Jennifer M. Suh

Associate Professor of Mathematics Education

George Mason University

Curriculum Vitae

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| University address:George Mason University4400 University Drive, 1E8Fairfax, Virginia 22030phone: 703-993-9119 | Email: jsuh4@gmu.edu Webpage: <http://mason.gmu.edu/~jsuh4> <http://cehd.gmu.edu/people/faculty/jsuh/> |

**EDUCATION**

PH.D. in Education, May 2005
Specialization in Mathematics Education Leadership
**George Mason University, Fairfax, Virginia**

Suh, Jennifer M. (2005) *Third Graders’ Mathematics Achievement and Representation Preference Using Virtual and Physical Manipulatives for Adding Fractions and Balancing Equations.*
Dissertation chair: Dr. Patricia Moyer-Packenham

Master of Teaching in Elementary Education, May 1994
**University of Virginia, Charlottesville, Virginia**

Bachelor of Art in Psychology, May 1994
Five Year Education Program, Certification K-8
**University of Virginia, Charlottesville, Virginia**

**UNIVERSITY TEACHING EXPERIENCES**

**Associate Professor, Mathematics Education** (Fall 2012- Present)

Going up for full term fall of 2017

**Assistant Professor, Mathematics Education** (Fall 2006-Spring 2012)

College of Education & Human Development, George Mason University, Fairfax, Virginia

* Member of Mathematics Education faculty
* Member of Elementary Education faculty

Responsibilities include teaching graduate courses in Elementary Education Programs and Mathematics Education Leadership, assisting in the development and implementation of programs for students, advising students within the program, and supervising graduate students in field placements for the professional development schools. Currently, I am the dissertation chair for four doctoral students.

**Academic Program Coordinator for Mathematics Education Leadership- (2014-current)**

Responsibilities include recruiting mathematics specialists candidates and designing and offering courses that align to the Mathematics Specialists Endorsement requirements. Currently, GMU’s Math Education Program is the only state approved licensing program with hybrid and online course.

**Co-Director for a joint center between the College of Science and the College of Education and Human Development-COMPLETE, George Mason University**

COMPLETE: *Center for Outreach in Mathematics Professional Learning & Educational* is a mathematics partnership between George Mason University (GMU) and school divisions in Northern Virginia (Alexandria, Falls Church City, Fairfax County, Loudoun County, Manassas City and Prince William County) to provide professional development for mathematics teachers in grades K-8.

**Affiliate Faculty for the Mathematics Education Center, George Mason University**

The Center provides research opportunities for students interested in advanced degrees in Mathematics Education, Instructional Technology, and Educational Research. The Center's research activity serves as a laboratory where advanced graduate students enrolled in GMU programs participate in the ongoing research of the faculty. Students learn first-hand how to conduct educational research by participating in study design, instrument development, data collection, data analysis, manuscript preparation, and research presentations.

##### RESEARCH

#### Research Interests

* Enhancing professional development of prospective and in-service teachers by developing mathematics pedagogical content knowledge and confidence in teachers;
* Promoting student learning through problem based learning and mathematical proficiency;
* Developing representational fluency through mathematics tools and emerging technologies in the classroom.

GRANT PROJECTS

#### Grants Funded

Principal Investigator, **IMMERSION***: Integrating Mathematical Modeling, Experiential learning and Research through a Sustainable Infrastructure and an Online Network for teachers in the elementary grades.*National Science Foundation Duration: 9/01/2014-8/31/2017 $1,299,959
This proposal is a STEM-C targeted partnership between faculty from three institutions, GMU(Virginia), HMC (California) and MSU (Montana), with school divisions, Fairfax County Public Schools (FCPS - VA), Pomona Unified School District (PUSD - CA) and Bozeman Public Schools (BSD- MT). The proposed work will engage elementary (grades K-8) mathematics teachers, special educators, and teachers of students with Limited English Proficiency (LEP) to develop Mathematical modeling concepts aligned with Common Core mathematics content, classroom strategies, and student assessment standards.

Principal Investigator**,** TRANSITIONS*: Transforming Mathematics Instruction Through Mathematical Modeling, Algebraic Thinking and Proportional Reasoning*. *Teaching and Assessing VA’s SOL 2009 Grades 5-9 Math SOL*
Virginia Department of Education, March 2015-September 2017
Budget requests is $711, 114 from the sponsor to support this MSP proposal: $243,218 (Year 1), $246, 233 (Year 2) and $221, 663 (Year 3).This proposal is a Mathematics Science Partnership between faculty from the COMPLETE Center at George Mason University (GMU) and **nine** school divisions that include ***seven*** continuing partners Arlington County, Frederick County, Fauquier County, Loudoun County, Manassas City, Prince William County, Virginia Council for Private Education and ***two*** new partners that include Manassas Park and Roanoke Public Schools.

Principal investigator (jointly with Dr. Seshaiyer- COS)

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| *Developing Rational Numbers and Proportional Reasoning through Math Modeling and Performance Based Assessments: Teaching and Assessing Virginia's 2009 6-8 Mathematics Standards of Learning*Virginia Department of EducationMarch 1, 2014 through September 30, 2015 Funded Amount: $211,456 |

Principal investigator (*jointly with Dr. Seshaiyer*- COS)

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| *Building Number, Number Sense and Computational Fluency through Math Modeling and Performance Based Assessments: Teaching and Assessing Virginia's 2009 3-5 Mathematics Standards of Learning*Virginia Department of EducationMarch 1, 2014 through September 30, 2015 Funded Amount: $199,363 |

Principal investigator (*jointly with Dr. Seshaiyer*- COS)

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| *Developing Rational Numbers and Proportional Reasoning through Math Models and Performance Based Assessments: Teaching and Assessing Virginia’s 6-8 Mathematics Standards of Learning*Virginia Department of EducationMarch 1, 2013 through September 30, 2014 Funded Amount: $246,696 |

Principal investigator (*jointly with Dr. Seshaiyer*- COS)

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| *Building Number and Number Sense through Math Models and Performance Based Assessment: Teaching and Assessing Virginia’s 2009 K-2 Mathematical Standards of Learning*Virginia Department of EducationMarch 1, 2013 through September 30, 2014 Funded Amount: $246,696 |

Principal Investigator *ESTEEM for 21st Century Skills for Problem-based Learning*

Source of Support: State Council for Higher Education in VA

Total Award Amount: $175,000 Total Award Period: 07/01/2013 – 09/30/2014

Location of Project: George Mason University1 Academic course release & 1 Summer

This grant will be used to fund a 2013-2043 NCLB project with four districts in Virginia focused on Problem-based STEM topics in mathematics that encourage 21st century skills: 4Cs Critical thinking, Creativity, Communication and Collaboration.

