

Hollylynn Stohl Lee

Professor of Mathematics Education

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Academic Background

University of Virginia

Ph.D. in Mathematics Education, advisor Joe Garofalo, May 2000

Dissertation: Children's Probabilistic Reasoning with a Computer Microworld

College of William and Mary

M.A.Ed. in Secondary Education--Mathematics, 1995

The Pennsylvania State University

B.S. in Secondary Mathematics Education, 1991

University Experience

North Carolina State University August 2000-current

Department of Science, Technology, Engineering, and Mathematics Education

- Professor of Mathematics Education, May 2013-current
- Associate Professor of Mathematics Education, May 2006-2013
- Assistant Professor of Mathematics Education, August 2000 – May 2006

University of Virginia Fall 1996 - Spring 2000

Graduate Fellow for the Center for Technology and Teacher Education, 1997-2000

Adjunct Instructor for the Division of Continuing Education, 1997-2000

Graduate Assistant in Dept. of Curriculum, Instruction, and Special Education, 1996-97

Longwood College May 1996

University Supervisor (supervised K-12 practicum students)

College of William and Mary 1994-96

Graduate Assistant for Mathematics Education and Special Education

Westmoreland County Community College Fall 1991 - Jan 1992

Adjunct Instructor for Applied Mathematics.

K-12 Teaching Experience

Garner High School (Garner, NC) Fall 2000

Collaborated and co-taught AP Statistics with regular classroom teacher

Virginia Murray Elementary School (Charlottesville, VA) 1997 - 1998

Collaborated and co-taught 1st & 3rd grade mathematics with regular classroom teacher

Venable Elementary School (Charlottesville, VA) Spring 1997

Taught 4th grade after-school mathematics enrichment class

Toano Middle School (Williamsburg, VA) 1994 - 95

Taught 8th grade Algebra I

First Flight Middle School (Kill Devil Hills, NC) Jan 1992-June 1994

Taught 8th grade Algebra I & Pre-Algebra.

Manteo High School (Manteo, NC) Summer 1992

Taught Algebra I and Geometry

Honors, Awards, and Recognition

- 2014 Appointed by the American Statistical Association as the *Editor* of STEW [Statistics Education We: an online journal of K-12 statistics lessons].
- 2014 Selected by editor to serve as member of *Editorial Board* for the journal Mathematical Thinking and Learning.
- 2014 Named a *Friday Faculty Fellow* at the Friday Institute for Educational Innovation
- 2014 Received *Outstanding Teaching Award* and became member of Academy of Outstanding Teachers at NC State University.
- 2014 Selected for *Alumnae Association Outstanding Teacher Award*.
- 2014 Nominated by College of Education for *Outstanding Research Award*, but not selected at University level.
- 2013 Named an NC State *University Faculty Scholar*. Will hold position until 2018.
- 2013 Selected by editor to serve as an *Associate Editor* for Statistics Education Research Journal.
- 2012 Awarded the *National Technology Leadership Initiative Fellowship for Mathematics Education*, co-sponsored by the Society for Technology and Teacher Education and Association of Mathematics Teacher Education, for best research paper "Teachers' Statistical Problem Solving with Dynamic Technology: Research Results Across Multiple Institutions."
- 2009-11 Elected *Eastern Regional College Vice President* for the NC Council of Teachers of Mathematics.
- 2008-09 Selected by Board to serve as *Co-Editor* of the Sixth Monograph of the Association of Mathematics Teacher Educators.
- 2002 Awarded the *National Technology Leadership Initiative Fellowship for Mathematics Education*, co-sponsored by the Society for Technology and Teacher Education and Association of Mathematics Teacher Education for best research "Prospective teachers' development of mathematical, pedagogical, and technological knowledge".
- 2000 Received *Honorable Mention in the Learning Software Design Competition* for Probability Explorer sponsored by the University of Minnesota Design Institute.
- 1999-2000 Received a *Dissertation Research Award* from the Curry School of Education.
- 1998 Awarded 1st place in grade 3-5 category for "Do Vampires Really Exist?" and 2nd place in grade 9-12 category for "Analyzing the Relationship Between Smoking and Lung Cancer" in *Microsoft/ASCD lesson plan contest*.
- 1995-96 Elected *Vice-President of Kappa Delta Pi*, educational honor society, College of William and Mary.
- 1996 Awarded the *Nelson Memorial Scholarship*, for dedication to teaching and learning, College of William and Mary.
- 1993 Nominated by Dare County, NC, for *National Sallie Mae First Year Teacher Award*.

Scholarship (previously published under **H. S. Drier** and **H. Stohl**)

Google Scholar Profile: <http://scholar.google.com/citations?user=q14UEEIAAAAJ>

Refereed Journal Articles

- Starling, T. T., & **Lee, H. S.** (in press). Synchronous online discourse in a technology methods course for middle and secondary prospective mathematics teachers. To appear in *Contemporary Issues in Technology and Teacher Education*, November 2014. [Special issue focused on Online education in teacher preparation.]
- Thrasher, E. P., Perry, A. F., & **Lee, H. S.** (2014). High leverage iPad apps for the mathematics classroom. *Mathematics Teacher* 107(9).
- Lee, H. S.**, Kersaint, G., Harper, S., Jones, D. L., Driskell, S. O., Leatham, K., Angotti, R., & Adu-Gwamfi, K. (2014). Prospective teachers' use of transnumeration in solving statistical tasks with dynamic statistical software. *Statistics Education Research Journal*, 13(1), 25-54. [authors in order of contribution, Lee 50%, Kersaint 20%, others shared 30%]
- Lee, H. S.**, Starling, T. T., & Gonzalez, M. D. (2014). Connecting research to practice: Using data to motivate empirical sampling distributions. *Mathematics Teacher* 107(6), 465-469.
- Lee, H. S.**, Harper, S., Driskell, S. O., Kersaint, G., & Leatham, K. (2012). Teachers' statistical problem solving with dynamic technology: Research results across multiple institutions. *Contemporary Issues in Technology and Teacher Education* 12(3), [Online Serial].
- Lee, H. S.**, & Lee, J. T. (2011). Enhancing prospective teachers' coordination of center and spread: A window into teacher education material development. *The Mathematics Educator*, 21(1), 33-47.
- Wilson, P. H., **Lee, H. S.**, & Hollebrands, K. F. (2011). Understanding prospective mathematics teachers' processes for making sense of students' work with technology. *Journal for Research in Mathematics Education*, 42(1), 42-67. [Authors contributed equally, order is reverse alphabetical.]
- Wilson, P. H., **Lee, H. S.**, & Hollebrands, K. F. (2010). An alternative development of measures of center and spread using dynamic diagrams. *Centroid* 36(2), p. 6-11.
- Lee, H. S.**, Angotti, R. L., & Tarr, J. E. (2010). Making comparisons between observed data and expected outcomes: Students' informal hypothesis testing with probability simulation tools. *Statistics Education Research Journal*, 9(1), 68-96.
- Lee, H. S.**, & Lee, J. T. (2009). Reasoning about probabilistic phenomena: Lessons learned and applied in software design. *Technology Innovations in Statistics Education* 3(2).
- Lee, H. S.**, & Hollebrands, K. (2008). Preparing to teach mathematics with technology: An integrated approach to developing technological pedagogical content knowledge. *Contemporary Issues in Technology and Teacher Education* [Online serial], 8(4).
- Weber, K., Maher, C., Powell, A., & **Lee, H. S.** (2008). Learning opportunities from group discussions: Warrants become the objects of debate. *Educational Studies in Mathematics* 68(3), 247-261.
- Lee, H. S.**, & Hollebrands, K. (2006). Students' use of technological features while solving a mathematics problem. *Journal of Mathematical Behavior* 25(3), 252-266.

- Underwood, J., Hoadley, C., **Lee, H. S.**, Hollebrands, K. F., DiGiano, C., & Renninger, K. A. (2005). IDEA: Identifying design principles in educational applets. *Educational Technology Research and Development* 53(2), 99-112.
- Lee, H. S.** (2005). Facilitating students' problem solving: Prospective teachers' learning trajectory in a technological context. *Journal of Mathematics Teacher Education* 8(3), 223-254.
- Kersaint, G., Horton, B., **Stohl, H.**, & Garofalo, J. (2003). Technology beliefs and practices of mathematics education faculty. *Journal of Technology and Teacher Education* 11(4), 549-577.
- Stohl, H.**, & Tarr, J. E. (2002). Developing notions of inference with probability simulation tools. *Journal of Mathematical Behavior* 21(3), 319-337.
- Stohl, H.** (2002). Using electronic tools to investigate rational number relationships. *ON-Math: The Online Journal of School Mathematics* 1(1), [On-line serial http://my.nctm.org/eresources/view_article.asp?article_id=2071].
- Drier, H. S.** (2001). Teaching and learning mathematics with interactive spreadsheets. *School Science and Mathematics* 101(4), 170-179.
- Drier, H. S.** (2001). Conceptualization and design of Probability Explorer: A research-based journey towards innovative educational software. *Tech Trends* 45(2), 22-24. [invited article]
- Harper, S. R., Schirack, S. O., **Stohl, H.**, & Garofalo, J. (2001). Learning mathematics and developing pedagogy with technology: A reply to Browning and Klespis. *Contemporary Issues in Technology and Teacher Education*, 1(3) [Online serial <http://www.citejournal.org/vol1/iss3/currentissues/mathematics/article1.htm>].
- Vasquez-Levy, D., Garofalo, J., Timmerman, M., & **Drier, H. S.** (2001). Teacher's rationales for scoring students' problem solving work. *School Science and Mathematics* 101(1), 43-48.
- Drier, H. S.** (2000). The Probability Explorer: A research-based microworld to enhance children's intuitive understandings of chance and data. *Focus on Learning Problems in Mathematics* 22(3-4), 165-178. [Special issue on technology and mathematics.]
- Drier, H. S.** (2000). Investigating mathematics as a community of learners. *Teaching Children Mathematics* 6(6), 358-363. [Special issue on children as mathematicians.]
- Garofalo, J., **Drier, H. S.**, Harper, S. R., Timmerman, M.A., & Shockey, T. (2000). Promoting appropriate uses of technology in mathematics teacher preparation. *Contemporary Issues in Technology and Teacher Education*, 1(1), 66-88. [Online serial <http://www.citejournal.org/vol1/iss1/currentissues/mathematics/article1.htm>].
- Drier, H. S.** (1999). Do vampires exist? Using spreadsheets to investigate a common folktale. *Learning and Leading with Technology* 27(1), 22-25.
- Drier, H. S.**, Dawson, K., & Garofalo, J. (1999). Technology, mathematics, and interdisciplinary connections: Not your typical math class. *Educational Leadership* 56(5), 21-25.
- Drier, H. S.**, & Lee, J. K. (1999). Learning about climate: An exploration in geography and mathematics. *Social Studies and the Young Learner* 12(1), 6-10.
- Drier, H. S.** (1998). How are graphing calculators used in mathematics classrooms? Teachers' beliefs and practices. *Curry Journal of Education* (1), 39-50.

Heinecke, W., & **Drier, H. S.** (1998). Research for better classroom practices and policy. *Educational Forum* 62, 273-280.

Books

Hollebrands, K. F., & **Lee, H. S.** (2012). *Preparing to teach mathematics with technology: An integrated approach to geometry*. (170 pages). Dubuque, IA: Kendall Hunt Publishers.

Lee, H. S., Hollebrands, K. F., & Wilson, P. H. (2010). *Preparing to teach mathematics with technology: An integrated approach to data analysis and probability*. (160 pages) Dubuque, IA: Kendall Hunt Publishers.

Mewborn, D. M., & **Lee, H. S.** (Eds.). (2009). *Scholarly practices and inquiry in the preparation of mathematics teachers: The sixth monograph of the Association of Mathematics Teacher Educators*. San Diego, CA: Association of Mathematics Teacher Educators.

