994-2002).
Treasurer, NC Science Supervisors Association (1994-1997).
Family Science Workshop, NC Museum of Life and Sciences, June, 1995.
Middle School Summer Institute for Teachers- Patterns, Cycles, and Change, June 1996.
Chair, General Competencies, Invitational Conference to Review Guidelines and Competencies, NC Department of Public Instruction 1996.
Teach Stat Educators Institute, Co-Coordinator and Instructor, June 1995.
Family Science Workshop, Fayetteville State University, April 1995.
Elementary Science Curriculum Awareness Workshop, Instructor, February 1995.
Central Regional Science Fair, Judge, Wilson, NC, March 25, 1995.
Science Guidelines and Competencies Revision Committee, State Department of Public Instruction (1995).
Woods And Water Workshop, October 1-2, 1995.
Teach-Stat Workshop, Instructor, June 1994.
Family Science Workshop, UNC-G, Rockingham County, July 12-15, 1994.
Coastal Environment Workshop, Carolina Power and Light, Brunswick Nuclear Plant, June 21, 1994.
Taught 4 model science classes for Pearsontown Elementary School (1995-96).
Cooperative Learning Workshop, Lee County Schools, June 14, 1994.

Cooperative Learning Workshop, Durham Algebra Project, Durham Public Schools, June 27, 1994.
Science Workshop, Duplin County Schools, May 2, 1994.
Clinical Teacher Institute, Middle Grades Program, UNC-CH, February 1994.
Planning Team-McDougel Middle School, Chapel Hill/Carrboro City Schools (1993).
Presentation- Middle School: Developmental Transitions and Curriculum Connections, Orange County Schools, October 1993.
Cooperative Learning Workshop for Mathematics Educators, Cary Elementary School, July 1994.
Panelist- Grants Opportunities, Learning Through the Arts, January 1994.
Family Science Workshop- Vena Wilburn Elementary School, January, 1994.
Cooperative Learning Workshop, Region 3 Middle School Mini-Conference, Chewning Middle School, April 1993.
Steering Committee, Project Scientifica, NC Museum of Life and Sciences (1991- 1994).
Region 3 Advisory Council, NC League of Middle Level Schools (1993).
Science Fair Judge, Carrington Middle School, March 1993.
Clinical Teacher Institute, UNC-Ch, August 6-7, 1993.
Clinical Teacher Seminars, UNC-Ch, May 12, Nov 2, Feb 11, April 26, 1993).
Science Education Forum Discussion Leader, SDPI, October 1993.
Teach STAT Faculty Committee (1991- 94).
Committee to Revise the Science Standard Course of Study, SDPI, April 1994.
Keynote Address, Equity in Science Education: Women and Minorities Conference, NC Wesleyan College, February 1994.
Teach Stat Educators Institute, Co-Coordinator and Instructor, April 1994.
Family Science Workshop, Fayetteville State University, February 1994.
Teach-Stat Workshop, Instructor, June 1993.
Research Institute Planning Committee, December 1993.
State Science Fair Judge 1993.
Cooperative Learning Workshop for Middle School Educators, Charity Middle School, October 12, 1993.
Family Science Workshop, Appalachian State University, June 15-19, 1993.
Family Science Workshop, Appalachian State University, November 14, 1993.
Family Science Workshop, Fayetteville State University Precollege Program, March 20, 1993.
Family Science Workshop, Fayetteville State University Leadership Institute, March 20, 1993.
Review Panel, Presidential Science Awards for Excellence in Mathematics and Science Teaching, March 1993.
Science Extravaganza, Aldert Root Classical Studies Elementary School, May 1992.
Cooperative Learning Workshop, Dare County Schools, Manteo, NC, August 20, 1992.
Project FIRST Advisory Committee, 1990-92.
Science Fair Judge, Carrington Middle School, 1992.
Public Service Outreach Science Committee, Raleigh Fish and Wildlife 1992.
NC Department of Public Instruction Middle Grades Committee to Revise Guidelines and Competencies, 1990-92.
N.C. Alliance for Mathematics and Science, Minority and Women Subcommittee, 1992.
N.C. Alliance for Mathematics and Science, Precollege Subcommittee, 1992.
Cooperative Mathematics, Duke University, April 1992.
Goals of Science Education, Culbreth Middle School, Chapel Hill, December 1991.
Sex Equity in Education, American Association of University Women, Chapel Hill, October 1991.
Gender Issues in Math and Science, Presentation Made to students at NCSU, September 1991.
Family Science, Hope Valley Elementary School 1991.
Mathematics and Science Technology Conference Planning Committee,1991.
Science Fair Judge: State Science Fair, Greensboro, April, 1991.
Principals Executive Program, Panelist and Discussion Leader, February, 1991.
Middle School Implementation Committee, Chapel Hill, NC, 1990.
Advisory Committee- Project for the Improvement and Reform of Schools and Teaching, October, 1990.
Southern Association of Colleges and Schools, Visitation Committee, Neal Middle School, Durham County Schools, April, 1990.
NASA/NSTA Space Science Student Involvement Program, Regional Judge, March 1990.
Science Olympiad Event Director, Meredith College, January 1990.
Junior Science and Humanities Symposium Paper Judge, UNC-CH, January 1990.
N.C. State Department of Public Instruction Middle Grades Teacher Education Standards Committee, May-September 1990.