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| Co-Principal investigator (*jointly with Dr. Seshaiyer* COS) *VA STEM CoNNECT* |
| US Department of Education, March 1, 2013 through September 30, 2014 $39,852 |
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Principal investigator (*jointly with Dr. Seshaiyer*- COS)

*Designing Assessment in the Middle Grades: Geometry and Algebraic Thinking*

Virginia Department of Education: Mathematics Science Partnership,

Source of Support: VA Department of Education Prime Source: US DoEducation

Total Award Amount: $222,040 Total Award Period: 04/01/2012 – 09/30/2013

Location of Project: George Mason University

##### REFEREED PUBLICATIONS

**Book**

Suh, J.M. & Seshaiyer, P. (In press). *Modeling Mathematical Ideas across the Learning Progressions.* Rowan Publishing.

**Peer-Reviewed Publications**

**Math tech chapter (in press)**

Brown, B. L, **Suh, J.M.,** Parsons, S. A., Parker, A. K., & Ramirez, E.M. (In Press). Documenting teacher candidates’ professional growth through performance assessment *Teaching Education*.

**Suh, J.M**., Weiss, A., King, L. & Fulginiti, K. (In Press). Implementing instructional rounds and Lesson Study to support the development of teacher candidates’ Mathematics Knowledge for Teaching. In R. Flessner & D. Lecklider (Eds.). *Case Studies of Clinical Preparation in Teacher Education.*

**Suh, J.M**., King, L.A., & Weiss, A. (2014). Co-Development of professional practice at a professional development school through Instructional Rounds and Lesson Study. In D. Polly, Heafner, T., Chapman, M. & Spooner, M., (Ed.), *Professional Development Schools and Transformative Partnerships.* 177-189.

Samaras, A. P., Karczmarczyk, D, Smith, L, Woodville, L, Harmon, L, Nasser, I., Parsons, S., Smith, T., Borne, K., Constantine, L., Roman Mendoza, E., **Suh, J.M.,** & Swanson, R. (2014). The shark in the vitrine: Experiencing our practice from the inside out with transdisciplinary lenses. Journal of Transformative Education, 12(4), 368-388.

**Suh, J. M**. & Seshaiyer, P. (2014). Examining teachers’ understanding of the mathematical learning progression through vertical articulation during Lesson Study. Journal of Mathematics Teacher Education, 1-23.

**Suh, J. M**. & Seshaiyer, P. (2014). Developing strategic competence by teaching using the Common Core Mathematical Practices, *Annual Perspectives in Mathematics Education*, 77-87.

Samaras, A. P. with Karczmarczyk, D, Smith, L, Woodville, L, Harmon, L, Nasser, I., Parsons, S., Smith, T., Borne, K., Constantine, L., Roman Mendoza, E., **Suh, J.M.,** & Swanson, R., (2014). A pedagogy changer: Transdisciplinary faculty self-study. Perspectives in Education, 32 (2), 117-135.

**Suh, J.M.,** Seshaiyer, P., Moore, K., Green, M., Jewell, H., & Rice, I. (2013). Being an Environmentally Friendly Engineer. *Teaching Children Mathematics, 20*(4), 261-263.

Moyer-Packenham, P.S., Salkind, G., Bolyard, J.J., & **Suh, J.M**. (2013)Effective choices and practices: Knowledgeable and experienced teachers’ uses of manipulatives to teach mathematics, *Online Journal of Educational Research, 2*(2), 18-33.

Smith, T. M., Seshaiyer, P., Peixoto, N., **Suh, J. M.,** Bagshaw, G., & Collins, L. K. (2013). Exploring slope with stairs & steps. *Mathematics Teaching in the Middle School*, *18*(6), 370–377.

**Suh, J. M**., & Fulginiti, K. (2012). “Situating the learning” of teaching: Implementing Lesson Study at a professional development school. *School-University Partnerships*, *5*(2), 24–37.

**Suh, J. M.** & Seshaiyer, P. (2012). Modeling ten-ness using technology*. Teaching Children Mathematics, 18*(9), 574-579.

Moyer-Packenham, P.S. & **Suh, J.M**. (2012). Learning mathematics with technology: The influence of virtual manipulatives on different achievement groups**.** *Journal of Computers in Mathematics and Science Teaching, 31*(1).

Seshaiyer, P., **Suh, J.M**. & Freeman, P.W. (2011). Unlocking the locker problem through technology. *Teaching Children Mathematics, 18*(5), 322-325.

**Suh, J.M.,** Graham, S., Ferranone, T., Kopeinig, G. & Bertholet, B. (2011). Developing persistent and flexible problem solvers with a growth mindset. In D. J. Brahier, (Ed.), Motivation and Disposition: *Pathways to Learning Mathematics,* NCTM 2011 Yearbook, 169-184.

**Suh, J. M**. & Fulginiti, K.L. (2011). Using technology to understand rate of change. *Teaching Children Mathematics, 18*(1), 56-58.

**Suh, J.M.** & Fulginiti, K.L. (2010). Developing mathematical potential in underrepresented populations through problem solving, math discourse and algebraic reasoning. In B. Sriraman & K. Lee (Eds.), *The Elements of Creativity and Giftedness in Mathematics.* *Sense Publication,* 67-79.

**Suh, J. M**. & Parker, J. (2010). Developing reflective practitioners through Lesson Study with pre-service and in-service teachers. *AMTE monograph. VII. Mathematics Teaching: Putting Research into Practice at All Levels. Associations of Mathematics Teacher Educators*, 125-140.

**Suh, J.M**. (2010). Leveraging cognitive technology tools to expand opportunities for critical thinking on data analysis and probability in elementary classrooms. *Journal of Computers in Mathematics and Science Teaching 29*(3), 289-302.

