

# MI SUN PARK

## I. CONTACT INFORMATION

Name: Mi Sun Park

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## II. EDUCATION HISTORY

Degree	Year	Institution
Ph.D.	2013	University of Minnesota, Twin cities Major: Education, Curriculum and Instruction Track: Mathematics Education Minor: Educational Psychology Track: Statistics Education <i>Dissertation: Professional Development and Teacher Change: Teachers' Practices and Beliefs About Using Multiple Representations in Teaching Mathematics</i>
M.S.	1999	Yonsei University, South Korea Major: Mathematics Specialization: Differential Geometry
B.S.	1997	Soonchunhyang University, South Korea Major: Mathematics Minor: Mathematics Education

## III. CERTIFICATION

Texas Educator Certificate – Mathematics: Grades (7-12)

Texas Educator Certificate – Mathematics: Grades (4-8)

Teacher's Certificate for Secondary School in Mathematics in Korea

## IV. TEACHING EXPERIENCE

Position and Date	Location and Description
Adjunct Faculty (Aug 2022 ~ Present)	Trinity University Department of Mathematics
Adjunct Faculty (Aug 2016 ~ Present)	Department of Curriculum and Instruction, and Department of Mathematical, Physical, and Engineering Science Texas A&M University – San Antonio
Adjunct Faculty (Aug 2015 ~ Aug 2023)	Department of Mathematics and Statistics, University of the Incarnate Word-San Antonio

Adjunct Faculty (Aug 2021 ~ Dec 2021)	Department of Curriculum and Instruction, Texas A&M University – Central Texas
Volunteer instructor (Sep 2012 ~ Dec 2012)	Mathematics Education Department of Curriculum and Instruction, University of Minnesota
Instructor (Sep 2009 ~ Aug 2010)	STEM Education Center Department of Curriculum and Instruction, University of Minnesota  STEM education curriculum and implementation, “Reach For The Sky” (RFTS) afterschool program for Native American students
Graduate Teaching Assistant (Feb 2008 ~ May 2008)	Department of Postsecondary Teaching and Learning, University of Minnesota, Twin cities  Providing tutoring service to undergraduate students in intermediate algebra up to pre-calculus and statistic classes
Mathematics Teacher (Oct 2000 ~ Feb 2005)	Daeyon Academy, South Korea  Teaching K-12 mathematics
Graduate Teaching Assistant (Sep 1998 ~ Dec 1998)	Department of Mathematics, Yonsei University, South Korea
Graduate Teaching Assistant (Mar 1998 ~ June 1998)	Department of Mathematics, Yonsei University, South Korea

## V. COURSES TAUGHT

	Title	Institution
MATH 1305	Math for Business & Economics	Department of Mathematics Trinity University
MATH 2312	Calculus I	Department of Mathematics and Statistics, University of the Incarnate Word – San Antonio
MATH 1311	Precalculus	Department of Mathematics and Statistics, University of the Incarnate Word – San Antonio
MATH 1304	College Algebra	Department of Mathematics and Statistics, University of the Incarnate Word – San Antonio
MATH 0318	Intro to Geometry/Probability and Statistics	Department of Mathematics and Statistics, University of the Incarnate Word – San Antonio
EDCI 4357	Math Methods in Middle and Secondary Levels	Department of Curriculum and Instruction, Texas A&M University – San Antonio

EDCI 4347	Math Methods for EC & Elementary Teachers	Department of Curriculum and Instruction, Texas A&M University – San Antonio
	TExES Review Sessions: EC-6 Generalist (Math) & 4-8 Math	Department of Curriculum and Instruction, Texas A&M University – San Antonio
MATH 1314	College Algebra with MATH 1014 College Algebra Recitation	Department of Mathematical, Physical, and Engineering Science, Texas A&M University – San Antonio
MATH 1351	Fundamentals of Mathematics II	Department of Mathematical, Physical, and Engineering Science Texas A&M University – San Antonio
MATH 2313	Calculus I with MATH 2113 Calculus I Lab	Department of Mathematical, Physical, and Engineering Science, Texas A&M University – San Antonio
EDUC 5322	Teaching Math and Science	Department of Curriculum and Instruction, Texas A&M University – Central Texas
MAT 3103	Introduction to Differential Geometry	Department of Mathematics, Yonsei University, South Korea
MAT 1001	Calculus and Vector Analysis	Department of Mathematics, Yonsei University, South Korea
MTHE 3102	Mathematics and Pedagogy for Elementary Teachers II	Department of Curriculum and Instruction, University of Minnesota, Twin cities

