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EDUCATION

- 2011 Ph.D. Michigan State University, Curriculum, Instruction and Educational Policy program, specialized in Teacher Education and Science Education
Dissertation: “Understanding How Secondary Science Teacher Candidates Learn to Teach: Analyzing the Role of Knowledge, Practice, and Professional Identity”
- 2003 M.A. Seoul National University, Republic of Korea, Science Education
- 1998 B.A. Seoul National University, Republic of Korea, Biology Education

EMPLOYMENT

- 2022-present Faculty Director of Teacher Education, School of Education, University of California Irvine
- 2019-present Associate Professor, School of Education, University of California Irvine
- 2019-2021 Faculty Director, UCI California Science Project (UCISP), University of California Irvine
- 2019 Spring Director, Educational Center for Teacher Development and Professional Practice, School of Education, University of California Irvine
- 2018-2020 Faculty Director, Teacher Education, School of Education, University of California Irvine
- 2017-2018 Director, Educational Center for Teacher Development and Professional Practice, School of Education, University of California Irvine
- 2013-2019 Assistant Professor, School of Education, University of California Irvine
- 2011-2013 Postdoctoral Research Associate, College of Education, University of Washington
- 2006-2011 Research and Teaching Assistant, Department of Teacher Education, College of Education, Michigan State University
- 2003-2006 High School Biology and Chemistry Teacher, Seong-nam Womens High School, Republic of Korea
- 1998-2003 Middle School General Science and Biology Teacher, Geum-gok Middle School, Republic of Korea

AWARDS & HONORS

- 2022 Outstanding Reviewer Award for American Educational Research Journal
- 2020 Paper Selected as Top Downloaded Paper 2018-2019, Science Education
- 2019 NSF CAREER Award (\$1,510,375)

- 2019 Early Career Research Award, National Association of Research in Science Teaching (NARST)
- 2018 A finalist, 2019-20 the William T. Grant Scholars Program
- 2017 Distinguished Assistant Professor Award for Teaching, University of California Irvine Academic Senate (\$3,000)
- 2017 University of California Hellman Fellow (\$50,000)
- 2017 Paper Selected as NSTA's 2017 Research Worth Reading, NARST Publication Advisory Committee
- 2012 AERA Division K Outstanding Dissertation Award
- 2012 NARST Outstanding Dissertation Award: 1st Runner up
- 2010 Dissertation Completion Fellowship (\$6,000), Michigan State University
- 2010 The Anderson-Schwille Fellowship in International Education (\$2,850), Michigan State University
- 2010 Teacher Education Endowed Fellowship (\$5,000), Michigan State University
- 2009 Research Enhancement Fellowship (\$2,852), Michigan State University
- 2008 Selected participant, Sandra K. Graduate Summer Institute
- 2003 Honorary Award, Graduated first on the list of the National Teaching Certificate Program in Secondary Science Education
- 2002 Fellowship for Summer Study Abroad Program, Seoul National University
- 1998 The first place in the secondary science teacher selection examination, Gyeonggi, S. Korea
- 1994-1997 Recipient, Scholarship, the Department of Biology Education, Seoul National University
- 1994 Honorary Award, Graduated first on the list, Soong-sin Woman's High School

PUBLICATIONS

PEER-REVIEWED JOURNAL ARTICLES

* indicates graduate student ** indicates collaborating teachers

J23 Kang, H., Talafian, H.* & Tschida, P.** (In press). Expanding opportunities to learn in secondary science classroom using multiple forms of classroom assessments. Submitted to *Journal of Research in Science Teaching*.

J22 Kang, H. & González-Howard, M. (2022). Beginning school-university partnerships for transformative social change in science education: narratives from the field. *Science Education*.

J21 Tsai, N.** , Kang, H., Chang, J.** & Cassese, K.** (2022). Adapting existing curriculum for equitable learning experiences. *Science Scoop*, 45(5), 44-51.