**Suh, J. M.** (2010). **Tech-knowledgy for diverse learners** [Technology Focus Issue]. *Mathematics Teaching in the Middle School in Mathematics Education, 15*(8), 440-447.

**Suh, J. M.,** Johnston, C. & Doud, J. (2008). Enhancing mathematics learning in a technology rich environment. *Teaching Children Mathematics, 15*(4), 235-241.

Hjalmarson, M. & **Suh, J. M**. (2008). Developing mathematical pedagogical knowledge by evaluating instructional materials. *Inquiry into Mathematics Teacher Education. AMTE Monograph V,* 97-107.

**Suh, J. M.** & Jamieson, S. (2008). Collaborative mentoring: Establishing a mathematics teaching & learning community through Lesson Study. *NCTM’s Empowering Mentors of Mathematics*, NCTM.

**Suh, J. M.,** Johnston, C., Mills, M., & Jamieson, S. (2008). Promoting decimal number sense and representational fluency. *Mathematics Teaching in the Middle School, 14*(1), 44-50.

**Suh, J. M.** (2007). Developing “Algebra -‘rithmetic” in the elementary grades. *Teaching Children Mathematics, 14*(4), 246- 250.

**Suh, J. M**. (2007). Tying it all together: Building mathematics proficiency for all students. *Teaching Children Mathematics, 14*(3), 163-169.

Scaptura, C., **Suh, J. M**., & McHaffey, G. (2007). Masterpieces to mathematics: Using art to teach fraction, decimal, and percent equivalents. *Mathematics Teaching in the Middle School, 13*(1), 24-28.

**Suh, J. M**., & Moyer-Packenham, P. S. (2007). Developing students’ representational fluency using virtual and physical algebra balances. *Journal of Computers in Mathematics and Science Teaching.* 26 (2), 155-173.

**Suh, J. M., Moyer, P.S., & Heo, H. J. (2005). Examining technology uses in the classroom: students developing fraction sense by using virtual manipulative concept tutorials, *Journal of Interactive Online Learning, 3*(4), 1-22.**

Heo, H. J., **Suh, J. M**., & Moyer, P. S. (2004). Impacting student confidence: The effects of using virtual ma nipulatives and increasing fraction understanding*. The Journal of Educational Research in Mathematics, 14*(2), 207-219.

**Suh, J. M**., Moyer, P. S. & Sterling, D. (2003) Junior Architect: Designing your dream clubhouse using measurement and geometry, *Teaching Children Mathematics*, *10*(3), 170-179.

**Creative Endeavors in Publication- Mathematics Currlculum Textbook Series**

Bay- Williams, J., Berry, R., Caldwell, J. , Champain, Z., Charles, R., Copely, J., Crown, W., Fennel, F. S., Karp, K., Murphy, S., Schielack, J., **Suh, J. M**., & Wray, J. (2015). enVision math2.0. Pearson. NY. (alphabetically listed)

*Program Author for the* ***enVision****math****2.0****curriculum for grades K-6 math curriculum for Common Core to support print, blended, and 1:1 digital learning experiences.*

**Refereed Conference Proceedings**

Weiss, A., **Suh, J**., King, L., Hargrove, D., & Gallagher, M. (2015).Assessing the use of a validated framework for observing and reflecting on mathematical teaching and learning in a professional development school. Paper published in the American Educational Research Association Online Repository, Chicago, IL.

**Suh, J. M**. & Seshaiyer, P. (2014). Sequencing the mathematical learning progression through vertical articulation during Lesson Study. In Liljedahl, P., Nicol, C., Oesterle, S., & Allan, D. (Eds.). (2014). *Proceedings of the Joint Meeting of PME 38 and PME-NA 36.*Vancouver, Canada: PME.

**Suh, J. M**., Rawding, M., Weiss, A., King, L. & Fulginiti, K. (2014). Evaluating high leverage clinical practices at a professional development school to enhance mathematics teaching and learning*.* Paper published in the American Educational Research Association Online Repository, Philadelphia, PA.

**Suh, J. M**., & Seshaiyer, P. (2014). Mapping teachers’ understanding of the mathematical learning progression through vertical articulation during Lesson Study. Paper published in the American Educational Research Association Online Repository, Philadelphia, PA.

**Suh, J. M**., Peixoto, N., Seshaiyer, P., Lee, K.H. Suh, D., & Jung, Y. (2014, June). Using design thinking tools to promote innovation in engineering students. Paper presented at the Joint International Conference on Engineering Education & International Conference on Information Technology. ICEE/ICIT-June 2 - 6, 2014. Riga, Latvia

Peixoto, N., **Suh, J. M**., Seshaiyer, P., Lee, K.H. & Suh, D. (2014, June). An International Collaboration to Cultivate Global Innovators. Paper presented at the Joint International Conference on Engineering Education & International Conference on Information Technology. ICEE/ICIT-June 2 - 6, 2014. Riga, Latvia

**Suh, J. M**., Fulginiti, K.L., & Weiss, A. (April, 2013). Implementing instructional rounds at professional development schools to enhance mathematics teaching practices. Paper published in the American Educational Research Association Online Repository, Vancouver, BC.

Samaras, A. P., Smith, L., Harmon, L., Nasser, I., Smith, T., Borne, K., Parsons, S., Woodville, L., Constantine, L., Roman-Mendoza, E., **Suh, J**., Swanson, R., & Karczmarczyk, D. (2012). Reforming in the first person plural: Explorations of a faculty self-study collaborative. In J.R. Young, L.B., Erickson & S. Pinnegar (Eds.). Extending inquiry communities: Illuminating teacher education through self-study. Proceedings of the Ninth International Conference on the Self-Study of Teacher Education Practices, East Sussex, England (pp. 251-255). Provo, UT: Brigham Young University

**Suh, J.M**., Seshaiyer, P., Leong, K., Freeman, P., Corcoran, M., Meints, K., & Wills, T. (November, 2012). Fostering strategic competence for teachers through modeling rational numbers problem tasks. In Van Zoest, L. R., Lo, J.H., & Kratky, J.L.(Eds.). *Proceedings of the 34th Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education.* (pp. 474-481). Kalamazoo, MI.