Science Fair Judge: State Science Fair, Greensboro, March, 1990.
Science Fair Judge: Region 3 Science Fair, Smithfield N.C. 1989.
Science Fair Judge: State Science Fair, Greensboro, N.C. March 1989.
Biotechnology Center- Education Advisory Board 1987-1989.

University Service
Chair, Research Leadership Academy
Park Scholar Mentor 2015- 2017
ZSpace Virtual Reality Workshop, NCSU, TAMGEOMS, May 25, 2016
Technology, Design Education Search Committee (2015-16)
NanoDays Organizer (2004-2017)
Global Leadership in Public Science Cluster Hire Committee (4 Faculty Positions) (2015- present)
Friday Institute Leadership Committee (2015- present)
College PhD Course Development Committee (2015)
Faculty Review Panel for NCSU NSF Fellowship Applications (2015)
Faculty Scholar- Dinner Series, Goodnight Scholar's Program (2015)
Young Scholars Program Coordinator (2013-2015)
Research Experience for Teachers Coordinator (2013-2015)
University Scholars Selection Committee, (2014-2015)
University Research Committee (2003-2015)
MED Graduate Coordinator (interim Spring 2015)
K-12 Outreach Committee, (2014- present)
Leadership Committee, Friday Institute for Educational Innovation, (2014-present)
Peer Teaching Review- Educational Psychology (spring 2015)
Almuni Distinguished Graduate Professor Selection Committee (2015)
University Research Committee (2002 to present)
NanoDays Director (for 2000+ middle and high school students)
Advisory Board, NSF Maximizing The Impact of STEM Outreach Project (2012- present)
Director, ASSIST Young Scholars Program (2013- present)
Director, ASSIST Research Experience for Teachers (2013- present)
Park Scholars Enrichment Grant Committee (2011)
Kenan Fellow Faculty Sponsor (2010-2011)
Advisory Board, NSF Maximizing The Impact of STEM Outreach Project (2011-12)
Fellow, Friday Institute for Educational Innovation (2011-2014)
Research Operations Council, URC representative (2008-2009)
Chair, University Research Committee (2008)
NCSU Nano Steering Committee (2007- present)
Nanotechnology Education Committee, Chair (2007- present)
Engineering Research Center Organizing Meeting (2006)
Plant Information Center Advisory Board (1999-2002)
Chancellor's Science Discovery Center Committee (2000- 2002)
Cognitive Psychology and NanoEducation Seminar Coordinator (2002)
Advisory Board, Teaching Fellows Program (1994-1998).
NC Botanical Garden Advisory Board (1993-2002).
Advisory Board, MSEN Pre-College Program (1994- 2002).
Provost Office -Morehead Planetarium Safety Review Committee, Chair
Search Committee, Dean, School of Education (1995-1996).
Clinical Teacher Training Institute(1995- 98).
Research Presentation- Curriculum and Instruction Doctoral Seminar (1994- 97).
Center for Early Adolescence Teacher Preparation Advisory Panel (1994).
Environmental Resources Project, Advisory Board (1991-95).
FIRST Project Advisory Committee (1990-92).
NanoDays Director (for 1,500 middle and high school students) (2006- present)