- J20** Kang, H. (2022). Teacher responsiveness that promotes equity in secondary science classrooms. *Cognition and Instruction, 40*(2).
- J19** Kang, H. & Furtak, E. (2021). Learning theory, classroom assessment and equity. *Educational Measurement: Issues and Practice, 40*(3), 73-82.
- J18** Kang, H. (2021). The role of mentor teacher-mediated experiences for preservice teachers. *Journal of Teacher Education, 72*(2), 251-263.
- J17** Kimball, S., Long, J.J., Ludovise, S., Ta, P., Schmidt, K., Halsch, C., Magliano, K., Kang, H., Santagata R. & Huxman, T. (2019). Impacts of Competition and Herbivory on Native Plants in a Community-Engaged, Adaptively Managed Restoration Experiment. *Conservation Science and Practice, 1*(12), e122.
- J16** Kang, H. & Zinger, D.* (2019). What do core practices offer in preparing novice teachers for equity? *Science Education, 103*(4), 823-853.
- J15** Kang, H., Calabrese-Barton, A., Tan, E., Simpkins, S., Rhee, H. & Chandler, T. (2019). How do middle school students become STEM-minded persons? Middle school students' participation in science activities and identification with STEM careers. *Science Education, 103*(2), 418-439.
- J14** Kang, H. & van Es, E. (2018) Articulating design principles for productive use of videos to facilitate professional learning toward ambitious teaching. *Journal of Teacher Education, 70*(3), 237-250.
- J13** Kang, H. & Windschitl, M. (2018). How does practice-based teacher preparation influence novices' first year instruction? *Teachers College Record, 120*, 080307.
- J12** Kang, H. (2017). Preservice teachers' learning to plan intellectually challenging tasks. *Journal of Teacher Education, 68*(1), 55-68.
- J11** Kang, H., Windschitl, M., Stroupe, D. & Thompson, J. (2016). Designing learning opportunities for students that advance scientific thinking. *Journal of Research in Science Teaching, 59*(9), 1316-1340.
- J10** Thompson, J., Hagenah, S., Kang, H., Colley, C., Windschitl, M., Stroupe, D., & Braaten, M. (2016). Rigor and responsiveness in classroom activity. *Teachers College Record, 118* (7).
- J9** Kang, H. & Anderson, C. (2015). Supporting preservice science teachers' ability to attend and respond to student thinking by design. *Science Education, 99* (5), 863-895.
- J8** Kang, H., Thompson, J., & Windschitl, M. (2014). Creating opportunities for students to show what they know: The roles of scaffolding in assessment tasks. *Science Education, 98*(4), p. 674-704.
- J7** Tan, E., Calabrese-Barton, A., Kang, H., & O'Neil, T. (2013). Desiring a career in STEM-related fields: How middle school girls articulate and negotiate between their narrated and embodied identities in considering a STEM trajectory. *Journal of Research in Science Teaching, 50*(10), p.1143-1179.
- J6** Calabrese Barton, A., Kang, H., Tan, E., O'Neil, T., Guerra, J.B., & Brecklin, C. (2013). Crafting a future in science. *American Educational Research Journal, 50*(1), 37-75.
- J5** Kang, H., Lundeberg, M. A., Wolter, B., DelMas, R., Armstrong, N., Borsari, B., et al. (2011). Gender differences in student performance in large lecture classrooms using personal response systems ("clickers") with case studies. *Learning, Media, and Technology, 37*(1).

- J4** Lundeberg, M. A., Kang, H., Wolter, B., DelMas, R., Armstrong, N., Borsari, B., et al. (2011). Context matters: Increasing understanding with interactive clicker case studies. *Education, Technology, Research and Development*, 59(5), 645-671.
- J3** Wolter, B., Lundeberg, M. A., Kang, H., and Herreid, C. F. (2011). Students' perceptions of using personal response systems ("clickers") with cases in science. *Journal of College Science Teaching*, March-April (14).
- J2** Kang, H., & Lundeberg, M. A. (2010). Participation in science practices while working in a multimedia case-based environment. *Journal of Research in Science Teaching*, 47(9), 1116-1136.
- J1** Kang, H. & Kim, Y. (2003). A study on improvement of student teachers' teaching skills through self-reflection. *Journal of the Korean Biological Education Society*, 31(1), 72-86.

PEER-REVIEWED CONFERENCE PROCEEDINGS

- CP2** Talafian, H.* & Kang, H. (Accepted with revision). Modeling students' performances in physics assessment tasks using epistemic network analysis. *Proceedings of 2022 International Conference on Quantitative Ethnography, Copenhagen, Denmark, October 15-19, 2022*
- CP1** Furtak, E. M., Kang, H., Pellegrino, J., Harris, C., Krajcik, J., Morrison, D., Bell, P., Lakhani, H., Suarez, E., Buell, J., Nation, J., Henson, K., Fine, C., Tschida, P., Fay, L., Bidy, Q., Penuel, W., & Wingert, K. (2020). Emergent Design Heuristics for Three-Dimensional Classroom Assessments that Promote Equity. In Gresalfi, M. and Horn, I. S. (Eds.), *The Interdisciplinarity of the Learning Sciences, 14th International Conference of the Learning Sciences (ICLS) 2020*, Volume 3 (pp. 1487-1494). Nashville, Tennessee: International Society of the Learning Sciences.

MANUSCRIPTS UNDER REVIEW

* indicates graduate student or postdoc. ** indicates collaborating teachers

Kang, H. & Lee, J.* (5th submission, R&R). Desettling the settled hierarchies: Recognizing and problematizing as mechanisms for increasing novice teachers' capacity for equitable instruction. Submitted to *Journal of Teacher Education*.

Kang, H. & Nation, J.* (First submission; under review). Transforming science teaching in schools mediated by a novel design principles framework formulated through an equity-oriented partnership. Submitted to *Journal of Science Teacher Education*.