Johnson, P. E., & **Suh, J.M**. (November, 2012). Learning to lead mathematically productive discussions. In Van Zoest, L. R., Lo, J.H., & Kratky, J.L.(Eds.). *Proceedings of the 34th Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education.* (pp. 717-720). Kalamazoo, MI.

Leong, K., **Suh, J**. M., Freeman, P., Seshaiyer, P. (November, 2012). Mathematics specialists “Noticing”: Identifying the role of “Noticing” in the development of strategic competence. In Wiest, L. R., & Lamberg, T. (Eds.). *Proceedings of the 34th Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education.*

**Suh, J.M.** & Seshaiyer, P. (2012).Sustaining mathematics professional development partnerships: A self-study to examine the roles of school university partners**.** Paper presented at the annual meeting of the American Educational Research Association. Retrieved July 1, 2012, from the AERA Online Paper Repository.

**Suh, J.M.** & Fulginiti, K. (2012). Multi-tiered professional learning through Lesson Study at the PDS Sites. Paper presented at the annual meeting of the American Educational Research Association. Retrieved July 1, 2012, from the AERA Online Paper Repository.

**Suh, J.M**., Seshaiyer, P., & Freeman, P. & Jamieson, T.S. (2011). Developing teachers' representational fluency and algebraic connections. In Wiest, L. R., & Lamberg, T. (Eds.). *Proceedings of the 33rd Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education.* 738-746.

**Suh, J.M**. & Fulginiti, K. (2011). Using Lesson Study at a professional development school to develop reflective practitioners. Paper presented at the annual meeting of the American Educational Research Association. Retrieved July 1, 2011, from the AERA Online Paper Repository.

**Suh, J. M**., & Fulginiti, K. (2009). Building collective knowledge using pedagogical content tools and problem solving. *Proceedings of the International Group for the Psychology of Mathematics Education,* 5:177-184. ISBN# 972-960-243-652-3.

**Suh, J. M.** & Moyer, P. S. (2008). Scaffolding special needs students’ learning of fraction equivalence using virtual manipulatives. *Proceedings of the International Group for the Psychology of Mathematics Education* (pp. 4-297-304). ISSN# 0771-100X.

**Suh, J. M**. & Moyer, P. S. (2007). The Application of dual coding theory in multi-representational virtual mathematics environments. *Proceedings of the International Group for the Psychology of Mathematics Education.* Vol 4, pp. 209-216. Seoul: PME.

**Invited Book chapters**

Suh, J.M. (in press). Virtual manipulatives

**Suh, J. M.** (2010). Using the unique features of virtual manipulatives to design lessons. In P.S. Moyer-Packenham (Ed.), Teaching mathematics with virtual manipulatives, 20-27. Rowley, VA: Didax.

**Suh, J.M**., Moyer-Packenham, P.S. & Bolyard, J. J. (2010) Virtual manipulatives in classroom research In P.S. Moyer-Packenham (Ed.), Teaching mathematics with virtual manipulatives , 26-44. Rowley, MA: Didax.

**Technical Reports**

**Suh, J.M**. & Seshaiyer, P. (2014, September). Final Report for COMPLETE: Center for Outreach in Mathematics Professional Development and Educational Technology. Richmond, VA: Vitginia Department of Education.

**Suh, J.M**. & Seshaiyer, P. (2011, September). Final Report for IMPACT: Improving Mathematical Practices through Algebraic Connections and Technology. Richmond, VA: State Council of Higher Education.

**Suh, J.M**. & Seshaiyer, P. (2009, September). Final Report for ACT NOW: Algebraic Connections and Technology. Richmond, VA: State Council of Higher Education.

**Submitted and Under Review**

MTE (under review 2015)

**Manuscript In progress**

 TCM (Mini Golf design)

**PROFESSIONAL PRESENTATIONS AND WORKSHOPS**

### INTERNATIONAL PRESENTATIONS

Moyer-Packenham, P., & **Suh, J.M**. (2014). Work Session on Virtual Manipulatives and Emerging Technology in Mathematics Education. In Liljedahl, P., Nicol, C., Oesterle, S., & Allan, D. (Eds.). (2014). *Proceedings of the Joint Meeting of PME 38 and PME-NA 36.*Vancouver, Canada: PME.

**Suh, J. M**., Peixoto, N., Seshaiyer, P., Lee, K.H. Suh, D., & Jung, Y. (2014, June). Using Design Thinking Tools to Promote Innovation in Engineering Students. Paper presented at the Joint International Conference on Engineering Education & International Conference on Information Technology. ICEE/ICIT-June 2 - 6, 2014. Riga, Latvia

Peixoto, N., **Suh, J. M**., Seshaiyer, P., Lee, K.H. & Suh, D. (2014, June). An International Collaboration to Cultivate Global Innovators. Paper presented at the Joint International Conference on Engineering Education & International Conference on Information Technology. ICEE/ICIT-June 2 - 6, 2014. Riga, Latvia

**Suh, J.M**. & Seshaiyer, P. (2014, December). Problem Solving and Creativity in the Mathematics Classroom (Invited Keynote) at Korean National University Education, Cheongju, Korea.

**Suh, J.M**, Peixoto, N. & Seshaiyer, P. (2014, December). Design Thinking and Creative Problem Solving for STEM students. Ten-day Workshop at Pohang Institute of Science and Technology. Pohang, Korea.

**Suh, J.M**. (2012, July). *Multi-tiered Professional Development: Situating Lesson Study in a Professional Development School.* Presented at the International Congress of Mathematics Education, Seoul, Korea.

**Suh, J.M**. (2009, December). *Developing mathematical potential of underrepresented groups through problem solving and algebraic reasoning.* Presented at the Joint Meeting of the Korean Mathematical Society and the American Mathematical Society in Ewha Womans University, Seoul, Korea.

**Suh, J.M**. (2009, July). *Building collective knowledge using pedagogical content tools and problem solving.* Paper Presented at the International Conference on Psychology of Mathematics Education (Research report), Thessaloniki, Greece*.*

**Suh, J.M**. (2008, July). *Scaffolding special needs students’ learning of fraction equivalence using virtual manipulatives*Paper presented at the International Conference on Psychology of Mathematics Education (Research report)
Morelia, Mexico.