Refereed Book Chapters

Lee, H. S. (2013). Quantitative reasoning in a digital world: Laying the pebbles for future research frontiers. In R. L. Mayes & L. L. Hatfield (Eds.), *Quantitative Reasoning in Mathematics and Science Education: Papers from an International STEM Research Symposium, WISDOM eMonograph #3* (pp. 65-82). Laramie, Wyoming: University of Wyoming College of Education. [Invited refereed chapter]

Lee, H. S., & Lee, J. T. (2011). Simulations as a path for making sense of probability. In K. Hollebrands & T. Dick (Eds). *Focus in High School Mathematics on Reasoning and Sense Making with Technology* (pp. 69-88). Reston, VA: National Council of Teachers of Mathematics. [Invited refereed chapter]

Lee, H. S., & Hollebrands, K. F. (2011). Characterizing and developing teachers' knowledge for teaching statistics. In C. Batanero, G. Burrill, C. Reading, & A. Rossman (Eds.), *Teaching Statistics in School Mathematics - Challenges for Teaching and Teacher Education: A joint study of the International Commission of Mathematics Instruction and International Association of Statistical Education* (pp. 359-369), Springer. [Invited refereed chapter]

Lee, H. S., Ives, S. E., Starling, T. T., & Hollebrands, K. F. (2010). Knowledge for teaching statistics with technology: Examining mathematics teacher educators' planning. In J. Luebeck, & J. Lott, (Eds.), *Mathematics Teaching: Putting research into practice at all levels: The seventh monograph of the Association of Mathematics Teacher Educators* (pp. 7-23). San Diego, CA: Association of Mathematics Teacher Educators.[refereed chapter]

Lee, H. S., & Mewborn, D. S. (2009). Mathematics teacher educators engaging in scholarly practices and inquiry. In D. S. Mewborn & H. S. Lee (Eds.), *Scholarly practices and inquiry in the preparation of mathematics teachers* (pp. 1-6). San Diego, CA: Association of Mathematics Teacher Educators.

Heid, M. K., & **Lee, H. S.** (2008). Using technology in teaching and learning mathematics: What should doctoral students in mathematics education know? In R. Reys and J. Dossey (Eds.) *U.S. doctorates in mathematics education: Developing stewards of the discipline*

(pp. 117-125). Conference Board of the Mathematical Sciences. [Invited refereed chapter]

Tarr, J. E., **Lee, H. S.**, & Rider, R. (2006). When data and chance collide: Drawing inferences from empirical data. In G. Burrill (Ed.), *Thinking and reasoning with data and chance: 2006 yearbook of the NCTM* (pp. 139-149). Reston, VA: National Council of Teachers of Mathematics. [Double-Blind Refereed chapter]

Stohl, H. (2005). Probability in teacher education and development. In G. Jones (Ed.), *Exploring probability in school: Challenges for teaching and learning* (pp. 345-366). Kluwer Academic Publishers. [Invited submission, blind reviewed]

Stohl, H. (2003). Do vampires exist? Using spreadsheets to investigate a common folktale. In I. W. Baugh & A. Raymond (Eds.), *Making math success happen: The best of learning and leading with technology* (pp. 85-88). Eugene, OR: International Society of Technology in Education. [reprint of article published in 1999, chosen as an exemplary article for inclusion in this book.]

Garofalo, J., & **Drier, H. S.** (2000). Cases about scoring assessment: Right or wrong? In W. Bush (Ed.) *Classroom assessment for school mathematics: Cases and discussion questions for grades 6-12*, (pp.36-39). Reston, VA: National Council of Teachers of Mathematics. [Double-Blind Refereed chapter.]

Refereed Proceedings

Lee, H. S., Doerr, H. M., Arleback, J. B., Pulis, T. (2013). Collaborative design work of teacher educators: A case from statistics. In M. V. Martinez & A. C. Superfine (Eds.), *Proceedings of the 35th annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 357-364). Chicago, IL.

Pulis, T., & **Lee, H. S.** (2013). High school mathematics teachers' statistical question posing. In M. V. Martinez & A. C. Superfine (Eds.), *Proceedings of the 35th annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 365-368). Chicago, IL.

Hollebrands, K. F., **Lee, H. S.**, Starling, T. T., Gonzalez, M. D., & Pulis, T. (2012). Prospective high school mathematics teachers' design and implementation of dynamic geometry tasks. L. R. Van Zoest, J. -J. Lo, & J. L. Kratky (Eds.). *Proceedings of the 34th annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 1123-1126). Kalamazoo, MI: Western Michigan University.

Lee, H. S., Kersaint, G., Harper, S. R., Driskell, S. O., & Leatham, K. R. (2012). Prospective teachers' statistical problem solving with dynamic technology: Research results across multiple institutions. In P. Resta (Ed.), *Proceedings of Society for Information Technology & Teacher Education International Conference 2012* (pp.). Chesapeake, VA: AACE.

Lee, H. S., Driskell, S. O., Harper, S. R., Leatham, K. R., Kersaint, G., & Angotti, R. L. (2011). Prospective teachers' use of representations in solving statistical tasks with dynamic statistical software. In L. R. Wiest & T. Lamberg (Eds.), *Proceedings of the thirty-third annual meeting of the North American Chapter of the International Group for*

the Psychology in Mathematics Education (pp. 268-275). Reno, NV: University of Nevada, Reno October. Available [online](#).

Gonzalez, M. D., & Lee, H. S. (2011). Middle school students' growth in understanding of probabilistic inference. In L. R. Wiest & T. Lamberg (Eds.), *Proceedings of the thirty-third annual meeting of the North American Chapter of the International Group for the Psychology in Mathematics Education* (pp. 1069-1075). Reno, NV: University of Nevada, Reno October. Available [online](#).

Keene, K. A., Lee, J. T., & Lee, H. S. (2011). Linking instructor moves to classroom discourse and student learning in differential equations classrooms. In the *Proceedings of Research in Undergraduate Mathematics Education* conference, Portland, OR.

Lee, H. S., & Lee, J.T. (2009). Students' interpretations of probability distributions in a simulation environment. In S. L. Swars, D. W. Stinson, & S. Lemons-Smith (Eds.) *Proceedings of the thirty-first annual meeting of the North American Chapter of the International Group for the Psychology in Mathematics Education* (pp. 609-617). Georgia State University, Atlanta, GA, October. Available [online](#):

Ives, S. E., Lee, H. S., & Starling, T. (2009). Preparing to teach mathematics with technology: Lesson planning decisions for implementing new curriculum. In the *Proceedings of Research in Undergraduate Mathematics Education* conference, Raleigh, NC. Available online http://mathed.asu.edu/crume2009/Ives_LONG2.pdf.

Lee, H. S., Keene, K. A., Lee, J. T., Holstein, K., Early, M.E., Eley, P. (2009). Pedagogical content moves in an inquiry-oriented differential equations class: Purposeful decisions to further mathematical discourse. In the *Proceedings of Research in Undergraduate Mathematics Education* conference, Raleigh, NC. Available online http://mathed.asu.edu/crume2009/HLee_LONG.pdf.

Keene, K. A., Lee, J. T., Lee, H. S., Early, M.E., Eley, P. Holstein, K., (2009). An investigation of one instructor's mathematical knowledge for teaching: Developing a preliminary framework. In the *Proceedings of Research in Undergraduate Mathematics Education* conference, Raleigh, NC. Available online http://mathed.asu.edu/crume2009/Keene_LONG.pdf.

Lee, H. S., & Lee, J. T. (2008). The use of intervals to help coordinate understandings of center and spread: A preliminary report. In the *Proceedings of Research in Undergraduate Mathematics Education* conference, San Diego, CA. Available online <http://cresmet.asu.edu/crume2008/Proceedings/Lee&Lee%20LONG.pdf>

Hauk, S., Lee, H.S., Marongelle, K., & Weber, K. (2008). Panel Report on doctoral programs in mathematics education. In the *Proceedings of Research in Undergraduate Mathematics Education* conference, San Diego, CA. San Diego, CA. Available online http://www.rume.org/crume2008/Hauk_SHORT.pdf.

Lee, H.S., & Mojica, G. F. (2008). Examining teachers' practices: In what ways are probabilistic reasoning and statistical investigations supported? *Proceedings of the Joint Study of the International Commission of Mathematics Instruction and International Association of Statistical Education*. Monterrey, MX, June. Available online http://www.stat.auckland.ac.nz/~iase/publications/rt08/T2P14_Lee.pdf.

Lee, H.S., & Hollebrands, K. F. (2008). Preparing to teach data analysis and probability with technology. *Proceedings of the Joint Study of the International Commission of Mathematics Instruction and International Association of Statistical*

Education. Monterrey, MX, June. Available online
http://www.ugr.es/~icmi/iase_study/Files/Topic3/T3P4_Lee.pdf.

- Lee, H.S.**, & Mojica, G. F. (2007). Teachers' use of probability experiments and simulations. *Proceedings of the twenty-ninth annual meeting of the North American Chapter of the International Group for the Psychology in Mathematics Education*. Lake Tahoe, UT, October.
- Hollebrands, K. F, Wilson, P. H., & **Lee, H.S.** (2007). Prospective teachers use of a videocase to examine students' work when solving mathematical tasks using technology. *Proceedings of the twenty-ninth annual meeting of the North American Chapter of the International Group for the Psychology in Mathematics Education*. Lake Tahoe, UT, October.
- Lee, H. S.**, Hollebrands, K.F, & Wilson, P.H. (2007). The use of research-based methods and materials for preparing to teach mathematics with technology. In D. K. Pugalee, A. Rogerson, & A. Schinck (Eds.), *Proceeding of the ninth International Conference, "Mathematics Education in a Global Community"* (pp. 383-388), Charlotte, NC.
- Maher, C., Powell, A., Weber, K, & **Lee, H. S.** (2006). Tracing middle school students' arguments. *Proceedings of the Twenty-Eighth Annual Meeting of the Psychology of Mathematics Education-North American Chapter*. Mexico, November.
- Rider, R. L., & **Lee, H. S.** (2006). Differences in students' use of computer simulation tools and reasoning about empirical data and theoretical distributions. *Proceedings of the seventh International Conference on Teaching Statistics*, Salvador, Brazil, July.
- Lee, H. S.** (2005). Students' reasoning with small and large trials in probability simulations. In S. Wilson (Ed.), *Proceedings of the twenty-seventh annual meeting of the Psychology of Mathematics Education-North American Chapter*. Blacksburg, VA, October.
http://www.allacademic.com/meta/p24814_index.html.
- Lee, H. S.**, Tarr, J. E., & Powell, A. (2005). Working group for the complexity of learning to reason probabilistically. *Proceedings of the twenty-seventh annual meeting of the Psychology in Mathematics Education-North American Chapter*. Roanoke, VA, October.
- Hollebrands, K. F., & **Stohl, H.** (2004). The interplay between technology design and students' control of problem solving. In D. McDougall (Ed.), *Proceedings of the twenty-sixth annual meeting of the Psychology of Mathematics Education-North American Chapter*. Toronto, Canada.
- Walsh, S. J., Miller, T. K., **Stohl, H.**, & Deluca, W. V. (2004). Building a TeKnowledge Greenhouse: An engineering and education learning community. *Proceedings of the American Society of Engineering Education Annual Conference & Exposition* (4 pages).
- Miller, T. K., Walsh, S. J., **Stohl, H.**, & Haefner, L. A. (2003). Belshazzar: A simple tool for creating and publishing voice-annotated drawings on the web. *Proceedings of the American Society of Engineering Education Annual Conference & Exposition* (8 pages), Nashville, TN. [Available online http://asee.org/acPapers/2003-2537_Final.pdf]
- Stohl, H.** (2003). Prospective teachers' development of teaching with technology. In N. Pateman, B. Dougherty & J. Zilliox (Eds.), *Proceedings of the twenty-seventh annual meeting of the International Group for the Psychology of Mathematics Education*. Honolulu: Center for Research and Development Group, University of Hawaii.