Kang, H. & Fay, L.** (1st submission; under review). Teacher responsiveness as a core feature of justice- and equity-centered instruction. *submitted to The Science Teacher*.

Zinger, D.* & Kang, H. (in preparation). Who benefits from an alternative teacher preparation program? A mechanism of perpetuating racial inequality. *will be submitted to Urban Education in September 2021*

MANUSCRIPTS IN PREPARATION

* indicates graduate student. ** indicates collaborating teachers

Orduña Picon, R.* & Kang, H. (In preparation). Science learning as forming new relationships among past, current, and future selves, discipline, and spaces. *Will be submitted to Journal of the Learning Sciences.*

Nation, J.* & Kang, H. (In preparation). “We need to step it up--we are basically the future”: Latinx Young Women Doing Chemistry. The paper was accepted at the 2020 NARST conference (canceled due to COVID-19). *Will be submitted to Journal of the Learning Sciences in December 2021.*

Kang, H. & Orduña Picon, R.* (In preparation). Transforming science teaching for equity and justice by teachers and researchers working together. *Will be submitted to Science Education journal in December 2021.*

Kang, H., Lee, J.* & Rose, E.* (In preparation). University-Based Teacher Educators’ Understanding of and Activities for Preparing Preservice Teachers to Teach for Equity and Social Justice in K-12 educational settings. *Will submitted to Journal of Teacher Education in January 2022.*

Orduña Picon, R.,* Talafian, H.* & Kang, H. (In preparation). Science teachers’ learning to teach for equity and social justice through a year-long virtual professional learning community. *Will be submitted to Science Education in June 2021.*

Long, J.J.*, Ludovise, S., Kang, H., Kimball, S., Lee, J.,* & Santagata, R. (In preparation). The development of systems thinking through participation in community science.

Kang, H. (In preparation). Exploring pedagogies that support youth’s STEM identities development in secondary science classroom. The paper was presented at the 2019 ESERA conference.

Kang, H., Calabrese-Barton, A., & Gillispe, S. NGSS, Climate change, and the role of science educators: What does NGSS afford science educators to educate future citizens?

BOOK CHAPTERS

BC4 Conley, M., & Kang, H. (2015). What beginning teachers' narratives about video-based instruction tell us about learning to teach science and literacy. In *Video research in disciplinary literacies*, Evan Ortlieb, Lynn Shanahan, Mary McVee, Eds. London: Emerald Group Publishing.

BC3 Bautista-Guerra, J., Calabrese Barton, A., Tan, E., Kang, H., & Brecklin, C. (2012). Identity construction and science education research: *Learning, teaching, and being in multiple contexts*. Maria Varelas (Ed.). Sense Publishers; Rotterdam, The Netherlands.

BC2 Kwak, Y., Kang, H., Nam, K., Paik, J. & Bang, S. (2007). *The consultation on teaching practice*. Seoul: Wonmisa

BC1 Kwak, Y., & Kang, H. (2005). *Teacher evaluation and teaching evaluation*. Seoul: Wonmisa.

REFEREED PRESENTATIONS

- CP57** Nation, J. & Kang, H. (2022, June). “We need to step it up—we are basically the future”: Latinx young women doing chemistry. Presented at the 2022 ISLS virtual conference.
- CP56** Kang, H., Talafian, H. & Tschida, P. (2022, April). Expanding Opportunities to learn in secondary science classrooms using multiple forms of classroom assessments. Presented at the AERA conference, San Diego, CA.
- CP55** Orduña Picon, R., Talafian, H., & Kang, H. (2022, April). Changes in science teachers’ discourses and positioning about equity and justice through a professional development. Presented at the AERA conference, San Diego, CA.
- CP54** Talafian, H., & Kang, H. (2022, April). Modeling students’ performances in physics assessment tasks using epistemic network analysis. Presented at the AERA conference, San Diego, CA.
- CP53** Orduña Picon, R. Snow, L. & Kang, H. (2022, April). Expanding students’ experiences of chemistry through a co-designed curriculum and assessment. *Presented at the AERA conference, San Diego, CA.*
- CP52** Kang, H. & Orduña Picon, R. (2021, April). Transforming Science Teaching for Equity and Justice by Teachers and Researchers Working Together. *Presented at the AERA virtual conference.*
- CP51** Hill, H. Grossman, P., Remillard, J., Bristol, T., Gullén, L. Stroupe, D., Cohen, J., van Es, E., & Kang, H. (2021, April). Designing for impact: Design choices in teacher education research. *Presented at the AERA virtual conference.*
- CP50** Ta-yang Hsieh, Kang, H. & Simpkins, S.D. (2021, April). Exploring leverage points to increase Latinx high school students’ identification with STEM: differences across race/ethnicity. *Presented at the AERA virtual conference.*
- CP49** Zinger, D. & Kang, H. (2021, April). Who benefits from an alternative teacher preparation program? A mechanism of perpetuating racial inequity. *Presented at the AERA virtual conference.*
- CP48** Fortier, A., Fay, L., Zinsser, A. & Kang, H. (2020, November). Designing 3D classroom assessment that promotes equity through co-designing. *Presented at the NSTA Engage: Fall 20 virtual conference.*
- CP47** Kang, H. (2020, June). Co-designing 3D classroom assessments to improve opportunities to learn. *Presented at the ICLS conference, Nashville, TN.*
- CP46** Kang, H. & Furtak, E. M. (2020, Apr 17 - 21) Theoretical and Practical Tensions in Designing and Using 3-D Classroom Assessments That Promote Equity [Symposium]. AERA Annual Meeting San Francisco, CA <http://tinyurl.com/rzj5gdk> (Conference Canceled)