**Suh, J.M**. (2007, July). *The application of dual coding theory in multi-representational virtual mathematics environments*. Paper presented at the International Conference on Psychology of Mathematics Education (Research report)Seoul, Korea.

**Suh, J.M**. (2007, July). *Building mathematical knowledge for teaching using Tech-Knowledgy.*Poster presented at the International Conference on Psychology of Mathematics Education, Seoul Korea.

**Suh, J.M**. (2006, March). *Third graders’ achievement and representation preference using virtual and physical manipulatives in adding fractions and balancing equations in algebra*. Presented at the International Consortium for Research in science and Mathematics Education, Nassau, Bahamas.

## Suh, J.M (2005, January). *Technology uses in the mathematics classroom: Understanding fractions using virtual manipulatives concept tutorials.* Presented at the Hawaii International Conference on Education, Honolulu, Hawaii.

### NATIONAL PRESENTATIONS

**Suh, J. M**., Seshaiyer, P., William, M., Gerasimova, D., King, L.A., Matson, K., & Petillo, A. (November, 2015). Implementing the core teaching practices to make mathematical thinking visible using student-generated models. *PME-NA 37.*East Lansing, MI: PME.

Weiss, A., **Suh, J.,** King, L., Hargrove, D., & Gallagher, M. (2015, April).Assessing the use of a validated framework for observing and reflecting on mathematical teaching and learning in a professional development school. Presented at the annual meeting of the American Educational Research Association Conference, Chicago, IL.

King, L.A. & **Suh, J.M**. (2015, March). A school-based professional learning model for teacher candidates to enrich mathematical practices with diverse learners. National Association for Professional Development Schools. Atlanta, GA.

**Suh, J. M**. & Seshaiyer, P. (2014, October). Sequencing the mathematical learning progression through vertical articulation during Lesson Study. Presented at the Joint Meeting of PME 38 and PME-NA 36.Vancouver, Canada: PME.

Parker, A. K., Parsons, S. A, Groth, L. A., Sell, C., & **Suh, J.** (2015, January). Teacher educators’ discussions and reflections on teacher candidates’ video recorded lessons: Our experiences with video coding technology*.* Presentation at the annual meeting of the Association of Teacher Educators, Phoenix, AZ.

**Suh, J. M**., Rawding, M., Weiss, A., King, L. & Fulginiti, K. (2014, April). Evaluating high leverage clinical practices at a professional development school to enhance mathematics teaching and learning*.* Paper presented at the annual meeting of the American Educational Research Association, Philadelphia, PA.

**Suh, J. M**., & Seshaiyer, P. (April, 2014). Mapping Teachers’ Understanding of the Mathematical Learning Progression Through Vertical Articulation During Lesson Study*.* Paper presented at the Division K Round Tables at the annual meeting of the American Educational Research Association, Philadelphia, PA.

**Suh, J. M**., Fulginiti, K.L., & Weiss, A. (2013, April). Implementing Instructional Rounds at Professional Development Schools to Enhance Mathematics Teaching Practices. Paper presented at the annual meeting of the American Educational Research Association. Vancouver, BC.

**Suh, J.M.**, Seshaiyer, P., Leong, K., Freeman, P., Corcoran, M., Meints, K., & Wills, T. (2012, November). *Fostering strategic competence for teachers through modeling rational numbers problem tasks.* Paper presented at the Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education.Kalamazoo, MI*.*

Johnson, P. E., & **Suh, J.M**. (2012, November). Learning to Lead Mathematically Productive Discussions. Paper presented at the Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education.Kalamazoo, MI*.*

Leong, K., **Suh, J. M.,** Freeman, P., Seshaiyer, P. (November, 2012). Mathematics Specialists “Noticing”: Identifying the Role of “Noticing” in the Development of Strategic Competence.Paper presented at the Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education.Kalamazoo, MI*.*

**Suh, J.M.** & Fulginiti, K.L. (2012, April). *Situated learning for teaching: Implementing Lesson Study at a Professional Development School to develop reflective practitioners.* Presenting at the American Educational Research Association, Vancouver, British Columbia, Canada.

Parson, S., Samaras, A. Nasser, I., Smith, T. & **Suh, J.M**. (2012, April). *Scholars of Studying Teaching Collaborative (SOSTC): A Cross-Disciplinary Initiative to Improve our Practice As University Instructors.* Presenting at the American Educational Research Association, Vancouver, British Columbia, Canada.

Parson, S., **Suh, J.M**., Schrum, L. Burrowbridge, S.C. (2012, January). *School-University Partnerships: Enhancing Teaching and Learning in Diverse Elementary Schools.* Global Summit on Childhood, Washington, D.C.

**Suh, J.M**., & Freeman, P. (2011, October). *The development of elementary and middle school teachers’ algebraic connections through vertical articulation and Lesson Study.* Presenting Research Report in the Psychology of mathematics Education Conference Proceedings, Reno, Nevada.

**Suh, J.M**. (2011, April). *Developing Reflective Practitioners through Lesson Study at Professional Development Schools*. Presented at the American Educational Research Association, New Orleans, Louisiana.

**Suh, J.M**., Seshaiyer, P. & Freeman, P. (2011, April). *Developing representational fluency through problem solving.* Presented at the National Council of Teachers of Mathematics, Indianapolis, Indiana.

**Suh, J.M**., Seshaiyer, P. & Freeman, P. (2011, January*). Sustaining professional development through Lesson Study*. Presented at the Association of Mathematics Teachers Educator, Irvine, California.

**Suh, J.M**. & Baker, C. (2011, January). *Content-focused coaching with pre-service teachers through the summer lab school.* Presented at the Association of Mathematics Teachers Educator, Irvine, California.

**Suh, J.M.** (2009, April). *Developing collective teacher efficacy in a professional development school*, Paper presented at the American Educational Research Association, San Diego, California.

**Suh, J.M**. (2009, April). *Let's talk math: Engaging all learners in meaningful mathematical discourse****.*** Presented at the Annual Conference for the National Council for Teachers of Mathematics***,*** Washington, DC.