- Stohl, H., & Rider, R.** (2003). Are these die fair? An analysis of students' technology-based exploration. In N. Pateman, B. Dougherty & J. Zilliox (Eds.), *Proceedings of the twenty-seventh annual meeting of the International Group for the Psychology of Mathematics Education*. Honolulu: Center for Research and Development Group, University of Hawaii.
- Stohl, H.** (2003). Preparing to teach mathematics with technology: Research implications for a learning trajectory. *Society for Information Technology and Teacher Education International Conference 2003*(1), (pp. 2961-2968). Albuquerque, NM.
- Stohl, H. & Tarr, J. E.** (2002). Using multi-representational computer tools to make sense of inference. In, D. Mewborn (Ed.), *Proceedings of the twenty-fourth annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (vol 3, pp. 1317-1330) Athens, GA.
- Drier, H. S.** (2001). Beliefs, experiences, and reflections that affect the development of techno-mathematical knowledge. *Proceedings from the twelfth international meeting of the Society for Informational Technology and Teacher Education*, (pp. 1353-1358). Orlando, FL.
- Drier, H. S.** (2000). Children's meaning-making activity with dynamic multiple representations in a probability microworld. In M. Fernandez (Ed.), *Proceedings of the twenty-second annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education*, (vol 2, pp.691-696). Tucson, AZ.
- Abramovich, S. & **Drier, H. S.** (1999). Preparing K-12 mathematics teachers to use a spreadsheet as an instructional tool. In J. Price, J. Willis, D. Willis, M. Jost, & S. Boger-Mehall (Eds.), *Proceedings from the tenth international meeting of the Society for Informational Technology and Teacher Education* (pp. 950-954). San Antonio, TX.
- Abramovich, S., **Drier, H. S.**, Dugdale, S., Mochan, S., Neuwirth, E., & Woodward, J. (1999). Spreadsheets: A new form of educational software for school mathematics. In D. Thomas (Ed.), *Proceeding from the international meeting of Mathematics/Science Education and Technology* (pp. 390-395). San Antonio, TX.

Reports

- Pearl, D., Garfield, J., delMas, R., Groth, R. E., Kaplan, J., McGowan, H., & **Lee, H. S.**, (2012). *Connecting research to practice in a culture of assessment in introductory collegiate-level statistics: Report arising from research retreat at American Statistical Association*.
http://www.causeweb.org/research/guidelines/ResearchReport_Dec_2012.pdf.

Non-Refereed Publications

- Lee, H. S. & Nickell, J.** (2014). How a curriculum may develop Technological Pedagogical Statistical Knowledge: A case of teachers examining relationships among variables using Fathom. In *Proceedings of the International Conference on Teaching Statistics*. Flagstaff, AZ, July 2014. http://icots.net/9/proceedings/pdfs/ICOTS9_9E3_LEE.pdf
- Lee, J. T., & **Lee, H. S.** (2014). Visual representations of empirical probability distributions when using the granular density metaphor. In *Proceedings of the International*

- Conference on Teaching Statistics*. Flagstaff, AZ, July 2014.
http://icots.net/9/proceedings/pdfs/ICOTS9_6E2_LEE.pdf
- Nickell, J. & Lee, H. S. (2014). Designing opportunities for students to reason about the relationship between sources and structures of data. In *Proceedings of the International Conference on Teaching Statistics*. Flagstaff, AZ, July 2014.
http://icots.net/9/proceedings/pdfs/ICOTS9_C254_NICKELL.pdf
- Myers, M., & Lee, H. S. (2006). *Best practices for promoting algebraic thinking for improving learning for all students*. Research brief published by the National Educational Association.
- Stohl, H.**, & Harper, S. R. (2004). Technology Tips Column: Graphing functions, tangents, and derivatives in Geometer's Sketchpad. *Mathematics Teacher* 98(2), 136-140.
- Stohl, H.**, & Harper, S. R. (2004). Technology Tips Column: Using screen captures in your work as a mathematics teacher. *Mathematics Teacher* 98(3), 200-204.
- Hollebrands, K. F., & **Stohl, H.** (2003). Technology Tips Column: Creating interactive spreadsheets for exploring functions. *Mathematics Teacher* 96(6), 452-456.
- Hollebrands, K. F., & **Stohl, H.** (2003). Technology Tips Column: The use of spreadsheets for creating a parameter exploration of a linear function. *Mathematics Teacher* 96(7), 516-520.
- Drier, H. S.**, Dawson, K., & Garofalo, J. (2000). Using technology and real world connections to teach secondary mathematics concepts, *ENC Focus: A Magazine for Classroom Innovators*. Eisenhower National Clearinghouse for Mathematics and Science Education.
- Bull, G., Bull, G., & **Drier, H. S.** (1999). Mining the internet: Exploring data warehouses. *Learning and Leading with Technology* 26(8), 36-39.
- Garofalo, J., Shockey, T., Harper, S. R., & **Drier, H. S.** (1999). Impact project at Virginia: Promoting appropriate uses of technology in mathematics. *Virginia Mathematics Teacher* 25(2), 14-15.
- Drier, H. S.** (1998). Do Vampires Really Exist? *Productivity in the Classroom* (Fall/Winter, 4). Microsoft Corporation.
- Drier, H. S.** (1996). *Research Brief #3: The teaching and learning of algebra: Identifying the best practices*. Williamsburg, VA: School-University Research Network.

Manuscripts Under Review or In Preparation

- Hollebrands, K. F., **Lee, H. S.**, Starling, T.T., Gonzalez, M. D., Pulis, T. (Under Review). Prospective Teachers' Design and Implementation of Technology-based Geometry Tasks. Revised and Resubmitted to *Educational Studies in Mathematics*, May 2014.
- Nickell, J., & **Lee, H. S.** (under review). Making sense of data: Context matters. Submitted to *Mathematics Teaching in the Middle School*, May 2014.
- Lee, H. S.** (in preparation). Children's understanding of sample size in probability simulations. To be submitted to *Journal for Research in Mathematics Education*.
- Enders., F., **Lee, H. S.**, Hilton, S. (in preparation). A framework to guide research in statistics education. To be submitted to *Statistics Education Research Journal*.

Presentations (previously presented as H. S. Drier and H. Stohl)

Invited Presentations & Panels

- Lee, H. S.** (November 2014). Using animations to create teaching and learning scenarios for mathematics teacher education. **Invited Webinar** presentation given for the *Association of Mathematics Teacher Educators*.
- Lee, H. S.** & Nickell, J. (July 2014). How a curriculum may develop Technological Pedagogical Statistical Knowledge: A case of teachers examining relationships among variables using Fathom. **Invited paper** in Session 9E at the *Ninth International Conference on Teaching Statistics*. Flagstaff, AZ.
- Lee, J. T., & **Lee, H. S.** (July 2014). Visual representations of empirical probability distributions when using the granular density metaphor. **Invited paper** in Session 6E at the *Ninth International Conference on Teaching Statistics*. Flagstaff, AZ.
- Hollebrands, K. F. & **Lee, H. S.** (March 2014). Teacher professional development in relation to digital media and tools. **Invited presentation** at the *Convening on K-12 Mathematics Education: Common Core, Digital Learning, and State Policy*. Held at the Friday Institute for Educational Innovation, March 10-11, 2014.
- Lee, H. S.** (May 2013). *Envisioning the future K-12 teacher of statistics*. **Invited Plenary** at the biannual United States Conference on Teaching Statistics, Cary, NC.
- Lee, H. S.** (May 2012). *Quantitative Reasoning in a Technological World: Laying the Pebbles for Future Research Frontiers*. **Invited Plenary and Lead Scholar for Working Groups** at the International STEM Research Symposium: Quantitative Reasoning in Mathematics and Science Education, Savannah, GA.
- Lee, H. S.** (May 2012). *Quantitative Reasoning in Science Education: Connections to Data and Chance with Technology in Mathematics Education*. **Invited Commentary on a Plenary** at the International STEM Research Symposium: Quantitative Reasoning in Mathematics and Science Education, Savannah, GA.
- Dick, T., Zbeik, R. M., Heid, M. K., Dove, A., Burrill, G., **Lee, H. S.**, Cohen, J., & Hollebrands, K. (April 2012). Linking research and practice: A focus on reasoning and sense making with technology. **Invited research symposium** presented at the annual meeting of the Research Pre-session of the National Council of Teachers of Mathematics, Philadelphia, PA.
- Lee, H. S.**, Harper, S., Driskell, S. O., Kersaint, G., & Leatham, K. (March, 2012). *Teachers' statistical problem solving with dynamic technology: Research results across multiple institutions*. **Invited featured research paper** presented at the annual international meeting of the Society for Informational Technology and Teacher Education, Austin, TX. Paper presented was based on the 2012 National Technology Leadership Initiative Fellowship Award.
- Lee, H. S. (February, 2012). *Tapioca and technology: Lessons learned for a mathematics classroom*. **Invited Keynote Address** at the annual Conference on the Teaching of Mathematics 6-12, Sam Houston State University, TX.
- Enders, F., Hilton, S., & **Lee, H. S.** (May, 2011). *A conceptual framework for statistics education: Identifying research priorities*. **Invited research-sponsored session** presented at the United States Conference on Teaching Statistics, Raleigh, NC.

- Groth, R. E., Jacobbe, T., Madden, S., Zieffler, A., Lehrer, R. (Discussant), **Lee, H. S.** (Discussant), (April, 2011). *Research in statistics education: Current efforts and future directions*. **Invited Discussant for Research Symposium** held at the Research Presession of the Annual meeting of the National Council of Teachers of Mathematics, Indianapolis, ID.
- Garfield, J. (chair), Jersky, B., delMas, R., Pearl, D., **Lee, H. S.**, & McGowan, H. (August, 2010). *Establishing a career in statistics education*. **Invited panelist** for session at the Joint Statistics Meeting, Vancouver, Canada.
- Lee, H. S.** (April, 2010). *Using concept maps to organize reviews of literature*. **Invited webinar presentation** for the Research participants of the Consortium for the Advancement of Undergraduate Statistics Education, April 6, 2010.
- Lee, H. S.**, & Lee, J. T. (February, 2010). *Foundations in probability to support statistical reasoning*. **Invited webinar presentation** for the Teaching and Learning Series sponsored by the Consortium for the Advancement of Undergraduate Statistics Education, February 9, 2010. Archived at: <http://www.causeweb.org/webinar/teaching/>.
- Lee, H. S.** (November 2009). *Using Fathom to investigate univariate and bivariate distributions*. **Invited webinar presenter** for American Statistical Association Webinar Series on K-12 Statistics Education, November 17, 2009. Archived at: www.amstat.org/education/k12webinars.
- Lee, H. S.** (April 2009). *Technological statistical knowledge: How dynamic statistical software changes the landscape for statistical thinking*. **Invited keynote speaker** at Key Curriculum Press Technology Users Support Session held at the National Conference of Teachers Mathematics, Washington, DC.
- Heid, M. K., & **Lee, H.S.** (September 2007). *Core knowledge of use of technology in mathematics education*. **Invited session presenters** and facilitators at the National Conference on Doctoral Programs in Mathematics Education. Kansas City, MO.
- Rider, R. L., & **Lee, H. S.** (July 2006). *Differences in students' use of computer simulation tools and reasoning about empirical data and theoretical distributions*. **Invited paper** presented at the 7th International Conference on Teaching Statistics, Salvador, Brazil.
- Lee, H. S.** (June 2005). *The complexities of reasoning probabilistically*. **Invited lecturer** of 3-hour mini-course as part of the Mathematics Content Academy for Teachers at James Madison University, Harrisonburg, VA.
- Lee, H. S.** (March 2005). *Researching students' learning in computer-enabled contexts: Technological challenges and methods for capturing and analyzing video-based data*. **Invited methodological presentation** given for graduate students and faculty at Rutgers University.
- Rachlin, S., **Stohl, H.**, & Preston, R. (September 2004). *Content support for in-service middle grade teachers in the Middle Math Project*. **Invited session** presented at the Mathematical Preparation of Middle School Mathematics Teachers Conference, St. Louis, MO.
- Stohl, H.** (February 2004). *Tapioca and technology: What are they good for anyway?* **Keynote address** given at the Elon University High School Mathematics Contest, Elon, NC.
- Stohl, H.** (March 2003). *Preparing to teach mathematics with technology: Research implications for a learning trajectory*. **Keynote address** presented at the annual

international meeting of the Society for Informational Technology and Teacher Education, Albuquerque, NM.