- CP45** Zinger, D. & Kang, H. (2020, Apr 17 - 21) *The Realities and Possibilities of Learning to Teach in an Early-Entry, Summer Teacher Preparation Program* [Roundtable Session]. AERA Annual Meeting San Francisco, CA <http://tinyurl.com/rvrpv72> (Conference Canceled)
- CP44** Nation, J. & Kang, H. (2020, March). Learning from minoritized youths' experiences and promoting equitable science teaching through research-practice partnership. *Presented at the NARST conference*, Portland, OR. (Conference Canceled)
- CP43** Kang, H., Calabrese Barton, A., & Tan, E. (2019, August). Exploring pedagogies that support youth's STEM identities development in secondary science classroom. *Presented at the ESERA conference*, Bologna, Italy.
- CP42** Kang, H. & Lee, J. (April 2019) Exploring a video-embedded pedagogy for preparing novice science teachers for equity. *Presented at the 2019 AERA conference*, Toronto, Canada.
- CP41** Kang, H. (April 2019) Understanding affordances and constraints of using core practices to prepare science teachers for equity. *Presented at the 2019 AERA conference*, Toronto, Canada.
- CP40** Dupaya, K. & Kang, H. (April 2019) Latinx students' experiences in inclusive science curriculum: an exploratory study on students' opportunity to learn. *Presented at the 2019 AERA conference*, Toronto, Canada.
- CP39** Ravuri, M. D., Panish, V., van Es, E., Zinger, D., Kang, H., & Lee, J. (June 2019) Understanding perspectives of mentor teachers and pre-service teachers for teacher preparation improvement. *The 2019 Hawaii University International Conferences on Science, Technology & Engineering, Arts, Mathematics and Education (STEM/STEAM & Education)*, Honolulu, Hawaii.
- CP38** Ravuri, M., D. Campos, N., Lee, J., Santagata, R., Kang, H., Long, J.J., & Ludovise, S. (July 2018) Teachers' Instructional Practices and Young Female Students' Participation in Community Science. *4th Network Gender and STEM Conference*, Portland, Oregon.
- CP37** Kang, H. & Zhu, Y. (2018, April). Where is the best field placement? *Presented at the AERA conference*, New York, NY.
- CP36** Kang, H. (2018, April). Re-defining responsive teaching that promotes equity in secondary science classrooms. *Presented at the NARST conference*, Atlanta, GA.
- CP35** Kang, H. (2018, April). Crafting trajectories as critical equity-minded educators. *Presented at the NARST conference*, Atlanta, GA.
- CP34** Long, J. J., Kang, H., Santagata, R., Ludovise, S., Stillwell, C., Kimball, S. (May 2017). Project CRYSTAL: How do we restore out State Park? *Biennial meeting of the Citizen Science Association*, Twin Cities, Minnesota.
- CP33** Long, J. J., Kimball, S., Ludovise, S., Nguyen, L., Santagata, R., Kang, H. (May 2017). Restoration and Herbivore Exclusion 5th grade citizen science: Influence of nurse plants on native shrubs. *Presented at the Biennial meeting of the Citizen Science Association*, Twin Cities, Minnesota.