**Suh, J.M**. (2008, October). *Preparing pre-service teachers to teach mathematics with Tech-knowledgy*. Presented at the North American Chapter of Psychology of Mathematics Education, Lake Tahoe, Nevada.

**Suh, J.M**. (2008, April). *I can solve it! Developing persistent flexible problem solvers.* Presented at the National Council for Teachers of Mathematics, Salt Lake City, Utah.

**Suh, J.M**. (2008, January)*. Teachers building mathematics knowledge side by- side through collaborative planning.* Presented at the Association of Mathematics Teacher Educators, Tulsa, Oklahoma.

**Suh, J.M**. (2007, June). *Modeling and investigating mathematics concepts using interactive math applets and virtual manipulatives in elementary grades.* Presented at the National Educational Computing Conference ISTE, Atlanta, Georgia.

**Suh, J.M**. (2007, April). *Third graders’ mathematics achievement using virtual and physical manipulatives for adding fractions and balancing equations*. Poster presented at the American Educational Research Association (Poster presentation), Chicago, Illinois.

**Suh, J.M**. (2007, January). *Modeling mathematics concepts meaningfully using technology.* Presented at the Association of Mathematics Teacher Educators, Irvine, California.

**Suh, J.M**. (2006, July). *Introduction to Lesson Study.* Presented at the National Council for Teachers of Mathematics Workshop, Reston, Virginia.

## Suh, J.M. (2006, January and February). *Implementing the algebra standard in Grades 3–5.* National Council of Teachers of Mathematics e-workshops, Reston, Virginia.

**Suh, J.M.** (2003, April). *Junior Architect: Design your clubhouse using Measurement and Geometry.* Presented at the National Council for Teachers of Mathematics, San Antonio, Texas.
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**Other Creative Products**

Video from the Association for Supervision and Curriculum Development (ASCD) and NCTM, *Meaningful Mathematics: Leading Students Toward Understanding and Application released in 2007*.

**Professional Development Resources designed and published on the World Wide Web:**

* *Designing and Creating Technology Applets for Math Problem Solving*

[*http://completecenter.gmu.edu/applet.html*](http://completecenter.gmu.edu/applet.html)

* *Developing Video Clip Library of research lessons*

[*http://completecenter.gmu.edu/middle.html*](http://completecenter.gmu.edu/middle.html)

* *Identifying and Promoting High Leverage Clinical Practices through Lesson Study & Instructional rounds*[*http://mason.gmu.edu/~jsuh4/lessonstudy/index.htm*](http://mason.gmu.edu/~jsuh4/lessonstudy/index.htm)
* Developing Mathematical Proficiency - [Math Teaching Resources](http://mason.gmu.edu/~jsuh4/teaching/strands.htm)
* Improving Mathematical Practices through Algebraic Connections
[IMPACT MATH: Algebraic Connections and Technology](http://actmath.blogsite.org:9999/)
* Math Bridges: K-8 On-line resources for technology and mathematics (2007) <http://mason.gmu.edu/~jsuh4/mathbridges/index.html>
* Junior Architechs- Illumination Lesson Plans-Developed geometry and measurement lessons for NCTM’s Illumination website. <http://illuminations.nctm.org/LessonDetail.aspx?ID=L653>
* Our Club House Curriculum development for Gifted math program
Enrichment for primary students using real life problem solving. <http://mason.gmu.edu/~jsuh4/clubhouse/index.htm>

##### AWARDS & RECOGNITIONS

**Rising Star 2015, Mason Spirit Magazine**

Featured in Summer Issue of Mason Spirit as one of the newest generation of professors who stand out in their chosen field.

**Teacher of Distinction Award, George Mason University (Spring, 2012)**

**Center for Teaching Excellence**

This award recognizes outstanding faculty for their educational contributions to enhancing student learning at the university.

**Finalists for the Teaching Excellence Award, George Mason University (Fall, 2011)**

**Center for Teaching Excellence**

This award recognizes outstanding faculty for their educational contributions to enhancing student learning at the university.

**Nominee for Rising Star Award, George Mason University (Spring, 2011)**

**Center for Teaching Excellence**

Rising Star Outstanding Faculty Award (OFA) sponsored by the State Council of Higher Education in Virginia (SCHEV). The OFA program recognizes and rewards excellence in teaching, research and scholarship and public service among Virginia Institutions.

**Programs That Work Award, Virginia Mathematics and Science Coalition** Stuart C. Siegel Center, Virginia Commonwealth University on May 11, 2010.

Virginia Mathematics and Science Coalition recognized exemplary student and teacher educational programs in the State of Virginia that have shown evidence of a positive impact on student or teacher learning.

**Graduate School of Education Ph. D. Award** Spring 2005.

College of Education and Human Development, George Mason University

## Fairfax County Public Schools Teacher of the Year & Washington Post’s Agnes Meyer Award Nominee- Nominated for 2000-2001 school year.

##### TEACHING

###### UNIVERSITY TEACHING EXPERIENCES

**Associate Professor, Mathematics Education** (Fall 2012- Present)

**Assistant Professor, Mathematics Education** (Fall 2006-Spring 2012)

College of Education & Human Development, George Mason University, Fairfax, Virginia

* Member of Mathematics Education faculty
* Member of Elementary Education faculty

Responsibilities include teaching graduate courses in Elementary Education Programs and Mathematics Education Leadership, assisting in the development and implementation of programs for students, advising students within the program, and supervising graduate students in field placements for the professional development schools. Currently, I am the dissertation chair for four doctoral students.

**Academic Program Coordinator for Mathematics Education Leadership- (2014-current)**Responsibilities include recruiting mathematics specialists candidates and designing and offering courses that align to the Mathematics Specialists Endorsement requirements. Currently, GMU’s Math Education Program is the only state approved licensing program with hybrid and online course.

**Co-Director for a joint center between the College of Science and the College of Education and Human Development-COMPLETE, George Mason University**
COMPLETE: Center for Outreach in Mathematics Professional Learning & Educational is a mathematics partnership between George Mason University (GMU) and school divisions in Northern Virginia (Alexandria, Falls Church City, Fairfax County, Loudoun County, Manassas City and Prince William County) to provide professional development for mathematics teachers in grades K-8.