Stohl, H. (March 2002). *Prospective teachers learning to facilitate social interaction and mathematical problem solving with technology tools*. **Invited featured research paper** presented at the annual international meeting of the Society for Informational Technology and Teacher Education, Nashville, TN. Paper presented was based on the National Technology Leadership Initiative Fellowship Award.

Stohl, H. (May 2001). *Standards and research-based support for use of computers in middle school mathematics*. **Keynote address** presented at the Technology in Middle Grades Mathematics conference at the University of California-Davis.

Garofalo, J., Harper, S., and **Drier, H. S.** (January 2001). *Beginner's guide to incorporating technology into secondary methods courses*. **Invited mini-course** given at the fifth annual conference of Association of Mathematics Teacher Educators, Costa Mesa, CA.

Drier, H. S. (July 1998). *Spreadsheets as a tool for learning mathematics*. **Invited guest lecturer** as part of a lecture series on "Innovative Uses of Technology in Education" during the Summer Technology Institute for K-12 teachers at Shenandoah University, Winchester, VA.

Drier, H. S. (October 1998). *Using spreadsheets to explore mathematics*. **Invited workshop** presented at the annual meeting of the Tidewater Council of Teachers of Mathematics, Chesapeake, VA.

Drier, H. S. (October 1996). *Teaching and learning algebra*. **Invited presentation** at Algebra for Everyone: Teachers Networking for Success sponsored by the School-University Research Network at The College of William & Mary, Williamsburg, VA.

National / International Presentations

Lee, H. S., Doerr, H. M., Jacon, B., Starling, T. T., Pulis, T., Tran, D., Nickell, J., & Thrasher, E. (April 2015). *Development of teachers' statistical reasoning and confidence in teaching statistics*. Research Symposium session to be presented at the annual Research Conference of the National Council of Teachers of Mathematics, Boston, MA.

Lee, H. S., Bos, B., Ozgun-Koca, A., Berry, R., McCulloch, A., Nickel, J., Chandler, K. (February, 2014). *Supporting teachers in developing technology-based mathematics tasks*. Extended session presented at the annual conference of the Association of Mathematics Teacher Educators, Irvine, CA.

Thrasher, E. P., Perry, A. F., Hollebrands, K. F., & **Lee, H. S.** (February, 2014). *Supporting and retaining beginning mathematics teachers*. Extended session presented at the annual conference of the Association of Mathematics Teacher Educators, Irvine, CA.

Lee, H. S., Doerr, H. M., Arleback, J. B., Pulis, T. (November, 2013). *Collaborative design work of teacher educators: A Case from statistics*. Paper presented at the 35th annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education. Chicago, IL.

Pulis, T., & **Lee, H. S.** (November, 2013). *High school mathematics teachers' statistical question posing*. Paper presented at the 35th annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education. Chicago, IL.

- Lee, H. S., Pulis, T., & Casey, S. (May, 2013). *Preparing to Teach K-12 Statistics: Using Digital Tools for Teaching and Learning*. Presented at United States conference for Teaching Statistics, Raleigh, NC.
- Pulis, T., Whitley, K. B., & Lee, H.S. (April 2013). *Collecting Live Data in Fathom*. Session presented at the annual meeting of the National Council of Teachers of Mathematics, Denver, CO.
- Lee, H. S., Whitley, K. B., & Pulis, T. (April 2013). *Using Technology Simulations to Reason about Probability and Statistics*. Paper presented at the annual meeting of the National Council of Teachers of Mathematics, Denver, CO.
- Hollebrands, K. F., Steketeer, S., McCulloch, A. W., Lee, H. S., & Whitley, K. B. (April 2013). *High School Student's Thinking About technology-based geometry functions*. An interactive paper session presented at the Research Pre-session of the National Council of Teachers of Mathematics, Denver, CO.
- Hollebrands, K. F., Lee, H. S., McCulloch, A. M., Dick, T., Jones, D., Berry, R. Q., Mohr-Schroeder, M., Stallings, L. (January, 2013). *Technology-based tasks in mathematics teacher education*. Extended session presented at the Association of Mathematics Teacher Educators, Orlando, FL.
- Hollebrands, K. F., Lee, H. S., Starling, T. T., Gonzalez, M. D., & Pulis, T. (November, 2012). *Prospective high school mathematics teachers' design and implementation of dynamic geometry tasks*. Paper presented at the 34th annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education, Kalamazoo, MI.
- Hollebrands, K. F., Lee, H. S., Starling, T. T., Gonzalez, M. D., Pulis, T. (April, 2012). *Preservice Mathematics Teachers' Design and Implementation of Interactive Geometry Tasks*. Paper presented at the annual meeting of the Research Pre-session of the National Council of Teachers of Mathematics, Philadelphia, PA.
- Lee, H. S., Starling, T. T., Gonzalez, M. D., & Pulis, T. (April, 2012). *Simulations as a Tool for Reasoning about Probability and Statistics*. Session presented at the annual meeting of the National Council of Teachers of Mathematics, Philadelphia, PA.
- Lee, H. S., Harper, S., Driskell, S. O., Kersaint, G., & Leatham, K. (February, 2012). *Teachers' statistical problem solving with dynamic technology: Research results across multiple institutions*. Paper presented at the annual meeting of the Association of Mathematics Teacher Educators, Fort Worth, TX. **Authors awarded the National Technology Leadership Initiative Fellowship for Best Research Paper.**
- Dick, T., Hollebrands, K., Zbeik, R. M., Heid, M. K., Lee, H. S., Burrill, G., & Cohen, J. (February, 2012). *Sense making and reasoning with technology: An interactive panel*. Three hour pre-session presented at the annual meeting of the Association of Mathematics Teacher Educators, Fort Worth, TX
- Hollebrands, K. F., Lee, H. S., Starling, T. T., Gonzalez, M. D., Pulis, T. (February, 2012). *Prospective teachers' design and implementation of technology-based geometry tasks*. Paper presented at the annual meeting of the Association of Mathematics Teacher Educators, Fort Worth, TX.
- Erbacher, C., & Lee, H. S. (January, 2012). *Engaging students in reasoning about the logic of hypothesis testing*. Paper presented as part of the Contributed Paper Session "Innovations in Teaching Statistics in the New Decade" at the Joint Mathematics Meeting, Boston, MA.

- Lee, H. S.,** Driskell, S. O., Harper, S. R., Leatham, K. R., Kersaint, G., & Angotti, R. L. (October, 2011). *Prospective teachers' use of representations in solving statistical tasks with dynamic statistical software*. Paper presented at the thirty-third annual meeting of the North American Chapter of the International Group for the Psychology in Mathematics Education. Reno, NV.
- Gonzalez, M. D., & **Lee, H. S.** (October, 2011). Middle school students' growth in understanding of probabilistic inference. Paper presented at the thirty-third annual meeting of the North American Chapter of the International Group for the Psychology in Mathematics Education. Reno, NV.
- Lee, H. S.,** Franklin, A., Thrasher, E. (July, 2011). *Providing opportunities for teachers to take a scholarly lens towards designing and implementing research-based tasks*. Session at the sixth annual National Science Foundation Robert Noyce Teacher Scholarship Program Conference, Washington, DC.
- Lee, H. S.,** Driskell, S., Harper, S., Jones, D. L., Kersaint, G. (April, 2011). *Creating a framework to examine mathematics teachers' exploratory data analysis*. Presented at the Research Pre-session of the Annual Meeting of the National Council of Teachers of Mathematics. Indianapolis, IN.
- Keene, K. A., **Lee, H. S.,** & Lee, J. T. (February, 2011). *Linking instructor moves to classroom discourse and student learning in differential equations classrooms*. fourteenth Annual Conference on Research in Undergraduate Mathematics Education, Portland, OR.
- Lee, H. S.,** Hollebrands, K. H., Starling, T. T., & Gonzalez, M. D. (January, 2011). *Preparing to teach mathematics with technology [PTMT]: Engaging practices and materials for technology-using mathematics teacher educators*. Three-hour faculty professional development pre-session presented at the annual meeting of the Association of Mathematics Teacher Educators, Irvine, CA.
- Lee, H. S.,** Klein, K., & Pylypiw, N. (July, 2010). *Developing a community of scholars*. Poster session presented at the NSF Robert Noyce Teacher Scholarship Program Conference: Building Excellence in STEM Teaching, Washington, DC.
- Washington, H. T. & **Lee, H. S.** (April, 2010). *Building a community of scholars in a teacher education program*. Presented at the annual meeting of the National Council of Teachers of Mathematics, San Diego, CA.
- Lee, H. S.,** Ives, S. E., Gonzalez, M. D., Starling, T. A., & Shaughnessy, J. M. (January, 2010). *Helping teachers develop their technological pedagogical statistical knowledge (TPSK)*. Presented at the annual meeting of the Association of Mathematics Teacher Educators, Irvine, CA.
- Lee, H. S.,** Hollebrands, K. H., Washington, H. T., Mewborn, D. M., & Thomas, C. (January, 2010). *Supporting and preparing talented secondary mathematics teachers for high needs schools*. Symposium presented at the annual meeting of the Association of Mathematics Teacher Educators, Irvine, CA.
- Lee, H. S.,** Hollebrands, K. H., Smith, R. C., & Gonzalez, M. D. (January, 2010). *Preparing to teach mathematics with technology [PTMT]: Engaging practices and materials for technology-using mathematics teacher educators*. Four-hour faculty professional development pre-session presented at the annual meeting of the Association of Mathematics Teacher Educators, Irvine, CA.

- Lee, H. S., & Lee, J.T.** (September, 2009). *Students' interpretations of probability distributions in a simulation environment*. Paper presented at the thirty-first annual meeting of the Psychology in Mathematics Education-North American Chapter. Atlanta, GA.
- Lee, H. S.** (June, 2009). *Preparing middle and secondary teachers to use technology in statistics*. Poster presented at the United States Conference on Teaching Statistics, Columbus, OH.
- Hilton, S., Holcomb, J., & **Lee, H. S.** (June 2009). *Making research relevant: Planting seeds for future research in statistics education*. Session presented at the United States Conference on Teaching Statistics, Columbus, OH.
- Lee, H. S.** (Chair), Hollebrands, K.F., Smith, R.C., Ives, S.E., Niess, M. Bowers, J., Zbiek, R. M. (April, 2009). *Technology pedagogy and content knowledge for mathematics teachers*. Research symposium presented at the Research Presession of the National Council of Teachers of Mathematics, Washington, DC.
- Ives, S. E., **Lee, H. S.**, & Starling, T. (February, 2009). *Preparing to teach mathematics with technology: Lesson planning decisions for implementing new curriculum*. Paper presented at the annual conference of Research in Undergraduate Mathematics Education, Raleigh, NC.
- Lee, H. S.**, Keene, K. A., Lee, J. T., Holstein, K., Early, M.E., Eley, P. (February, 2009). *Pedagogical content moves in an inquiry-oriented differential equations class: Purposeful decisions to further mathematical discourse*. Paper presented at annual conference of Research in Undergraduate Mathematics Education, Raleigh, NC.
- Keene, K. A., Lee, J. T., **Lee, H. S.**, Early, M.E., Eley, P. Holstein, K., (February, 2009). *An investigation of one instructor's mathematical knowledge for teaching: Developing a preliminary framework*. Paper presented at the annual conference of Research in Undergraduate Mathematics Education, Raleigh, NC.
- Lee, H.S.**, & Mojica, G. F. (June 2008). *Examining teachers' practices: In what ways are probabilistic reasoning and statistical investigations supported?* Paper presented at the Joint Study of the International Commission of Mathematics Instruction and International Association of Statistical Education. Monterrey, MX.
- Lee, H. S.**, & Hollebrands, K. F. (June 2008). *Preparing to teach data analysis and probability with technology*. Paper presented at the Joint Study of the International Commission of Mathematics Instruction and International Association of Statistical Education. Monterrey, MX.
- Lee, H. S.**, Lee, J. T., Konold, C., Abrahamson, D., Vahey, P., Rubin, A. (April 2008). *Contrasting perspectives on connecting important ideas in probability*. Symposium presented at the Research Presession of the National Council of Teachers of Mathematics Salt Lake City, UT.
- Lee, H. S.**, & Lee, J. T. (February, 2008). *Emphasizing coordination of measures of center and spread via focus on intervals instead of point values*. Paper presented at the annual conference of Research in Undergraduate Mathematics Education, San Diego, CA.
- Hauk, S., **Lee, H. S.**, Marongelle, K., & Weber, K. (February, 2008). *Doctoral programs in mathematics education*. Panel session presented at the annual conference of Research in Undergraduate Mathematics Education, San Diego, CA.