- CP32** Santagata, R., Long, J., Ludovise, S., Kang, H., Kimball, S. H., Rasic, J., Nguyen, L. (May 2017). Creating Learning Ecosystems. Integrating Formal and Informal Spaces. *STEM INCLUDES conference*. Anaheim, CA.
- CP31** Kang, H. (2017, April). Does teaching core practices prepare novice teachers to help the youth from non-dominant backgrounds to learn science? In D. Stroupe & H. Kang (Eds.), *Proceedings of the Science Education at the Crossroads Conference* (pp. 18-19). San Antonio, TX. Available online at www.sciedxroads.org/proceedings2017.html.
- CP30** Santagata, R., Long, J., Ludovise, S., Kang, H., Kimball, S. H., Stillwell, C., & Liu, D. (March 2017). Citizen Science Goes to School. *Citizen Science for Conservation in Southern California Symposium*. Aquarium of the Pacific, Long Beach, CA.
- CP29** Kang, H. & Zinger, D. (2017, April). Promoting rigorous and responsive science teaching with well-prepared beginners. *Presented at the AERA conference*, San Antonio, TX.
- CP28** Zinger, D. & Kang, H. (2017, April). Restoring opportunities to learn in urban science classrooms with well-prepared beginners. *Presented at the AERA conference*, San Antonio, TX.
- CP27** Liu, D. & Kang, H. (2017, April). I can express myself with computer games! Identity resources leveraged for elementary latinás' science self-authoring. *Presented at the AERA conference*, San Antonio, TX.
- CP26** Kang, H. (2016, April). Designing opportunities for preservice science teachers to learn formative assessment. *Presented at the NARST conference*, Baltimore, MD.
- CP25** Kang, H. & van Es, B. (2015, April). Articulating design principles for productive use of videos to facilitate professional learning toward ambitious teaching. *Presented at the AERA conference*, Chicago, IL.
- CP24** Kang, H. (2015, April). Supporting preservice science teachers' ability to attend and respond to student thinking by design. *Presented at the NARST conference*, Chicago, IL.
- CP23** Kang, H., Windschitl, M., and Thompson, J. (2014, April). Linking new science teachers use of resources to student learning opportunities mediated by instructional tasks. *Presented at the AERA conference*, Philadelphia, MA.
- CP22** Kang, H., Windschitl, M., and Thompson, J. (2014, April). Instructional tasks and students' participation in scientific practices and discourses in first year science dteachers' classroom. *Presented at the NARST conference*, Pittsburgh.
- CP21** Kang, H., Thompson, J., and Windschitl, M. (2013, April). Creating Opportunities for Students to Show What They Know: The Role of Scaffolding in Formative Assessments. *Presented at the AERA conference*, San Francisco.
- CP20** Kang, H., Calabrese Barton, A., Tan, E., Bautista-Guerra, J., and Brecklin, C. (2012, April). Recognizing multiple identity trajectories in science that urban middle school girls author and its role in science learning. *Presented at the AERA conference*, Vancouver, BC, Canada.
- CP19** Kang, H., and Anderson, C. W. (2012, April). The mechanisms of secondary science teachers' learning to teach. *Presented at the NARST conference*, Indianapolis, IN.

- CP18** Kang, H., and Anderson, C. W. (2011, April). Beginning teachers' development of classroom practice and their narratives of practices toward reform-oriented instruction. *Presented at the NARST conference*, Orlando, FL.
- CP17** Kang, H., Calabrese Barton, A., Tan, E., Guerra, J.B., Brecklin, C. (2011, April). Urban girls' identity trajectories through the participation between figured worlds. *Presented at the AERA conference*, New Orleans, LA.
- CP16** Bautista-Guerra, J, Calabrese Barton, A., Tan, E., Kang, H., and Brecklin, C. (2011, April). A Coat of Many Colors: Out of school figured worlds and urban girls' engagement with science. *Presented at the AERA conference*, New Orleans, LA.
- CP15** Kang, H., Gotwals, A. G., and Anderson, C. W. (2010, March). Secondary science teacher candidates' learning of formative assessment: How do they respond to students and why? *Presented at the NARST conference*, Philadelphia
- CP14** Kang, H. (2010, March). A beginning researcher's narratives on learning how to do research through the NARST Summer Research Institute. *Presented at the NARST conference*, Philadelphia, PA
- CP13** Richmond, G., Parker, J.M., Kang, H., Sato, T., Gotwals, A.W., Lark, A., and Anderson, C. W. (2010, March). Improving science teacher preparation by studying how knowledge and identity affect teaching practices. *Presented at the NARST conference*, Philadelphia, PA.
- CP12** Kang, H., Lundeberg, M., Wolter, B., DelMas, R., Armstrong, N., Borsari, B., Boury, N., Brickman, P., Hannam, K., Heinz, C., Horvath, T., Knabb, M., Platt, T., Rice, N., Rogers, B., Sharp, J., Ribbens, E., and Herreid, C. (2009, September). Giving women a voice and making science relevant: Using personal response systems ("clickers) with case studies in large lecture classrooms. *Presented at the ESERA conference*, Istanbul, Turkey.
- CP11** Wolter, B., Lundeberg, M., Kang, H., Zhang, T., DelMas, R., Armstrong, N., Borsari, B., Boury, N., Brickman, P., Hannam, K., Heinz, C., Horvath, T., Knabb, M., Platt, T., Rice, N., Rogers, B.,