College of Education Service
Chair, Departmental Voting Faculty (2015- present)

University Scholar Selection Committee (2013-present).
Teaching Professor Search Committee (2015)
Cluster Hire Committee (2015)
Research Committee (2010-present)
Faculty Search Committee, (2014).
Council on Multicultural Initiatives and Diversity (2010-11)
NSF Proposal Development: Expert Panel (2011)
STEM Course Design Committee (2010)
Recruitment, NC Science Teachers Conference (2010)
Research Advisory Panel (2008-present)
Ad Hoc Committee for New Faculty Support (2007)
Outreach Council (2007)
Search committee, Chair Department of Mathematics, Science, and Technology Education (2007-2009)
Scholarship Committee (2007- present)
Chair, College Research Committee (2006-07)
Search Committee, Elementary Science (2006)
Nanotechnology, Presentation to the NSTA student chapter (2006)
College Review, Promotion and Tenure Committee (2003- 2005)
Friday Institute Faculty Advisory Board
Friday Institute Space Committee
Triangle East Partners in Education (TEPIE) Apex High School Representative
College Research Committee (2003- present)
Math and Science Collaboratory (2003- present)
Clinical Teacher Training Institute (1989, 1990, 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2001, 2001, 2002).
Institutional representative for AACTE (2002)
Special Education Search Committee (2002).
Chair Mathematics and Science Interdisciplinary Committee (Fall 2002, Member 2001-2003).
Graduate Studies Council (1999-2001)
SDPI-NCATE Steering Committee (2002).
Coordinator, State Review Preparation (Fall, 2001).
Gender Interdisciplinary Committee (2001-2002).
MED Science Cohort Faculty Leader (2001-2003)
MED Faculty Committee (2002-present)
MED Curriculum Planning Committee (2000-2001).
Post-Tenure Review Committee (1999- 2001).
Chair, Faculty Advisory Council (1998- 1999).
Presentations- Teaching Fellows, (1994- 1998).
Travel Committee (1995-present)
Middle Grades Curriculum Committee- Chair (1988-94).
PDS Coordinators Committee (1994-1995).
Human Subjects Review Committee (1990-1997).
Faculty Fair Presentation (1996-97).
Seminar Coordinator- Chaos Theory and Classroom Interactions, 1997.
Committee to Review the Five Point Plan (1994).
Curriculum and Instruction Doctoral Admissions Committee (1990- 96).
Presentation- Honors Seminar, April 12, 1994.
Science Faculty Search Committees (1993, 1994).
NCATE Steering Committee, 1992.
Professional Education Committee, 1992.
Curriculum Committee for Innovative Programs, 1992.
Search Committee, Paideia Center Director, 1992.
Search Committee, Associate Director, Math And Science Education Center, 1992.
Faculty Advisory Group, Center for Educational Leadership 1992.
Search Committee, Executive Director For Alumni Affairs 1991.
NCATE Steering Committee, 1991.

Coordinated the Clinical Teacher Institute, May 1991.
Board of Visitors Committee, 1991.
Mathematics and Science Education Center Search Committee, Precollege Program,1990.
Mathematics and Science Technology Conference Planning Committee, UNC-CH, September, 1990.
Water Quality Institute- Advisory Board (1989-1991).
Teacher Education Through Partnership- Steering Committee (1988-1991).
Teacher Education Through Partnership- Campus Committee (1988-1991).
Committee to Examine Gifted and Talented Education, 1988.