- Lee, H. S.,** & Mojica, G. F. (October 2007). *Teachers' use of probability experiments and simulations*. Paper presented at the twenty-ninth annual meeting of the Psychology of Mathematics Education-North American Chapter. Lake Tahoe, UT.
- Hollebrands, K. F., Wilson, P. H., & **Lee, H. S.** (October 2007). *Prospective teachers use of a videocase to examine students' work when solving mathematical tasks using technology*. Paper presented at the twenty-ninth annual meeting of the Psychology of Mathematics Education-North American Chapter. Lake Tahoe, UT.
- Lee, H. S.** (September 2007). *Earning the doctoral degree in mathematics education at NC State: The past decade*. Poster presented at the National Conference on Doctoral Programs in Mathematics Education. Kansas City, MO.
- Lee, H. S.,** Hollebrands, K. F., & Wilson, P. H. (September 2007). *The use of research-based methods and materials for preparing to teach mathematics with technology*. Presented at the ninth International Conference on Mathematics Education in a Global Community, Charlotte, NC.
- Lee, H. S.** (Chair), Hollebrands, K. F., Mojica, G. M., Wilson, P. H., Maher, C., Palius, M., Alston, A., & Liu, Y. (March 2007). *Learning to teach probability with a simulation approach: Focus on teachers*. Research symposium presented at the Research Pre-session of the National Council of Teachers of Mathematics, Atlanta, GA.
- Lee, H. S.,** Hollebrands, K. F., & Wilson, P. H. (March 2007). *Preparing to teach mathematics with technology: Research-based methods and materials*. Presented at the annual conference of the National Council of Teachers of Mathematics, Atlanta, GA.
- Hollebrands, K., **Lee, H. S.,** & Wilson, H. (January 2007). *Preparing to teach mathematics with technology: Prospective teachers' interpretations of students' mathematical thinking*. Research paper presented at the annual meeting of the Association of Mathematics Teacher Educators, Irvine, CA.
- Maher, C., Powell, A., Weber, K., & **Lee, H. S.** (November 2006). *Tracing middle school students' arguments*. Research paper presented at the twenty-eighth annual meeting of the Psychology of Mathematics Education-North American Chapter. Mexico.
- Powell, A. (Chair), Maher, C., Weber, K., Pedrick, L., Francisco, J., Shay, K., & **Lee, H. S.** (April 2006). *The development of probabilistic reasoning among urban students*. Research symposium presented at the Research Pre-session of the National Council of Teachers of Mathematics, St Louis, MO.
- Powell, A. (Chair), Maher, C., **Lee, H. S.,** Weber, K., & Alston, A. (April 2005). *Mathematics initiative, students of color, and the development of probabilistic reasoning*. Research symposium presented at the Research Pre-session of the National Council of Teachers of Mathematics, Anaheim, CA.
- Lee, H. S.** (January 2005). *The complexities of teachers' knowledge of probability: Results from research to inform teacher education*. Research report presented at the annual meeting of the Association of Mathematics Teacher Educators, Dallas, TX.
- Hollebrands, K.F., & **Stohl, H.** (October 2004). *The interplay between technology design and students' control of problem solving*. Research report presented at the twenty-sixth annual meeting of the Psychology of Mathematics Education-North American Chapter. Toronto, Canada.
- Stohl, H.** (Chair), Maher, C., English, L., Berry, E., Tarr, J. E., Pratt, D., & Shaughnessy, J. M. (April 2004). *Research on students' learning of probability: Implications and*

connections. Research symposium and papers presented at the Research Pre-session of the National Council of Teachers of Mathematics, Philadelphia PA.

- Renninger, K. A., Sinclair, N., Hand, V. M., **Stohl, H.**, Alejandre, S. & Underwood, J. S. (July 2004). *Students' interest for and work with applet-enhanced word problems*. Paper presented at sixth International Conference of the Learning Sciences, Santa Monica, CA.
- Stohl, H.** (July 2003). *Prospective teachers' development of teaching with technology*. Paper presented at the twenty-seventh annual meeting of the International Group for Psychology of Mathematics Education, Honolulu, HI.
- Stohl, H.**, & Rider, R. (July 2003). *Are these die fair: An analysis of students' technology-based exploration*. Poster presented at the twenty-seventh annual meeting of the International Group for Psychology of Mathematics Education, Honolulu, HI.
- Underwood, J., Hoadley, C., DiGiano, C., **Stohl, H.**, & Hollebrands, K. (April 2003). *Design principles of the ESCOT math environments*. Paper presented at The American Educational Research Association Meeting. Chicago, IL.
- Stohl, H.**, & Tarr, J. E. (October 2002). *Using multi-representational computer tools to make sense of inference*. Paper presented at the twenty-fourth annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education, Athens, GA.
- Stohl, H.**, & Tarr, J. (April 2002). *Engaging students in probabilistic reasoning using simulations and dynamic representations*. Computer workshop presented at the annual meeting of the National Council of Teachers of Mathematics, Las Vegas, NV.
- Stohl, H.** (April 2002). *Prospective teachers learning to facilitate social interaction and mathematical problem solving with technology tools*. Paper presented at the annual meeting of the American Educational Research Association as part of the symposium Teaching with Technology: Implications for Teacher Education, chaired by Carolyn Everton. New Orleans, LA.
- Stohl, H.**, & Underwood J. (April 2002). *Design principle: Provide multiple linked representations*. Poster presented at the annual meeting of the American Educational Research Association as part of the symposium Design Principles for Educational Software, chaired by Marcia Linn. New Orleans, LA.
- Stohl, H.**, Harper, S. R., & Enderson, M. (January 2002). *Prospective teachers' development of mathematical, pedagogical, and technological knowledge*. Research symposium at the sixth annual conference of the Association of Mathematics Teacher Educators, San Antonio, TX. **Individual paper awarded the National Technology Leadership Initiative Fellowship for Best Research Paper.**
- Rasmussen, S., Matthews, S., & **Stohl, H.** (January 2002). *Data-driven mathematics and statistics with Fathom*. Invited mini-course given at the sixth annual conference of the Association of Mathematics Teacher Educators, San Antonio, TX.
- Stohl, H.** (October, 2001). *Learning to facilitate and analyze students' problem solving with technology*. Poster presented at the twenty-second annual meeting of the International Group for the Psychology of Mathematics Education, North American Chapter, Snowbird, UT.
- Drier, H. S.** (March, 2001). *Beliefs, experiences, and reflections that affect the development of techno-mathematical knowledge*. Research paper presented at annual international meeting of Society for Informational Technology and Teacher Education, Orlando, FL.

- Grable, L., Spires, H., Lambert, J., Beal, C., Park, J., **Drier, H. S.**, & Alibrandi, M. (March 2001). *Ridges and bridges: MentorNet collaboration yields a watershed of preservice infusion*. Paper Panel presented at the annual international meeting of the Society for Informational Technology and Teacher Education, Orlando, FL.
- Drier, H. S.** (October, 2000). *Children's meaning-making activity with dynamic multiple representations in a probability microworld*. Research paper presented at the twenty-first annual meeting of the International Group for the Psychology of Mathematics Education, North American Chapter, Tucson, AZ.
- Drier, H. S.** (April, 2000). *Using the Probability Explorer to investigate chance and proportional reasoning*. Computer workshop presented at the annual meeting of the National Council of Teachers of Mathematics, Chicago, IL.
- Harper, S.R., Garofalo, J., & **Drier, H. S.** (April, 2000). *Preparing preservice secondary school teachers to use technology appropriately*. Session presented at the annual meeting of the National Council of Teachers of Mathematics, Chicago, IL.
- Drier, H. S.** (March, 2000). *Improving children's probabilistic reasoning with technology*. Paper presented at the annual meeting of the Research Council on Mathematics Learning, Las Vegas, NV.
- Garofalo, J., **Drier, H. S.**, Harper, S. R., Enderson, M., Horton, B., & Pullano, F. (February, 2000). *Integrating technology in preservice secondary methods courses: Evaluation and dissemination of Impact Project materials*. Session presented at the annual meeting of the Association of Mathematics Teacher Educators, Charlotte, NC.
- Drier, H. S.** (June, 1999). *Creating interactive spreadsheets with Microsoft Excel and Visual Basic for Applications*. Workshop presented at the Barrett Lectures: Successful Strategies for the Use of Technology in the Teaching of Mathematics, University of Tennessee Knoxville, TN.
- Drier, H. S.** (June, 1999). *Facilitating the effective integration of various technologies in secondary mathematics methods courses*. Session presented at the Barrett Lectures: Successful Strategies for the Use of Technology in the Teaching of Mathematics, University of Tennessee Knoxville, TN.
- Drier, H. S.** & Garofalo, J. (June 1999). *Impact Project: Facilitating effective integration of technology in mathematics education*. Session presented at the annual meeting of the National Educational Computing Conference, Atlantic City, NJ.
- Drier, H. S.** & Garofalo, J. (April 1999). *Using computer microworlds to explore mathematics*. Computer workshop presented at the annual meeting of the National Council of Teachers of Mathematics, San Francisco, CA.
- Garofalo, J., **Drier, H. S.**, & Pullano, F. (April 1999). *Using technology to integrate social studies with mathematics*. Session presented at the annual meeting of the National Council of Teachers of Mathematics, San Francisco, CA.
- Harper, S. R., Shockey, T., **Drier, H. S.**, & Garofalo, J. (April, 1999). *Exploring recursion through various technologies*. Session presented at the annual meeting of the National Council of Teachers of Mathematics, San Francisco, CA.
- Abramovich, S. & **Drier, H. S.** (March, 1999). *Preparing K-12 mathematics teachers to use a spreadsheet as an instructional tool*. Paper presented at the annual international meeting of the Society for Informational Technology and Teacher Education, San Antonio, TX.

- Watson, K., **Drier, H. S.**, & Garofalo, J. (March, 1999). *Using technology tools to integrate mathematics and social studies*. Poster session presented at the annual international meeting of the Society for Informational Technology and Teacher Education, San Antonio, TX.
- Abramovich, S., **Drier, H. S.**, Dugdale, S., Mochan, S., Neuwirth, E., & Woodward, J. (March, 1999). *Spreadsheets: A new form of educational software for school mathematics?* Panel discussion held at the annual international meeting of Mathematics and Science Educational Technology, San Antonio, TX.
- Drier, H. S.**, Rushton, S. R., & Shockey, T. (April, 1998). *Algebra in the middle school? You bet!* Workshop session presented at the annual meeting of the National Council of Teachers of Mathematics, Washington, D.C.
- Drier, H. S.** (March, 1998). *Exploring probability with preservice teachers using dominoes, dice, and technology*. Poster session presented at the annual international meeting of the Society for Informational Technology and Teacher Education, Washington, D.C.
- Garofalo, J., Shockey, T., **Drier, H. S.**, & Rushton, S. (March, 1998). *Guidelines for incorporating technology into mathematics*. Paper presented at the annual international meeting of the Society for Informational Technology and Teacher Education, Washington, D.C.