- Sharp, J., Ribbens, E., and Herreid, C. (2009, September). Students' perceptions of using personal systems ("clickers") with cases in science. *Presented at the ESERA conference*, Istanbul, Turkey.
- CP10** Kang, H. and Anderson, C. W. (2009, April). Challenges of connecting science learners with science content for secondary science teacher candidates. *Presented at the annual NARST conference*, Garden Grove, CA.
- CP9** Conley, M. W., Anderson, C. W., and Kang, H. (2009, April). What beginning teachers' narratives tell us about learning to teach science and literacy. *Presented at the annual AERA*, San Diego, CA
- CP8** Wolter, B., Kang, H., and Lundeberg, M. (2009, April). Using personal response systems ("Clickers") with case studies in large lecture classes to impact student assessment performance. *Presented at the annual AERA conference*, San Diego, CA.
- CP7** Kang, H. and Anderson, C. W. (2009, April). Secondary science teacher candidates' narratives about responding to students as science learners. *Presented at the annual AERA conference*, San Diego, CA.
- CP6** Conley, M. W., and Kang, H. (2008, December). Prospective science teachers and the invisibility of adolescents and their literacies. *Presented at the 58th annual National Reading conference*, Orlando, FD
- CP5** Kang, H., Anderson, C. W., Tuckey, S. F., Merritt, K., and Conley, M. (2008). Science teacher candidates' interpretations of problems of practice in science teaching. *Presented at the annual AERA conference*, New York, NY.
- CP4** Tuckey, S. F., Anderson, C. W., Kang, H., Merritt, K. and Conley, M. (2008). Framing future discussions and research on science literacy. *Presented at the annual conference in NARST conference*, Baltimore, MD.
- CP3** Lundeberg, M., Kang, H., Wolter, B., and Deschryver, M. (2007, October). Growth in student understanding using interactive technology (clickers) with case studies in large lecture classes. *Presented at the annual conference in case study teaching in science at Buffalo*, New York, NY.
- CP2** Manokore, V., Kang, H., Lundeberg, M., Foster, A., Wolter, B., Bergland, M., & Klyczek, K. (2007, March). Cross-cultural interaction about HIV/AIDS issues within a case-based multimedia learning environment. *Presented at the 51th annual Comparative and International Educational Society conference in Baltimore*, MD.
- CP1** Kang, H. (2003, August). A study on improvement of student teachers' teaching skills through self-reflection. *Presented at the 58th annual Biology Education Research Symposium* at Chung-Nam University. Daejeon, Republic of Korea.

GRANTS & FUNDING

2023-2024 Principal Investigator. *Tools for Community-Engagement Initiatives to Educate Youth for an Environmentally Just Future*. UC Multicampus Research Programs and Initiatives (MRPI), \$300,000 (**Pending**).

- 2023-2024 Principal Investigator. ***Confronting extremism with a sustained community of thriving critical educators.*** UCI The Office of Inclusive Excellence, \$25,000 (Pending).
- 2022-2027 Co-Principal Investigator. ***Teacher Excellence and Access in Mathematics and Science (TEAMS).*** US Department of Education, \$3,000,000 (Pending).
- 2021 Feb-June Principal Investigator. ***Educating Next Generation of Teacher Educators (SNU ETE),*** Seoul National University, South Korea. 40,000,000 Korean won (about \$35,000).
- 2020-2021 Co-Principal Investigator. ***Recruiting and Supporting Teachers of Color.*** UCI Parent executive board, \$10,000.
- 2020-2021 Principal Investigator. ***Recruiting and Supporting Future Latinx Teachers (FLT).*** UCI Education Research Initiative mini grant, \$15,000.
- 2020-2021 Principal Investigator. ***“Can we protect our beautiful beaches in Southern California from sea level rise?” Facilitating engaging and empowering science learning at schools through research-practice partnership.*** CORCL, \$2,237.
- 2019-2024 Principal Investigator. ***CAREER: Expanding Latinxs’ opportunities to learn in secondary science classrooms through a research-practice partnership (RPP).*** National Science Foundation, \$1,510,375.
- 2017-2018 Principal Investigator. ***Promoting complex thinking for under-represented youths in science classrooms by improving a local STEM instruction system.*** The Hellman Foundation, \$50,000.
- 2018-2021 Co-Researcher (PI: K. Lohwasser, co-PI: M. Windschitl). ***Effective Novice Teachers: How Systems of Support Can Transform the Clinical Experience During Teacher Preparation*** NSF Noyce Research Track 4 Program, \$800,000
- 2017-2018 Co-Principal Investigator (PI: Santagata Santagata, co-PI: Jennifer Long, UCI Center for Environmental Biology) ***“Where Does the Water Go?” Scaling up and Building Sustainability to Bring Authentic Science Learning Experiences to Underserved Learners.*** Nicholas Endowment; \$75,000.
- 2016-2017 Co-Researcher (PI: Rossella Santagata, Travis Huxman). ***“Where Does the Water Go?” Developing Life-Long Science Learners through a University-State Park Partnership.*** Nicolas Endowment, \$50,000.
- 2015-2018 Co-Researcher (PI: Mark Windschitl, University of Washington, co-PI: Karin Lohwasser, University of Washington). ***The clinical experience for pre-service science educators: An exploratory study of their collegial networks and “opportunity to learn” trajectories.*** NSF Noyce Research Track 4 Program, \$799,003.
- 2014-2017 CORCL, UCI Academic Special Research Grant Award

CONFERENCE ORGANIZER

Program Co-Chair, AERA Division K, Section 5 (Pre-service Teacher Education), New York, NY, April-May, 2017.