## VI. RESEARCH EXPERIENCE

Position and Date	Location and Description
Post-doctoral Research Associate (Aug 2013~July 2014)	STEM Education Center Department of Curriculum and Instruction, University of Minnesota
Research Assistant (Aug 2009 ~ June 2013)	STEM Education Center Department of Curriculum and Instruction, University of Minnesota
	Evaluation of math and science modules – The Region 11 Mathematics and Science Teacher Partnership (MSTP) for Science, Technology, Engineering and Mathematics (STEM) and 3-5/6-8 Algebra professional development program focused on K-12 math and science teachers, funded by the Minnesota Department of Education

<p>Research Assistant (June 2012~June 2013)</p>	<p>STEM Education Center Department of Curriculum and Instruction, University of Minnesota</p> <p>Evaluation of mathematics and science professional development modules for grade 3-8 – The Region 7 Mathematics and Science Teacher Partnership (MSTP) project funded by the Minnesota Department of Education</p>
<p>Research Assistant (May 2009 ~ Aug 2012)</p>	<p>STEM Education Center Department of Curriculum and Instruction, University of Minnesota</p> <p>NSF-funded “Model Eliciting, Developing, and Integration Activities (MEDIA) Project for Improving Engineering Students’ Learning Strategies Through Models and Modeling”</p>
<p>Research Assistant (Jan 2011~ Jan 2012)</p>	<p>Department of Educational Psychology, University of Minnesota</p> <p>Item Development for K-5: The Computer Based Assessment System for Mathematics (CBAS-M) research project</p>
<p>Research Assistant (Aug 2009 ~ Aug 2010)</p>	<p>STEM Education Center Department of Curriculum and Instruction, University of Minnesota</p> <p>NSF-funded “Reach For The Sky” (RFTS) – STEM education curriculum and implementation program for Native American students</p>
<p>Research Assistant (Aug 2008 ~ May 2009)</p>	<p>Department of Curriculum and Instruction, University of Minnesota</p> <p>NSF-funded Minnesota Mathematics Achievement Project (MNM MAP)</p>
<p>Education Consultant (Jun 2008 ~ Aug 2008)</p>	<p>Seward, Inc., Minneapolis, MN</p> <p>Building Model Eliciting Activities (MEAs) in the Middle Grades Project for Supporting Teachers and Enhancing Student Learning through Technology</p>

## VII. JOURNAL ARTICLES

Kim, Y. R., & **Park, M. S.** (2024). Preservice elementary teachers’ reflections on mathematical modeling and connections to the state standards for mathematics. *Journal of Mathematics Teacher Education in Texas*, 13(3), 7-10.

- Kim, Y. R., Kwon, E. H., & **Park, M. S.** (2023). Effects of a math-integrated afterschool physical activity program: A case study. *International Journal of Arts, Humanities & Social Science (IJAHSS)*, 4(12), 23-31.
- Kim, Y. R., **Park, M. S.**, & Tjoe, H. (2021). Discovering concepts of geometry through robotics coding activities. *International Journal of Education in Mathematics, Science, and Technology (IJEMST)*, 9(3), 406-425.
- Kim, Y. R., & **Park, M. S.** (2020). Mathematical modeling in teacher education: A case study of preservice teachers' experiences. *Journal of Mathematics Teacher Education in Texas*, 10(2), 8-10.
- Park, M. S.**, Kim, Y. R., & Kwon, E. H. (2019). Geo-Baloo: Teaching geometry through physical activities. *Early Years*, 40(3), 28-30.
- Park, M. S.**, Kim, Y. R., Moore, T. J., & Wyberg, T. (2018). Professional development framework for secondary mathematics teachers. *International Journal of Learning, Teaching and Educational Research*, 17(10), 127-151.
- Kim, Y. R., & **Park, M. S.** (2018). Creating a virtual world for mathematics. *Journal of Education and Training Studies*, 6(12), 172-183.
- Kim, Y. R., & **Park, M. S.** (2018). The persistent difficulty of early fraction ideas in early secondary school mathematics. *Journal of Education and Practice*, 9(29), 32-42.
- Kim, Y. R., & **Park, M. S.** (2018). Effective teaching for place value understanding: A case study of a literacy-integrated math curriculum module. *Early Years*, 39(1), 19-23.
- Moore, T. J., Guzey, S. S., Roehrig, G. H., Stohlmann, M., **Park, M. S.**, Kim, Y. R., Callender, H. L., & Teo, H. J. (2015). Changes in faculty members' instructional beliefs while implementing model-eliciting activities. *Journal of Engineering Education*, 104(3), 279-302.
- Kim, Y. R., **Park, M. S.**, Moore, T. J., & Varma, S. (2013). Multiple levels of metacognition and their elicitation through complex problem-solving tasks. *Journal of Mathematical Behavior*, 32(3), 377-396.
- Roehrig, G. H., Moore, T. J., Wang, H. H., & **Park, M. S.** (2012). Is adding the E enough?: Investigating the impact of K-12 engineering standards on the implementation of STEM integration. *School Science and Mathematics Journal*, 112(1), 31-44.
- Park, M. S.**, Nam, Y., Moore, T. J., & Roehrig, G. H. (2011). The impact of integrating engineering into science learning on student's conceptual understanding of heat transfer. *Journal of the Korean Society of Earth Science Education*, 4(2), 89-101.
- Wang, H. H., Moore, T. J., Roehrig, G. H., **Park, M. S.** (2011). STEM integration: The impact of professional development on teacher perception and practice. *Journal of Research in Pre-College Engineering Education*. 1(2), 1-13.