Regional Presentations

- Starling, T. S., & **Lee, H. S.** (October, 2013). *Developing the meaning of mean*. Session at the annual conference of the North Carolina Council of Teachers of Mathematics, Greensboro, NC.
- Thrasher, E., Perry, A., **Lee, H. S.**, Hollebrands, K., Hall, W., Early, M., & Swandby, A. (October, 2012). *Using iPads to enhance the mathematics classroom*. Session at the annual conference of the North Carolina Council of Teachers of Mathematics, Greensboro, NC.
- Monrose, N., Franklin, A., & **Lee, H. S.** (March, 2012). An analysis on student justifications on probability concepts and implications for instruction using technology. Session presented at the *Southwest Regional Conference of the Mathematical Association of America*, Scottsdale, AZ.
- Starling, T. T., & **Lee, H. S.** (October, 2011). *That is so random*. Workshop session presented at the annual conference of the North Carolina Council of Teachers of Mathematics, Greensboro, NC.
- Lee, H. S.**, Brannan, T., Childs, K., Clay, L., Franklin, A., Hall, W., Jordan, L., Limer, C., Pawelka, E., Searfoss, A., Thrasher, E., & Washington, H. (October, 2011). *Teacher led inquiry into fostering reasoning and motivation*. Session at the annual conference of the North Carolina Council of Teachers of Mathematics, Greensboro, NC.
- Lee, H. S.**, Swandby, A., & Klein, K. (March, 2011). *Activities to promote motivation and reasoning for mathematics teachers*. Session presented at the Robert Noyce Scholarship Southeast Regional Conference, Greenville, SC.
- Hollebrands, K. F., **Lee, H. S.**, Washington, H. T., & Noyce Scholars (October, 2010). *Activities to promote reasoning and sense making in the high school mathematics*

classroom. Session presented at the annual conference of the North Carolina Council of Teachers of Mathematics, Greensboro, NC.

- Lee, H. S.,** & Starling, T. T. (2010). *Designing and using simulations to investigate probability with Fathom and Probability Explorer*. Workshop session presented at the annual conference of the North Carolina Council of Teachers of Mathematics, Greensboro, NC.
- Lee, H. S.,** Hollebrands, K. F., Washington, H. T., Hernandez, J., Ward, J., & Ray, G. (October, 2009). *Classroom communication to promote equity and engagement*. Session presented at the annual conference of the North Carolina Council of Teachers of Mathematics, Greensboro, NC.
- Wilson, H. & **Lee, H. S.** (October, 2007). *Supporting bivariate data analysis with univariate techniques with Fathom 2.0*. Session presented at the annual Central Regional conference of the National Council of Teachers of Mathematics, Kansas City, MO.
- Wilson, H., Hollebrands, K., & **Lee, H. S.** (October 2006). *From univariate to bivariate analysis with Fathom*. Session presented at the annual conference of the North Carolina Council of Teachers of Mathematics, Greensboro, NC.
- Lee, H. S.,** Hollebrands, K., & Wilson, H. (October 2006). *PTMT: An integrated approach*. Session presented at the annual conference of the North Carolina Council of Teachers of Mathematics, Greensboro, NC.
- Hollebrands, K., **Lee, H. S.,** & Wilson, H. (October 2005). *Using video cases to prepare teachers to teach mathematics using technology*. Session presented at the annual conference of the North Carolina Council of Teachers of Mathematics, Greensboro, NC.
- Campbell, M., & **Stohl, H.** (October 2004). *Developing integrated mathematics lessons: An undergraduate research project*. Session presented at the annual conference of the North Carolina Council of Teachers of Mathematics, Greensboro, NC.
- Stohl, H.,** & Gildersleeve, R. (November 2003). *Connections among fractions, proportional reasoning, and probability*. Computer workshop presented at the Southern regional conference of the National Council of Teachers of Mathematics, Charleston, SC.
- Stohl, H.,** & Campbell, M. (October 2003). *Connecting empirical and theoretical probability with simulations*. Session presented at the annual conference of the North Carolina Council of Teachers of Mathematics, Greensboro, NC.
- Stohl, H.,** Norgaard, N., & Tuprah, K. (October 2002). *Middle Math Project: A focus on chance and data analysis*. Session presented at the annual conference of the North Carolina Council of Teachers of Mathematics, Charlotte, NC.
- Stohl, H.,** & Hollebrands, K. F. (October 2001). *Technology as a vehicle for promoting mathematical reasoning*. Session presented at the annual conference of the North Carolina Council of Teachers of Mathematics, Greensboro, NC.
- Drier, H. S.,** Berman, S., & Brown, J. (October 2000). *Teaching with technology: Exemplar lessons, intuitive software, and internet resources*. Session presented at the Eastern regional conference of National Council of Teachers of Mathematics, Philadelphia, PA.
- Drier, H. S.** (October 1999). *Teaching with technology: An exploratory approach to mathematics education*. Session presented at the Eastern regional conference of National Council of Teachers of Mathematics, Pittsburgh, PA.

- Drier, H. S.** (October 1999). *Probabilistic reasoning with the Probability Explorer microworld*. Paper presented at the Eastern regional conference of National Council of Teachers of Mathematics, Pittsburgh, PA
- Dawson, K., Mason, C., & **Drier, H. S.** (March 1999). *Integrating technology into secondary mathematics and social studies instruction*. Session presented at the annual conference of the Virginia Society of Technology in Education, Norfolk, VA.
- Drier, H. S.**, & Harper, S. R. (February 1999). *Middle school mathematics for the 21st century*. Workshop session presented at the Southeast regional conference of the National Council of Teachers of Mathematics, Charlotte, NC.
- Garofalo, J., & **Drier, H. S.** (February 1999). *Integrating social studies into the mathematics curriculum*. Session presented at the Southeast regional conference of the National Council of Teachers of Mathematics, Charlotte, NC.
- Harper, S. R., Shockey, T., **Drier, H. S.** & Garofalo, J. (February 1999). *Exploring recursion through various technologies*. Session presented at the Southeast regional conference of the National Council of Teachers of Mathematics, Charlotte, NC.
- Drier, H. S.**, & Garofalo, J. (May 1998). *Using microworlds to enhance the teaching and learning of mathematics*. Presented at the annual conference of the Virginia Society of Technology in Education, Roanoke, VA.
- White, P., & **Drier, H. S.** (May 1998). *Get some M.A.T.H. (Math and Technology Help) today*. Presented at the annual conference of the Virginia Society of Technology in Education, Roanoke, VA.
- Garofalo, J., **Drier, H. S.**, Shockey, T., & Harper, S. R. (May 1998). *An introduction to graphing calculators*. Workshop session at the annual conference of the Virginia Society of Technology in Education, Roanoke, VA.
- Shockey, T., Harper, S. R., & **Drier, H. S.**, (May 1998). *Exploring mathematics with technology: Data analysis activities*. Presented at the annual conference of the Virginia Society of Technology in Education, Roanoke, VA.
- Drier, H. S.** (October 1997). *Exploring probability with Dominoes and Dice*. Presented at the annual meeting of the Tidewater Council of Teachers of Mathematics, Virginia Beach, VA.
- White, P., & **Drier, H. S.** (April 1997). *Technology is alive in this classroom*. Presented at the annual conference of Virginia Society of Technology in Education, Virginia Beach, VA.
- Drier, H. S.** (March 1997). *How are graphing calculators used in secondary mathematics classrooms? Teachers' beliefs and practices*. Paper presented at the annual conference of Virginia Educational Research Association, Richmond, VA.
- Drier, H. S.** (March 1997). *Getting ready for algebra: Strategies for success*. A workshop session presented at the annual meeting of the Virginia Council of Teachers of Mathematics, Charlottesville, VA.
- Drier, H. S.** (March 1996). *Literacy Passport Test: Predicting success for general and special education students*. Paper presented at the annual conference of Virginia Educational Research Association, Richmond, VA.

Flanagan, S. S., & **Drier, H. S.** (March 1996). *Literacy Passport Test and new SOL: Providing math success for general and special education students*. Paper presented at the annual conference of Virginia Council of Teachers of Mathematics, Hampton, VA.

Grant Activity

Externally funded grants

Noyce Mathematics Education Teaching Scholars Phase II at NC State. Grant awarded by the National Science Foundation (September 2012-August 2017). Grant is a continuation of the project started in 2007. Funds will provide new scholarships to 14 undergraduate and graduate students pursuing double degrees in mathematics education and mathematics or statistics and obtaining initial licensure for teaching secondary mathematics. Project also focuses on retention of scholars as practicing teachers and research on effective practices. PI: Karen Hollebrands, Co-PIs: **Hollylynn Lee**, Molly Fenn, and Laura Bottomley. (**\$800,000**).

Preparing to Teach Mathematics with Technology: Expanding, Transforming, and Community Building. Grant awarded by the National Science Foundation (September 2011-August 2014). Proposal is to continue work started in the grant listed below to develop and evaluate an Algebra module, build a community of mathematics teacher educators across the US using our approach, and research any transformative impacts on the development of prospective teachers understanding of how to use technology in teaching. PI: **Hollylynn Lee**, Co-PIs: Karen Hollebrands & Allison McCulloch. (**\$500,000**)

Preparing to Teach Mathematics with Technology: An Integrated Approach. Grant awarded by the National Science Foundation (September 2008-August 2012). Proposal is to continue the work started in the grant listed below to develop Geometry module and provide professional development for teacher educators across the US for implementing the modules. We aim to develop and test the modules and submit materials for commercial publication. PI: Karen Hollebrands, Co-PI: **Hollylynn Lee**. (**\$500,400**)

Noyce Mathematics Education Teaching Scholars at NC State. Grant awarded by the National Science Foundation (September 2007-August 2014). Grant funds will provide scholarships to 28 undergraduate and graduate students pursuing double degrees in mathematics education and mathematics or statistics and obtaining initial licensure for teaching secondary mathematics. PI: **Hollylynn Lee**, Co-PIs: Karen Hollebrands, Irina Kogan, and Pam Arroway. (**\$950,000**).

Preparing Prospective Mathematics Teachers to Teach with Technology: An Integrated Approach. Grant awarded by the National Science Foundation (June 2005-December 2007). One of the main intellectual merits of this project will be to develop and test a model for teacher preparation that we hypothesize should integrate knowledge of mathematics, technology, pedagogy and student thinking. The goal of the full-scale project will be to develop curriculum materials in the form of modules. The specific objective for this proof-of-concept project is to create one prototype module for Data Analysis and Probability. PI: **Hollylynn Lee**, Co-PIs: Karen Hollebrands & Lee Stiff. (**\$75,000**)

TeKnowledgey Greenhouse: An Engineering and Education Learning Community. Awarded by National Science Foundation. Grant is a planning grant (October 2003-2005) for the Colleges of Education and Engineering at NC State University to foster a learning community that can draw upon the strengths of both fields and generate innovative solutions for the engineering education of K-12 and undergraduate students. A planning grant allowed us to establish a community culture for faculty and students at a research-intensive university to work together on educational issues of teaching, research, and societal needs. PI: **Stohl (Lee)**, Co-PIs: Bill Deluca, Steve Walsh, & Tom Miller. **(\$100,000)**

Identifying Emergent Design Principles through Analysis of Learning Technology in Action. (May 2002-May 2003) Co-PI on a grant sponsored by CILT (Center for Innovative Learning Technologies—an NSF funded Center) to examine mathematical java applets for contributing design principles for the CILT design principles database (<http://www.design-principles.org>). PI: Jody Underwood of ETS (Educational Testing Service). Co-PIs include **Stohl (Lee)**, Karen Hollebrands, NCSU, Chris Hoadley, Penn State, and Chris DiGiano, SRI. (\$10,000)

The North Carolina Middle Math Project: A professional development project to improve grade 6-8 mathematics education. Awarded by National Science Foundation as a 4-year collaborative effort of the University of North Carolina system (January 2002-2006). Collaborated with faculty across the state to design and deliver a course on Teaching and Learning Data and Probability (one of 3 courses developed in project) to 145 middle grade teachers in NC pursuing National Board certification. PI: **Stohl** with Co-PI Sarah Berenson for subcontract with NC State. **(\$285,806)**.

Internally funded grants

Attracting and Recruiting Top Graduate Students in Mathematics and Science Education. PI: **H. Lee**. Grant funded through Graduate School at NC State and Department of STEM Education. September 2011. (\$3,500).