Co-organizer, Crossroads in Science Education conference, 2016

INVITED PRESENTATION

Invited presenter, *Contemporary issues about teaching and teacher education*, Pusan University. May 20, 2022

Keynote Speaker, *What do American Teachers do to improve their teaching?* International Teacher Education Forum in Cheongju, Republic of Korea, January 12, 2022

Invited presenter, *Theorizing preservice teachers' learning to increase their capacity for equitable instruction in disciplinary classrooms*, Jeon-Nam University, Republic of Korea, December 13, 2021

Invited presenter, *The role of creative assessment tasks in expanding opportunities to learn for marginalized students in science classrooms*, Korean Institute for Curriculum and Evaluation (KICE), Republic of Korea. September 15, 2021.

Invited presenter, *Future Directions for Research on Equitable and Socially Just Assessments in Science and Engineering Education*. 2022 the NARST annual conference, administrative session, March 30, 2022

Invited panel member, *Virtual conversations: Teacher Education in Response to Today's Demands: addressing issues of identity, racial injustice, and social inequity in the current political climate: The role of teacher education*. Collaborative for Teacher Education at Penn GSE. April 30, 2021

Keynote presenter, *Transforming science teaching for equity*. Irvine Unified School District, Irvine CA. October 22, 2020

Invited presenter, *Dilemma in reforming teacher education system in U.S.*, Seoul National University. August 4, 2020

Invited presenter, *Teacher responsiveness that promotes equity*, University of Massachusetts Boston. May 22, 2020

Invited presenter, *NGSS and Science Education*, Northwood High School, November 15, 2019

Invited presenter, *Exploring a video-embedded pedagogy that prepares novice science teachers for equitable instruction*, University of Teacher Education, Lucerne, Switzerland. September 5, 2019

Invited presenter, Boston University, March 21, 2019

Invited presenter, California science subject matter project directors' meeting, March 14, 2019

Invited presenter, 3rd annual NGSS leadership conference, Ventura County Office of Education, March 13, 2019

Invited Panelist, *Climate change & the Role of Science Educators*, Special Event: Climate Change, education, and action in the era of Trump, University of California Irvine, May 8, 2017

Invited speaker, *Why so few women and URM in STEM?* Diversity in mathematics festival, University of California Irvine, April 15, 2017

Invited speaker, *Science Education & Ecology?* UCI Ecology Group, University of California Irvine, October, 2017

Invited Speaker, *Promoting Rigorous and Responsive teaching with well-prepared beginners*, Teacher Education Summit, University of California Irvine, July, 2015

Invited Speaker, *Studying practices of teaching*, Educational Center for Teacher Development & Professional Practice, University of California Irvine, January, 2015

Invited speaker, *How do U.S. and Korean teacher education programs prepare beginning science teachers?* Seoul National University, South Korea, September, 2014

Invited speaker, Ewha Womans University, South Korea, September, 2014

Invited Speaker, *NGSS & A New Vision of Learning*, UCI MAT Alumni event, April, 2014

INVITED PARTICIPATION

Invited participant, *the Twitter Chat entitled #NSTAchat; discussing the topic of “Equity in the Science Classroom.”* June 23, 2022

Invited participant, *Science Education and Equity Campaign*, NSF-funded project (Grant #2029956), <https://www.scienceeducationcampaign--researchequityteaching.org/> February 2021

PROFESSIONAL DEVELOPMENT WORKSHOPS AND CURRICULUM DESIGN ACTIVITIES

2022, February-June	Facilitator, Educating the Next Generation of Teacher Educators, Seoul National University, South Korea
2020, July-September	Co-Lead, Summer Book Club: Reading for Action, UCI School of Education
2020 Fall & Winter	Facilitator, IUSD PD
2018, June	Facilitator, Equity and Teacher Preparation, Ambitious Science Teaching conference at Michigan State university
2018, February	Facilitator, Teacher Professional Development, Tustin High School
2017, September	Facilitator, Teacher Professional Development, Tustin High School
2017, March	Facilitator, Teacher Professional Development, Orange County School of Arts
2016, December	Facilitator, Designing curriculum for NGSS, Orange County School of Arts

2016, September

Facilitator, Teacher Professional Development, Orange County School of Arts

SERVICE

EDITOR

Associate Editor, American Educational Research Journal (AERJ), 2022-present

Section Editor, Science Education Journal, 2020-present

EDITORIAL BOARD

American Educational Research Journal (AERJ), 2020-2022

Journal of Research in Science Teaching (JRST), 2016-2019

REVIEWER

A senior reviewer, ISLS conference 2021

A senior reviewer, ICLS conference 2020

American Educational Research Journal

Cognition & Instruction

Science Education

Journal of Research in Science Teaching

Journal of Teacher Education

AERJ Open

SAGE Open

PROFESSIONAL SOCIETY

Chair, NARST Fellow Award Selection Committee, 2022-2023

Member, AERA Division K Early Career Award Committee, 2021-2022

Co-chair, NARST Fellow Award Selection Committee, 2021-2022

Member, NARST Fellow Award Selection Committee, 2020-2021

Reviewer, National Science Foundation DRK, 2019

Reviewer, National Science Foundation DRK, 2018

Program Co-Chair, 2017 AERA Division K, Section 5 (Pre-service Teacher Education), 2017