**Contributing Faculty for the Mathematics Education Center, George Mason University**The Center provides research opportunities for students interested in advanced degrees in Mathematics Education, Instructional Technology, and Educational Research. The Center's research activity serves as a laboratory where advanced graduate students enrolled in GMU programs participate in the ongoing research of the faculty. Students learn first-hand how to conduct educational research by participating in study design, instrument development, data collection, data analysis, manuscript preparation, and research presentations.

**Courses taught in Masters and Doctoral Programs**

EDCI 856- Mathematics Curriculum Development and Research (Doctoral Level course)
Designed to enable mathematics education leaders to evaluate and develop mathematics curriculum materials appropriate for school mathematics.

EDCI 858-Mathematics Education Research Design and Evaluation (Doctoral Level course)

Review methods of research appropriate for mathematics education settings and develop a theoretical framework and action plan for conducting a research project.

EDCI 857-Preparation and Professional Development of Mathematics Teachers (Doctoral Level course). Examine critical components of effective professional development and design of mathematics methods courses for teachers. Students design a professional development project with evaluation measures.

EDCI 725-National and International Topics in Mathematics Education (Doctoral Level course)

Study research on mathematics teaching and learning, including current issues and trends in mathematics education leadership at the national and international levels.

EDCI 552 – Mathematics Methods for the Elementary Classroom (Pre-service teacher education). An introduction to methods for teaching all children developmentally appropriate topics in number and operations, geometry, algebra, and data analysis.  Students work with manipulatives and technologies to explore mathematics, solve problems, and learn ways to teach mathematics content to children.

EDCI 666- Research in Mathematics Education (Mathematics Specialists Leader Program)
Students survey the most current research literature in mathematics education and engage in research, study, and discussion of teaching and learning mathematics in school settings.

EDCI 645-Mathematics Learning and Assessment in K-8 (Mathematics Specialists Leader Program). Focuses on mathematics curricular standards and processes and a variety strategies for assessing student understanding in mathematics.

EDCI 646- Mathematics Education Leadership for School Change
Surveys current literature and large-scale studies in mathematics education and engages students in research, study, and discussion of factors that impact teaching and learning of mathematics in school settings.

EDCI 633 -Advanced Mathematics Methods for the Elementary Classroom

Focuses on teaching all children problem solving and higher order thinking skills based on state and national mathematics standards.

EDCI 790 - Internship in Education (Pre-service teacher education)
Graduate interns are supervised in a Professional Development School placement setting that includes observations and seminar experiences

EDCI 680-Teaching Mathematics for Diverse Populations

Mathematics specialists focus on characteristics of students with diverse learning and cultural needs and how to teach mathematics content using a variety of instructional materials, assessment tools, strategies, and techniques for teaching mathematics. Emphasis on supporting the power and complexity of students’ mathematical thinking.

MATH 613-Algebraic Connections and Technology in the Middle Grades (Mathematics Specialists Leader Program) The course provides opportunities for the growth of middle grades mathematics teachers understanding of algebra as a study of patterns, symbolic language, a tool for problem solving, a study of functions, as it relates to proportional reasoning, generalized arithmetic, and as a way of modeling physical situations.

MATH 610: Number Systems & Number Theory for K-8 Teachers

This course is designed to develop a comprehensive understanding of our number system and how its structure is related to computation and problem solving.

MATH 614: Rational Numbers and Proportional Reasoning

This class enhances middle school teacher knowledge of rational numbers, ratios and proportional reasoning.

**Other University Teaching Experience**

University Supervisor (2004-2012)
Elementary Education Program, George Mason University, Fairfax Virginia.
Supervise pre-service elementary internship at Westlawn Elementary, Fall Church, Virginia

Adjunct Professor (Fall 2004-Spring 2006)
George Mason University, Fairfax, Virginia

Adjunct Professor (2003-2004)
Marymount University Arlington, Virginia

**PUBLIC SCHOOL TEACHING EXPERIENCES (10 years)**Third - Fifth Grade Mathematics Teacher, Little River Elementary School,
Loudoun, Virginia
Gifted Education Teacher, Willow Springs Elementary School, Fairfax, Virginia
Multiage Elementary Teacher, Lemon Road Elementary School, Falls Church, Virginia
Korean Immersion Elementary Teacher, Seoul American Elementary School, Seoul, Korea

##### RESEARCH SUPERVISION

**PHD Dissertation Chair**

* Wendy Schudmak-Mathematics Educational Leadership (completed 2014)
* Molly Rawding- Mathematics Educational Leadership (completed 2013)
* Chris Johnston- Mathematics Educational Leadership (completed 2009)
* Gwenanne Salkind - Mathematics Educational Leadership (completed 2009)
* Katherine Meints, Chair (in progress)
* Theresa Wills, Chair (in progress)
* Mimi Corcoran, Chair (in progress)

**PhD Dissertation Committee**

Courtney Baker, Pam Bailey

##### PhD Portfolio member

Spencer Jamieson, Dori Hargrove, Andrea Weiss, Lesley King, Kim Leong, Danielle Steelman

Alice Petillo

**SERVICE**

**SERVICE TO COLLEGE AND UNIVERSITY**

**Committee Membership and Service Highlights**

Academic Program Director, Mathematics Education Leadership Program (Fall 2014-present)

Member, Mathematics Education Leadership Program Committee (Fall 2006-present)

Recent Highlights: 2014 Math Specialists Institute, Lead Speaker for Workshop on Working with Diverse Student Populations.

Member, Elementary Teacher Preparation Program Committee (Fall 2006-present)
 Recent Highlights: Organizing the 2013 Math Enrichment PDS Lab School
 Westlawn Elementary, Falls Church, Virginia.