***SUBMITTED FOR PUBLICATION (UNDER REVIEW)***

- Kim, Y. R., **Park, M. S.**, & Joung, E. (in review). Exploring AI Integration in Math Education: Preservice Teachers' Experiences and Reflections on Problem-Posing Activities with ChatGPT. *School Science and Mathematics*.

## VIII. BOOKS

- Park, M. S.**, & Kim, Y. R. (2014). *How Many Invitations Do I Need?* Charleston, SC: CreateSpace. ISBN: 9781497322820.
- Park, M. S.**, & Kim, Y. R. (2014). *Who Lost a Necklace?* Charleston, SC: CreateSpace. ISBN: 9781494883874.
- Kim, Y. R., & **Park, M. S.** (2013). *Ten Jellies in a Long Box and One Hundred Jellies in a Flat Box.* Charleston, SC: CreateSpace. ISBN: 9781494251055.
- Park, M. S.**, & Kim, Y. R. (2013). *Who am I? Half of Someone or Myself?* Charleston, SC: CreateSpace. ISBN: 9781492972464.

## IX. SCIENTIFIC PAPERS PUBLISHED IN CONFERENCE PROCEEDINGS

(\*denotes work with students)

- Kim, Y. R., **Park, M. S.**, Fields, A.\*, & Gonzalez, A.\* (2018, November). *Developing proportional reasoning through coding and robotics.* Proceedings of the 11th annual International Conference of Education, Research and Innovation (ICERI) Conference, Seville, Spain, November 12-14, 2018.
- Kim, Y. R., & **Park, M. S.** (2018, March). *Preservice teachers' experiences of group work.* Proceedings of the 12th annual International Technology, Education and Development (INTED) Conference, Valencia, Spain, March 5-7, 2018.
- Kim, Y. R., & **Park, M. S.** (2017, July). *Preservice teachers' perspectives on modeling activities.* Accepted to present at the 9th annual International Conference on Education and New Learning Technologies (EDULEARN), Barcelona, Spain, July 3-5, 2017.
- Kim, Y. R., & **Park, M. S.** (2017, July). *Using manipulatives to teach middle grades math.* Accepted to present at the 9th annual International Conference on Education and New Learning Technologies (EDULEARN), Barcelona, Spain, July 3-5, 2017.
- Nam, Y., **Park, M. S.**, Kim, Y. R., Roehrig, G. H., & Moore, T. J. (2012, October). *A Problem-Based Culturally Relevant STEM Curriculum.* Accepted for presentation at the Asia Regional Conference of International History, Philosophy, and Science Teaching Group, Seoul, South Korea.
- Park, M. S.**, Kim, Y. R., Moore, T. J., & Roehrig, G. H. (2012, July). *Teachers' knowledge and math teaching in a reform curriculum.* Proceedings of the 12<sup>th</sup> International Congress on Mathematical Education (ICME-12), Seoul, Korea, July 8–15, 2012.
- Kim, Y. R., Breit-Goodwin, M., **Park, M. S.**, Moore, T. J., & Roehrig, G. H. (2012, July). *A continuing challenge: Developing initial fraction ideas.* Proceedings of the 12<sup>th</sup> International Congress on Mathematical Education (ICME-12), Seoul, Korea, July 8–15, 2012.
- Stolmann, M., Moore, T. J., Kim, Y. R., **Park, M. S.**, & Roehring, G. H. (2011). *The development of an instructional and assessment tool from student work on a Model-Eliciting Activity.* Proceedings of the 2011 American Society for Engineering Education (ASEE) National Conference, Vancouver, BC, 13 pages.

Wang, H., Moore, T. J., Roegrig, G., & **Park, M. S.** (2011). *The impact of professional development on teachers' integration engineering into science and mathematics classroom.* Proceedings of the 2011 American Society for Engineering Education (ASEE) National Conference, Vancouver, BC, 16 pages.