Creating connected handheld computing environments. PI: Karen Hollebrands, Co-PI: **Stohl**. Grant funded through College of Education Computer & Technology Committee, November 2002. (\$8,028)

Investigation of middle grade learners' probabilistic reasoning in a digital learning environment. PI: **Stohl**. Grant awarded by NC State's Faculty Research and Professional Development program, December 2000. (\$5,000)

Integrating hand-held and desktop technologies. PI: **Stohl**. Grant funded through College of Education Computer & Technology Committee, November 2000. (\$4,171)

Collaborative Scholarly Activities

External

Mathematical Proficiency for Teaching. Invited participant in a collaborative group of about 50 mathematics educators across the country engaged in considering how to use a framework and situations to inform secondary mathematics teacher education courses.

Group led by Patricia Wilson, University of Georgia and Kathleen Heid, Penn State University. Work is based on NSF funded project. First three day working conference held at University of Georgia in Spring 2010.

Research Advisory Board for the Consortium for the Advancement of Undergraduate Statistics Education. Appointed to this board in Spring 2009. The members are from different institutions and fields such as Statistics, Educational Psychology, and Mathematics Education. The mission of the board is to establish the area of statistics education research as a recognized discipline with a visible presence, connect researchers from diverse disciplines that inform knowledge about teaching and learning statistics, collect and disseminate resources on research in statistics education, promote statistics education research. We meet several times a year as a group and each member is assigned to a research team of statistics educators from across the US for a two-year period to mentor and facilitate their research in an area of statistics education.

Informal Mathematical Learning grant at Rutgers University (NSF-funded grant). I collaborated (2004-2006) with researchers on this project focusing on the learning of middle-school students. The study focused in-depth on (1) the mathematical ideas and forms of mathematical reasoning that middle-school students develop and use as they investigate well-defined, open-ended tasks; (2) the patterns of discourse among the students as they build solutions to each task; and (3) over the course of the study, changes that occur in students' views about mathematics and about themselves as mathematical thinkers. The setting is an informal after-school program for students of Hubbard Middle School in Plainfield, NJ, an economically depressed, urban school district with 98% African American and Latino students. The research group met several times a year.

Studying the Development of Mathematical Reasoning: R.B. Davis International Invitational Conference. I participated in this invitational conference with about 25 researchers in mathematics education from 6 different countries. Researchers share current research projects, theories under development, and participate in small group data analysis sessions. *Meeting Dates:* October, 2004 Emerald Isle, NC; June, 2003 Umea, Sweden; October 2000, Emerald Isle, NC.

IDEA: Identifying Design Principles in Educational Applets. Collaborative effort with researchers at Educational Testing Service, SRI, the Math Forum at Drexel, Penn State University, and North Carolina State University. We examined the design of and students' work with 42 educational java applets created by the ESCOT (Educational Software Components of Tomorrow) project. Purpose was to extract a general set of design principles that can guide future design and development of educational applets that are created to be used with specific mathematical problems. Researchers met face-to-face over 3 different 4-day periods in 2002 and had numerous teleconferences.

International Working Group on The Complexity of Learning to Reason Probabilistically. I have been the co-chair of this group of about 30 international researchers. The group meets once a year as part of the meetings for the Psychology of Mathematics Education - North American Chapter and the International Group of the Psychology of Mathematics Education. As Co-chair, I maintain the website and listserv, write the research descriptions and goals for annual proceedings, and plan collaborative activities during the annual meeting. In addition, through this group, about 10 researchers have used the software I developed (Probability Explorer) and tasks used in prior research in their own research. This is allowing cross-cultural and multi-contextual comparisons of students' probabilistic reasoning.

Internal

MOOC-Ed Initiative

Working with colleagues at the Friday Institute for Educational Innovation to develop and evaluate Massive Open Online Courses for professional educators. I am the lead designer on the MOOC Teaching Statistics Through Data Investigations. Course will launch in mid-Spring 2015. <http://mooc-ed.org/tsdi>

Digital Transformation of Learning Faculty Cluster at the Friday Institute

Collaboration with faculty across disciplines such as Computer Science, Learning Sciences, Psychology, Mathematics Education, Science Education. The faculty cluster share work on design, development, and research on digital tools for learning and teaching.

NCSU STEM faculty initiative

Participate in meetings (several times per semester) with STEM faculty in disciplines across campus to discuss issues of teaching and research and to plan collaborative efforts. 2009-current.

Statistics Education Group

Engage in cross-department collaborations between statistics and mathematics education faculty and graduate students. Research studies are conducted by faculty and graduate students in the context of undergraduate statistics courses. Group meets regularly to discuss research and practices in statistics. Development of a co-major at the PhD level between Statistics and Mathematics Education is being planned. 2005-current.

TeKnowledgey Greenhouse.

As part of this planning grant, I worked with faculty in several departments within NC State University (e.g., Electrical Engineering, Chemical Engineering, Physics, Computer Science, Design) in seeking ways to engage in collaborative efforts that are mutually beneficial for the education of engineering undergraduates and the recruitment of students grades 6-12 to STEM-related majors. Faculty have met numerous times throughout the year, including a 4-day retreat in summer 2004. 2003-2005.

Mathematics and Science Education Collaboratory.

As part of the Friday Institute for Educational Innovation, I was the co-chair (with Eric Wiebe) of this collaboratory that included 25 faculty members. Faculty gathered on a bimonthly schedule to share research interests, data analysis, and collaborative efforts. 2003-2007

Teaching and Mentoring

Courses Taught since Fall 2000

Over the past 14 years, my teaching load has varied from 2-4 courses per academic year, depending on grant activities. Class sizes typically range from 15-25.

EMS 203 Introduction to Teaching and Learning Mathematics

EMS 480/580 Teaching Mathematics with Technology

EMS 474 Teaching Mathematics Topics in the Middle Grades

EMS 471 Supervision of Mathematics Student Teaching (Middle and High School)

EMS 513 Teaching and Learning Algebraic Thinking
EMS 519 /ST 519 Teaching and Learning Statistical Thinking
EMS 581 Advanced Applications of Technology in Mathematics Education
EMS 770 Foundations in Mathematics Education
EMS 792x Mathematics Education Literature and Research Methods
EMS 802 Seminar in Mathematics Education
EMS 851 Doctoral Practicum in Mathematics Teacher Education

Mentoring of Students

Doctoral

Chair/Co-Chair:

Current: Tyler Pulis, Marggie Gonzalez, Jennifer Nickell, Michelle Cetner, Tori Weber

Graduated:

Ayanna Perry (2013, Director of professional development, Knowles Teaching Scholars)
Tyrone Washington (2012, Assistant Professor, Millersville University),
Tina Starling (2011, Teaching Assistant Professor, NC State University)
Amanda Lambertus (2010, Assistant Professor, Arkansas State University),
Sarah Ives (2009, Assistant Professor, Texas A&M Corpus Christi),
Rachel Kenney (2008, Assistant Professor, Purdue University),
Robin Rider (Angotti) (2004, Associate Professor, University of Washington Bothell),

Committee Member:

Current: Megan Ryals, William Hall, Carrie Lineberry, Samet Okumus

Graduated:

Jennifer Sloan (2013, Statistics), Charity Cayton (2012), Krista Holstein (2012), Ryan Smith (2010), Julie Beier (2008, Mathematics), Maria Droujkova (2004), Min Jung Kim (2004, Comparative Biomedical Sciences), Katrina Staley (2003), C.E. Davis (2003), Matthew Clark (2003), Angela Teachey (2003), Laurie Cavey (2002)

Masters (*Advisor for M.Ed., **chair of thesis committee for M.S.)

Current: Kemal Akoglu**, Josh Jenkins*, Nick Koberstein*, Nina Bailey*

Graduated:

Jenna Rice**(2013), Taylor Harrison**(2013), Feezah Ishmail* (2012), Shana King*(2012), Meagan Laskowski* (2011), Gail Kweon* (2011), Janet Bailey* (2011), James Hedges* (2010), Marggie Gonzalez** (2010), Breanna Harrill* (2009), Morgan Loughridge* (2009), Karen Klien* (2009), Matt Campbell** (2009), Candace Blackwood* (2008), Mary Klinikowski* (2008), Lindsay Holland (2008), Cyndi Edgington (2008), John Henderson (2008), Jera Mendenhall*(2007), Christine Mainey* (2007), Katie Park* (2007), Bethany Hudnutt** (2007), Amanda Lambertus (2007), Gemma Mojica ** (2006), Lee Ann Ochs* (2004), Eleanor Pusey** (2003), Kate Mansi** (2003), Paula Johnson (2002), Ashley Allain (2001), Deborah Mills** (2001)

Undergraduate Research

Jenna Rice (Statistics education project through AGEP 2010-11)

Co-research mentor for summer experiences through AGEP (2007-8): Dana Jones, Jenadayi Harmon.

Research Mentor for 2 Park Scholars: Matt Campbell (2001-05), Lauren Riggs (2004-06)

Noyce Mathematics Education Teaching Scholars

Participate in mentoring of all graduate and undergraduate Noyce Scholars: Karen Klein (2009), Juana Hernandez (2010), Jenny Ward (2010), Greg Ray (2010), Marrielle Myers (2010), Jenna Rice (2011), Allyson O'Neill (2011), Kristen Casstevens (2011), Nick Pylypiw (2011), Larry Umberger (2010), Rachel Hubbard (2010), Morgan Early (2010), Taylor Brucki (2010), Lauren Mann (2011), Ashley Swandby (2011), Rich Oppealer (2011), Kate Foster (2011), Shana King (2012), Tyler Brannan (2012), Chris Limer (2012), Landon Jordan (2012), Elizabeth Pawelski (2012), Amber Searfoss (2012), Kirsten Childs (2012), Latoya Clay (2012), William Hall (2014), David Patterson (2014), Stephanie Byerly (2014), Katlyn VanReenan (2014), Matthew Loeffler (2015)

Materials Development outside of NCSU

Center for Technology and Teacher Education 1997-2003

Part of a team developing materials to help preservice and inservice teachers learn how to effectively integrate technology into middle and secondary mathematics classes. The materials utilize Microsoft Excel, The Geometer's Sketchpad, MicroWorlds (Logo), the WWW, java applets, and graphing calculators. Materials have been disseminated for use in mathematics content and methods courses at other colleges and universities. Materials and our guidelines can be viewed online at curry.edschool.virginia.edu/teacherlink/math.

University of Virginia Continuing Education 1997-2000

Developed a 3-credit graduate course on the "Teaching and Learning of Algebra," including a comprehensive course packet. Most algebraic concepts are developed through pattern-based situations and utilize real world applications, concrete materials, and technology tools. I conducted training sessions for other adjunct faculty.

Virginia Department of Education 1997-1998

Collaborated with several mathematics educators to design an institute for enriching K-5 teachers' knowledge about patterns, functions and algebra. Piloted the 3-day institute twice during 1997. Materials distributed through Virginia Department of Education.

School-University Research Network 1996

Designed three activity packets for teachers to improve the teaching and learning of algebraic concepts in upper elementary, middle school, and Algebra I. The activities were designed to correlate with the 1995 Virginia Standards of Learning. Materials distributed to teachers in 14 school divisions in Virginia.

Software & App Development

Balancing Mummies 2013-current

Worked with graduate students in a serious games class to design and develop an online game intended to teach a conceptual approach to the arithmetic mean as a balancing point. Collaboration among a mathematician, myself, and computer science faculty and graduate students. Applet is currently being field tested with middle grades students and teachers (Spring 2014). Available at <http://pyramid.mitchall.com/Test/index.html>

Technology-Based Problems of the Week 2000-2002

As part of the ESCOT (Educational Software Components of Tomorrow) project, researchers, teachers, and software developers integrated various software components to create innovative applets and accompanying problems for middle school mathematics. The NSF-funded grant was a collaboration between SRI's Center for Technology in Learning and the MathForum.com. Available at <http://www.mathforum.com/escotpow>

Probability Explorer 1998-present

Designed and developed a microworld for elementary and middle school students to explore probability and rational number concepts with such devices as coins, dice, spinners, and marbles as well as real world events such as the weather, sports and the lottery. Have conducted extensive research on students' reasoning using this software. Available at <http://www.probexplorer.com>

Dominoes and Dice 1997-98

Designed and developed a microworld to help elementary and middle school students learn probability concepts. The environment is designed to be open-ended and enhance students' understanding with concepts such as sorting, classifying, randomness, fair, empirical and theoretical probability, combinations, permutations, and graphing. An instructional unit to accompany the software was written by H. S. Drier and P. White. (microworld developed in Oracle Media Objects)

K-12 Teacher Development and Faculty Workshops

Lee, H. S., & McCulloch, A. M. (May 2014). *Preparing to Teach with Technology: Faculty resources with a focus on Algebra*. Two hour webinar held for 10 faculty members from institutions across the country. Session recorded and posted for others to view.