Member, Tenure Track Annual Review Committee-TTARC (Fall 2014-2016)

Chair, Professional Development Committee –PDC (Fall 2013-2015)

Member, Professional Development Committee –PDC (Fall 2013-Spring 2014)

Provost- Charged Task Force on Textbook Affordability (Fall 2012-Spring2013)

Program Assessment Committee (Fall 2010-2012)

PHD Committee (Fall 2008-Spring 2011)

STEM Advisory Committee Inter-college committee (Spring 2011

Professional Development Schools University Facilitators (Fall 2006-2011)
 Westlawn Elementary School, FCPS, VA (2004-2011) and
 Colin Powell Elementary School, FCPS, VA (2009-2010),

**INTERNATIONAL AND NATIONAL LEADERSHIP AND SERVICE**

*Secretary and Treasurer for AERA’s Professional Development Schools-Special Interest Group (April 2013 –April 2016)*

As a secretary and treasurer for the PDS SIG, I am working with the leadership team at AERA to disseminate the research and opportunities for collaboration among PDS research groups across school-university partnerships

*Editorial Panel for School University Partnership (2013-Present)*

Working directly with the Journal Editor Kristien Zenkov to review high quality manuscript to push the PDS research agenda forward.

*Curriculum Writer for Envision Mathematics Curriculum Development (2013-Present)*

My contribution to the curriculum writing project is to develop meaningful Common Core State Standards (CCSS) aligned mathematics curriculum that will be used in schools.

*Editorial Panel Member for the National Council of Teachers of Mathematics Journal –Teaching Children Mathematics  (Service Period.August 2010-2013).*

*Technology Department Editor for the National Council of Teachers of Mathematics Journal –Teaching Children Mathematics  (Service Period.August 2010-2013).*

*Reviewer for Research Grants, National Science Foundation, March 2010*

Benefited from the process by learning more about grant writing, the evaluation and review process.

*Illumination Advisory Group and Braining Camp Project for the National Council of Teachers of Mathematics*

*(March, 2008-on going).*Served as a member of an advisory group for the research and development of NCTM’s Illumination Project and Braining Camp Project.

*Reviewer for the International Group for Psychology of Mathematics Education (IGPME) (2007-present)*

*Reviewed submitted conference research reports and gave feedback for acceptance/rejection.*

*Reviewer for National Council of Teachers of Mathematics journal, Teaching Children Mathematics*(2006- present).  Review submitted journal articles on a regular basis.

*Reviewer for Association of Mathematics Teacher Educator’s journal TE-MAT*(2006-present). Teacher Education Materials Project provides descriptions of professional development materials for  mathematics teachers.

*Instructor for National Council of Teachers of Mathematics Lesson Study Course*(Summer 2006 &2007)

*Content Expert Reviewer* (2007). Technology Intergration in the Content Areas. Thomson Publishing

**OUTREACH FOR SCHOOLS**

*Math4All-An Outreach Service*
Mission: Creating Opportunities for All Students to Enjoy Math by Providing Service for Schools, Parents who want more for their students. Working with Pre-K educators in Arlington County Public Schools (2014-2015)

*E=MC2: Enrichment in Mathematics, Computing and Creativity for Young Scholars*

*Math Professional Development for Preservice Elementary Teachers & Clinical Faculty in Numbers and Rational Numbers for K-8 teachers*Two week summer math camp for primary and upper elementary students identified as Young Scholars participated in a GMU sponsored summer institute/camp. July of 2011 (Westlawn ES), 2012 (Annandale ES), 2013 (Westlawn ES, Fairfax Villa), 2014 (Fairfax Villa & Providence ES)

*Math Professional Development for k-8 Teachers-Numbers & Rational Numbers*Elementary/middle school teachers from 6 districts participated in a GMU sponsored VDOE funded summer institute. July 18-22, 2011 George Mason University

*Math Professional Development for Elementary Teachers-Number and Number System for K-8*120 elementary teachers from 6 districts participated in a GMU sponsored VDOE funded summer institute. August 3-7, 2010- George Mason University

*Math Professional Development for Middle School Teachers-Rational Numbers for k-8*

90 middle school teachers from 6 districts participated in a GMU sponsored VDOE funded summer institute. August 9-13, 2010 George Mason University

*Lesson Study Professional Development for Elementary & Middle School  Teachers*90 middle school teachers from 5 districts participated in a GMU sponsored SCHEV funded school-based Lesson Study during the Spring of 2010 in Fairfax, Prince William, Norfolk, Petersburg and Hopewell.

Invited Presenter Advanced Academics Conference (August Sessions, 2010, 2011, 2012, 2013) *Enhancing critical thinking and algebraic reasoning among diverse learners*

Invited Presenter at the Fairfax County Public Schools Academic Institute
(January 2009, 2010, 2011,2012, 2013).

*Building Collective Mathematical Knowledge through Pedagogical Content Tools*

Presented instructional strategies that promoted collective mathematical knowledge in a problem-based classroom.

*Consultant for Professional Development for Lesson Study for DC Charter School.*
E.L. Haynes District of Columbia Public Schools (Spring 2008).
Provided long term professional development for teachers in establishing a Lesson Study community.

*Consultant and Instructor for Teacher Leadership Grant. Westlawn Elementary*
Falls Church, Virginia (Summers 2006, 2007 & 2008).
Collaborated (in kind) on a grant for Developing Teacher Leadership for Summer Institutes. Planned and taught professional development workshop for a three week summer institute for Westlawn Elementary School in Falls Church, Virginia

*Instructor for Westlawn Labschool MATH 411: Falls Church, Virginia*(Summer 2008).
Taught problem solving in mathematics (in context of their own community) to rising 4-6thgrade students from a Title One Elementary School.

*Lead Instructor (3-4).   MATH BRIDGES II Project:  Concepts and Connections
in the K-8 Standards.  (2003-2004).*Two week course with four follow-up classes

No Child Left Behind Grant. Professional Development Program, Virginia

Project goal: Provide professional development in the use of concrete and virtual
manipulatives for 80 K-8 teachers in the Loudoun County Public School System.

*Lead Instructor (3-4).   MATH BRIDGES Project:  Concepts and Connections
in the K-8 Standards.  (2002-2003).* Two week course with four follow-up classes

Dwight D. Eisenhower Professional Development Program, Virginia ($65,347).  Project goal: Provide professional development in the use of concrete and virtual
manipulatives for 60 K-8 teachers in the Loudoun County Public School System.

**MEMBERSHIP IN PROFESSIONAL SOCIETIES**

American Educational Research Association
Association for the Psychology of Mathematics Education, North American Chapter and International member
National Council for Teachers of Mathematics
Association for Supervision and Curriculum Development
Association for Mathematics Teacher Educators