## **X. PRESENTATION IN CONFERENCE (\*denotes work with students)**

- Kim, Y. R., & **Park, M. S.** (2021, April). *Mathematical modeling activities: Using student thinking as a base for instruction.* The 5th Coastal Bend Mathematics and Statistics Virtual Conference, April 10, 2021.
- Kim, Y. R., **Park, M. S.**, & Tjoe, H. (2020, February). *Preservice Teachers' Experiences with Mathematical Modeling Activities.* Accepted to present at the 24th Annual Conference of the Association of Mathematics Teacher Educators (AMTE), Phoenix, AZ, February 6-8, 2020.
- Kim, Y. R., **Park, M. S.**, & Tjoe, H. (2019, November). *Mathematical modeling and multiple solution strategies: The case of Sphero SPRK+.* The 2019 School Science and Mathematics Association (SSMA) Convention, Salt Lake City, UT, November 7-9, 2019.
- Kim, Y. R., & **Park, M. S.** (2019, February). *Preservice Teachers' Experiences with Math Activities using Coding and Robotics.* The 23rd Annual Association of Mathematics Teacher Educators (AMTE) Conference, Orlando, FL, February 7-9, 2019.
- Kim, Y. R., & **Park, M. S.** (2017, April). *Teaching and learning mathematics through modeling activities.* International Conference on Education and Social Development (ICESD), Houston, TX, April 7-8, 2017.
- Kim, Y. R., **Park, M. S.**, & Moore, T. J. (2013, April). *Mathematical reasoning and proof: Letting students write their own story.* NCTM Annual Meeting & Exposition, Denver, CO, April 17-20, 2013.
- Park, M. S.**, Pratt, K., Schirvar, W., & Christ, T. (2011, October). *CBAS-Math: Developing computer-based math assessment items based on Common Core State Standards for K-5.* Minnesota Council of Teachers of Mathematics Fall Conference, Maple Grove, MN, October 21, 2011.
- Wang, H. H., **Park, M. S.**, Guzey, S., Stevenson, C., Moore, T. J., Roehrig, G. H., & Wyberg, T. (2011, August). *Criteria and assessment: What is the best practice of STEM professional development for K-12 in-service teachers?* Colloquium on P-12 STEM Education Research, A forum for professionals researching & teaching P-12 STEM Education, St. Paul, MN. August 15-16, 2011.
- Stohlmann, M., Guzey, S., Kim, Y. R., **Park, M. S.**, Moore, T. J. (2011, August). *Implementing STEM integration through Model-Eliciting Activities.* Colloquium on P-12 STEM Education Research, A forum for professionals researching & teaching P-12 STEM Education, St. Paul, MN. August 15-16, 2011.
- Pratt, K., **Park, M. S.**, Schirvar, W., Clarkson L. C., & Christ, T. (2011, August). *CBAS-Math: Computer-based mathematics assessment to enhance effective learning environments.* Colloquium on P-12 STEM Education Research, A forum for professionals researching & teaching P-12 STEM Education, St. Paul, MN. August 15-16, 2011.

- Nam, Y., **Park, M. S.**, Kim, Y. R., Roehrig, G. H., & Moore, T. J. (2011, March) *Shelter design: Problem solving lesson using a culturally relevant STEM topic*. National Association for Research in Science Teaching (NARST) Annual International Conference, Orlando, FL.
- Moore, T. J., Roehrig, G. H., Wang, H. H., & **Park, M. S.** (2011, March). *Not your typical "Chair-ity" case: STEM integration as a means for engineering design*. National Association for Research in Science Teaching (NARST) Annual International Conference, Orlando, FL.
- Wang, H. H., Moore, T. J., Roehrig, G. H., & **Park, M. S.** (2011, January). *Engineering in Science Education: The impact of professional development program on different subject areas of science teachers in adding engineering concepts in their teaching*. Association for Science Teacher Education (ASTE), Minneapolis, MN.
- Wang, H. H., Moore, T. J., Roehrig, G. H., & **Park, M. S.** (2010). *STEM integration: The impact of professional development on teacher perception and practice*. Paper presented at the conference of the P-12 Engineering and Design Education Research Summit, Seaside, OR.
- Moore, T. J., **Park, M. S.**, & Kim, Y. R. (2010, May). *Blur the lines: STEM contexts for meaningful mathematics*. Minnesota Council of Teachers of Mathematics Spring Conference, Duluth, MN, April 30 – May 1, 2010.

## **XI. GRANTS**

- Kim, Y. R., & **Park, M. S.** (2019). Hola STEM middle school girls project. *HOLT CAT*. Funding awarded: \$25,000.