Regional, State and Local Teacher Inservice Education (Presented)
Power America: Teaching Concepts of Power and Energy, Raleigh, NC August 2015.
Nanotechnology Engineering Teacher Training, North Carolina State University. Raleigh, NC, April, 2013.
Seven Habits of Highly Effective People. Durham, NC, November, 2013.
Nanotechnology Workshop for Educators. Marbles Science Museum, Raleigh, NC, November, 2013.
Nanotechnology Integration in Curricula, Workshop for Durham County Teachers. Durham, NC, October, 2013.
Nanotechnology, Engineering, and STEM Integration, Workshop for Middle School Teachers. Raleigh, NC, August, 2013.
Effective Teaching: Habits, Skills, and Time Management, Halifax County, Halifax, NC, August 2011.
SMART for Teachers Technology Learning Workshops, Chowan Middle School, Tyner, NC, June 2010.
Size and Scale, Durham Public Schools, Middle and High School Teachers, August, 2008.
Nanotechnology, Wayne County Schools, May 2006.
Advancements in Nanotechnology, Durham Public Schools Middle and High School Teachers, August 2002.
Coastal Ecology, Durham, Orange, Chatham, and Chapel Hill Teachers, April 2002.
Eno River Ecology, Durham Public Schools, May 2002.
Global Science Leaders for the 21st Century, Durham Public Schools, February, 1998- present). Meets monthly for 5 years.
Hispanic Family Science and Mathematics, NC Teachers, July 1998.
Integrating Science Through the ABC's, NC Teachers, June 1997.
Operation Primary Physical Science, NC Teachers, June 1997.
Exemplary Science Programs, Durham Public Schools Principals, March 1997.
Mathematics and Science for Students and Their Families, NC Teachers, June 1996.
Tools for Cognition, NC teachers, June 1996.
Conceptual Science, Durham Public Schools Teachers, 1995.
Cooperative Learning Techniques for the Middle Grades Math Teacher, Durham City Schools, January 1992.
Cooperative Learning For The Middle Level Educator, Beaulaville School, January 1992.
Advanced Cooperative Learning Workshop, Dixon High School, January 1992.
Cooperative Learning Workshop, Wilton Elementary School January 1992.
Middle Grades Cooperative Mathematics Workshop, UNC, August 1991.
Cooperative Learning Workshop, Dixon High School, August 1991.
Cooperative Learning Workshop, Whiteville City Schools, August 1991.
Cooperative Learning Workshop, Project ELMS, Chapel Hill, July 1991.
Project Estuary Facilitators Institute, Beaufort, N.C., June 1991.
Elementary Science Project Workshop, UNC, June 1991.
Cooperative Learning Workshop, Washington County Schools, May 1991.
EQUALS Conference, May 1991.
Family Science Training Institute, UNC-CH, April 1991.
Cooperative Learning Workshop, Granville County Schools, August 1991.
Cooperative Learning Workshop, Hawley Middle School, September 1991.
Cooperative Learning Workshop, Greensboro College, April 1991.
Saturday Science, Presentation for students at Butner-Stem Elementary School, March 1991.
School Improvement Workshop, Cumberland County Schools, March, 1991.
Clinical Teacher Institute, Middle Grades Program, UNC-CH, June 1991.
Cooperative Learning Workshop, Southeast Middle School, Guilford County Schools, September, 1990.
Clinical Teacher Institute, Middle Grades Program, UNC-CH, September 1990.
Cooperative Learning Workshop for Title 1 Reading Teachers, Wayne County Schools, August 1990.
Cooperative Learning for Middle and Intermediate Teachers, Hoke County Schools, August 1990.

Project Estuary Workshop, Greensboro College, Kure Beach, July 1990.
Project Estuary Workshop, Catawba College, Catawba, July 1990.
Mathematics Manipulatives Workshop, UNC-CH, July 1990.
Hands-On Science For Elementary Teachers, UNC-CH, NCSU & Youngsville School, June 1990.
Cooperative Problem Solving Workshop, E.E. Smith Middle School, Kenansville, N.C., February, 1990.
Cooperative Problem Solving Workshop, Warsaw Middle School, Warsaw, N.C. January, 1990.
Cooperative Science Workshop, Triangle Science Alliance, October 1989.
Cooperative Learning for Mathematics Teachers, Southeastern Community College, August 1989.
Cooperative Learning Workshop, Franklin County Schools, August 1989.
Clinical Teacher Summer Institute, UNC-CH, June, 1989.
Estuaries, Presentation made to the Water Quality Institute, Department of Environmental Sciences, July 1989.
Cooperative Problem Solving, Glaxo Teacher Conference, Mathematics and Science Education Center, UNC-CH, July 1989.
Cooperative Learning: Presentation for Administrators. Johnston County. January 1989.
Cooperative Learning: A Workshop for Elementary Teachers. Johnston County Schools, August 1988.
Cooperative Problem-Solving: A Workshop for Secondary Mathematics Teachers. Johnston County Schools, August 1988.
Cooperative Science: A Workshop for Secondary Science Teachers, Johnston County Schools, August 1988.