McCulloch, A., **Lee, H. S., & Hollebrands, K. F.** (June 2013). *Preparing to Teach Mathematics with Technology: Faculty Professional Development in Algebra*. Three day institute for 25 faculty members from institutions across the country, held at NC State.

Lee, H. S., Hollebrands, K. F., & McCulloch, A. (May 2012). *Preparing to Teach Mathematics with Technology: Faculty Professional Development in Geometry, Data Analysis, and Probability*. Three day institute for 24 faculty members from institutions across the country, held at NC State.

Hollebrands, K. F., & **Lee, H. S.** (June 2011). *Preparing to Teach Mathematics with Technology: Faculty Professional Development in Geometry, Data Analysis, and Probability*. Co-taught one week institute for 18 faculty members from institutions across the country at the Friday Institute at NC State.

Lee, H. S., & Hollebrands, K. F. (July 2010). *Preparing to Teach Mathematics with Technology: Faculty Professional Development in Data Analysis, Probability and Geometry*. Co-taught one week for 15 faculty members from institutions across the country at the Friday Institute at NC State.

Lee, H. S., & Hollebrands, K. F. (June 2009). *Preparing to Teaching Mathematics with Technology: Faculty Professional Development in Data Analysis and Probability*. Held for one week for 7 faculty members from institutions across the country at the Friday Institute at NC State.

Lee, H. S. (Fall 2004 & Spring 2005). Learning to Use Technology Tools for Teaching High School Mathematics. Three-day workshop with teachers in Elizabeth City, NC.

- Stohl, H.** (September, 2003). Engaging Technology Tools for Data Analysis and Probability in the Middle School. One day workshop with teachers in Buncombe County, Asheville, NC.
- Stohl, H.** (Fall 2002). Algebra Success for All. A 2-day workshop given to teachers in military schools through the Department of Defense Education Activity. Workshops held in Germany and Atlanta, GA.
- Stohl, H.** (July 2002). Three Educational Technologies for Integrating Mathematics and Technology. A 2-day workshop given to educational officers and teachers at the NASA Research Center Office of Education, Langley, VA.
- Stohl, H., & Hollebrands, K.** (Spring 2002). Teaching Mathematics with Technology. A series of workshops (10 hours) with teachers from Cary High School, Cary, NC.
- Drier, H. S.** (2000-2001). Using a graphing calculator to investigate middle school mathematics. A series of workshops with teachers from Centennial Campus Middle School, Raleigh, NC.
- Garofalo, J., **Drier, H. S.**, & Harper, S. R. (1999-2001). Integrating technology in middle and secondary school mathematics. A two-year professional development project with teachers as part of the XL Education Initiative Grant. Hamilton, Bermuda.
- Drier, H. S.** (1999-2000). Making mathematics matter. A year-long professional development project as part of a Toyota TIME Grant with middle school teachers. St. Gregory's School, Virginia Beach, VA.
- Drier, H. S.** (Fall, 1999). Using manipulatives to teach algebra concepts. A two-day workshop with high school teachers in Prince George Public Schools, Prince George VA.
- Drier, H. S.** (February, 1999). Using probability, statistics, and technology projects as a vehicle to meet many of the K-5 Virginia Standards of Learning. Workshop with elementary teachers in Amherst County Public Schools, Amherst, VA.
- Garofalo, J., **Drier, H. S.**, Harper, S. R., Shockey, T., & Timmerman, M. (1998-99). Using technology to explore middle and secondary school mathematics. A three-day inservice project with teachers in Albermarle County Public Schools, Charlottesville, VA.
- Drier, H. S., & Murray, M.** (Fall, 1998). Explorations in K-5 probability and statistics. A two-day workshop with elementary teachers in Charlottesville Public Schools, Charlottesville, VA.
- Drier, H. S.** (November, 1998). Exploring probability and statistics in grades K-5. Workshop presented at the annual professional development conference of the Amherst Public Schools, Amherst, VA
- Drier, H. S.** (November, 1998). Developing reasoning with patterns, functions, and algebra in grades K-5. Workshop presented at the annual professional development conference of the Amherst Public Schools, Amherst, VA
- Drier, H. S.** (July, 1998). Using manipulatives in middle school algebra. A two-day inservice project with middle school teachers in Newport News City Schools, Newport News, VA.
- Harper, S. R., Shockey, T., & **Drier, H. S.** (July, 1998). Integrating the Virginia technology Standards of Learning into the eighth grade mathematics curriculum. A four day inservice project with mathematics and technology teachers in Pittsylvania County Schools, Chatham, VA.

Drier, H. S. (1997-1998). Conducted a year-long project to improve the teaching, learning, and assessment of Algebra I with high school mathematics teachers. Project included model teaching, consultation and evaluation, workshops, and curriculum and assessment alignment. Louisa County Public Schools, Mineral, VA.

Drier, H. S. (Fall, 1996). TI-82 overview: An introduction to the graphing calculator. A two-day project with middle and high school teachers in Warren County Public Schools, Front Royal, VA.

Drier, H. S. (October, 1996). Algebra and the graphing calculator: Connections and applications. A workshop with middle and high school teachers in Winchester Public Schools, Winchester, VA.

Drier, H. S. (January, 1995). TI-81 overview: An introduction to the graphing calculator. A workshop with middle school teachers in the Williamsburg/James City County School Division.

Professional Service

Field of Mathematics and Statistics Education

STEW: Statistics Education Web-an online journal of K-12 statistics lessons
Editor, June 2014 – current

Statistics Education Research Journal
Associate Editor, March 2013-2016

Mathematical Thinking and Learning
Editorial Board, May 2014-2017

9th International Conference on Teaching Statistics.
Invited to serve as **leader and organizer** of papers for a session under the topic of Probability in Teaching Statistics. Conference to be held July 2014 in Flagstaff, AZ.

13th International Congress on Mathematical Education.
Invited to serve as a **lead team member** for the Topic Study Group focused on Probability. Conference to be held July 2016 in Hamburg, Germany.

Wyoming Institute for the Study and Development of Mathematical Education (WISDOMe).
Appointed member of the International Advisory Board (2013-current).

Consortium for the Advancement of Undergraduate Statistics Education (CAUSE).
Appointed member of the **Research Advisory Board** (2009-current).

NC Council of Teachers of Mathematics
Appointed member of the **Special Awards committee**. (2012-current)
Elected **Vice President for Colleges** in the Eastern Region and thus on Board of Directors (2009-2011)

Association of Mathematics Teacher Educators

Appointed member of **Technology Committee** (2012-2014)

Appointed member of **Membership Committee** (2002-2004)

Monograph Series. In 2007-08 served on **editorial review board**. In 2008-09 I was appointed **Co-editor** with Denise Mewborn.

Volunteer Consultant for NC Department of Public Instruction on revisions to middle grade and high school mathematics Standard Course of Study, 2006-present.

On-Math: Technology Research into Practice column. Online mathematics education journal published by the National Council of Teachers of Mathematics. [review submissions, correspond with authors, edit accepted submissions.]

Editor of Research into Practice articles, 2007-2008.

Technology Tips (monthly column), Mathematics Teacher journal, published by the National Council of Teachers of Mathematics. [review submissions, correspond with authors, edit accepted submissions, write several columns per year.]

Editor, with co-editor Suzanne Harper (2003-2005).

Co-editor, with editor Karen Hollebrands (2002-2004).

Working Group on The Complexity of Learning to Reason Probabilistically, part of both the International Group for Psychology of Mathematics Education and the Psychology of Mathematics Education -North American Chapter

Co-chair with various faculty over the years (2003-2009) [Maintained website and listserv, write research description for annual proceedings, and plan collaborative activities during the annual meeting.]

Member (2000-present)

Council for Technology in Mathematics Education, an affiliate of National Council of Teachers of Mathematics.

Steering Committee member (1999-2007)

Contributions to Mentoring and Evaluation of young scholars. 2007-current

- Member of advisory board for CAREER grant for Dr. Susan Peters focused on teachers' understanding of variation, 2013-current.
- Prepared external review for grant proposal at the *University of Cyprus* for project to develop measures of TPACK specific to mathematics, Spring 2012.
- Prepared external evaluations for promotion and tenure for 7 faculty members at different institutions.
- Mentor of team of 4 young scholars in a research cluster focused on undergraduate statistics education, sponsored by CAUSE. (meet bi-weekly to review progress and assist in all aspects of their research cycle). 2009-2011.
- Invited member of young scholar research mentoring session held at Psychology of Mathematics Education North American Chapter conference in 2009.
- Invited member of new professor mentoring session held at Associate of Mathematics Teacher Education conference in 2011.

Grant Proposal Reviewer for National Science Foundation

Reviewer and panelist for grant proposals submitted to NSF under solicitations of REESE, DRK-12, CAREER and SBIR (2007-present).

Manuscript Referee: Review 3-4 manuscripts per year.

Mathematics Teaching in the Middle School (2000 - present).

Journal of Mathematical Behavior (2002-present)

Journal of the Learning Sciences (2003 - present)

Journal for Research in Mathematics Education (2003-present)

Mathematical Thinking and Learning (2005-present)

Proposal Reviewer:

Psychology of Mathematics Education North American Chapter (2001-present)

National Educational Computing Conference (2000)

NC State Service

Departmental Service

Executive Committee member (advisors to department head), Spring 2014-current

Graduate Program Coordinator in Mathematics Education, 2009-2014

Director of Graduate Programs in Mathematics Education, May 2006-2009

College of Education Committees

PhD Revisioning Task Force, 2012-2014 (Co-Chair of Curriculum task force)

College Reappointment, Promotion and Tenure Committee, 2013-2016 (co-chair 2013, chair 2014)

Faculty Grievance Panel, elected member, 2012-2014

Program Coordinators Committee member 2007-2014

Graduate Studies Committee, 2007-2009

MAT Faculty Council, 2011-2014

Friday Institute for Educational Innovation,

Faculty Advisory Board, 2002-2006

Co-chair of the Mathematics and Science Collaboratory, 2003-2006

Research Committee member 2000 - 2001

Technology Committee member 2003-2006

NCATE review committees

Field Experiences Committee, member 2000-2001

Curriculum Committee, member 2005-2008

Faculty Search Committees

Master of Arts in Teaching, Teaching Assistant Professor in STEM Ed, Spring 2013

Quantitative Research Methodologist search, Spring 2011

Department Head, Mathematics, Science, and Technology Education search, 2007-2008

Mathematics Education Searches,

Teaching Assistant Professor, Chair of Committee, Fall 2012

Assistant Professor (2 positions), Chair of committee, 2006-2007

Assistant Professor, Member of two committees, 2000-2001, Spring 2006

Elementary Mathematics Education Search, Spring 2006

Educational Foundations & Policy Search, 2004-2005

University Service

Graduate Student Research Symposium, Judge 2008, 2013

University Courses & Curriculum Committee, Spring 2011

Library Committee member 2000 - 2007

Park Scholar Program Academic and Research Mentor for 2 Park Scholars in
Mathematics Education (2001-2005)

Current Memberships

Association of Mathematics Teacher Educators

National Council of Teachers of Mathematics

NC Council of Teachers of Mathematics

Psychology of Mathematics Education-North American Chapter

American Statistical Association

Consortium of the Advancement of Undergraduate Statistics Education.