Reviewer, National Science Foundation DRK, 2017

Member, Korean American Educational Research Association outstanding paper selection committee, 2017

Co-organizer, Crossroads in Science Education conference, 2016

Member, The Sandra K. Abel Summer Research Institute Advisory Committee, 2012

Member, JRST Award Selection Committee, 2013-2015

UNIVERSITY LEVEL

2020-2021 Member, Subcommittee on International Education

Spring 2020 Member, Hellman Advisory Panel

Spring 2018 Member, The Council on Teaching, Learning, and Student Experience (CTLSE)

2015-2016 Member, School of Education Dean Search Committee

2014-2017 Member, Subcommittee on International Education

2014-2017 Member, Sustainability Education Committee

SCHOOL/DEPARTMENT LEVEL

2022-present Faculty Director of Teacher Education

2018-2021 Faculty Director, UCI California Science Project

2017-2021 Co-Leader, Equity Workgroup in UCI Teacher Education

2018-2021 Member, UCI Teacher Academy Advisory Board
 2018-2019 Faculty Director of Teacher Education
 2018-2019 Member, Climate Council
 2018-2019 Member, PhD Admission Committee (TLEI representative)
 2017-2018 Director, Educational Center for Teacher Development & Professional Practice
 2014-2017 Member, Teacher Education Steering Committee
 2017-2018 Member, UCI Teacher Education Program Coordinator Search Committee
 2017-2018 Member, UCI CalTeach Program Director Search Committee
 2017-2018 Member, Faculty Search Committee, Research-Practice Partnership Faculty
 2016 Member, Assessment of Teaching Committee

ADVISORY BOARD

2018-2021 Capistrano Unified School District STEM Advisory Board member
 2018-Present Member, Steering Group of the CTERIN project (California Teacher Education Research and Improvement Network, Aim 4—Educating Teacher Educators)
 2018-Present Member, UCI Teacher Academy Advisory Board
 2018-2021 Member, NSF Project (PI: Sandra Simpkins, Co-PI: Jaquelynne Eccles)
 2019-Present Member, NSF Project (PI: Sherry Southerland, Co-PIs: Miray Tekkkumru-Kisa & Joe Travis)

TEACHING & MENTORING

UNIVERSITY OF CALIFORNIA IRVINE (UC IRVINE)

Masters of Art in Teaching (MAT) program

ED 341: Teaching Science in Secondary Schools (Secondary science methods in teaching credential program, UC Irvine (2013 - Present)

ED 342: Applied Instructional Strategies in Secondary Schools, UC Irvine (Fall 2013 - Present)

ED 202: Outcomes of school and assessments, UC Irvine (Summer 2014, 2015 & 2017)

PhD program

ED238: Teaching and Learning in STEM education, UC Irvine (doctoral seminar, Spring 2016 & Spring 2018)

Undergraduate Program

ED161: Discovering science at the out-of-school time, UC Irvine (undergraduate course in after school certificate program; winter 2016)

MICHIGAN STATE UNIVERSITY (MSU)

Co-instructor

TE407: Teaching subject matter to diverse learners (secondary science methods sequence I), Michigan State University (MSU) (Fall 2009), co-instructor

TE408: Crafting teaching practice (secondary science methods sequence II), MSU (spring 2010)

TE802: Reflection and inquiry in teaching practice I (secondary science methods sequence III), MSU (fall 2010)

TE804: Reflection and inquiry in teaching practice II (secondary science methods sequence IV), MSU (spring 2011)

Field supervisor

TE501 & 502: Internship in teaching diverse learners I/II, MSU (2008-09, 2010-11)

SEOUL NATIONAL UNIVERSITY (SNU) IN SOUTH KOREA

Graduate program

719.622: Contemporary issues and trends of science teacher education research (Spring, 2022)
Seminar of Biology Education (Spring, 2022)

Undergraduate Program

M1878.000100: Studies of Biology Curriculum and Pedagogy (Fall, 2021)

K-12 LEVEL

Seong-nam woman's high school, Gyeonggi-do, Republic of Korea (2003-2006); taught Biology, Advanced Biology, Earth Science, Integrated Science
Geum-gok Middle School, Gyeonggi-do, Republic of Korea (1998-2000); taught *physical and biological sciences*

POSTDOCTORAL RESEARCHERS

Heather Clark, Postdoctoral researcher, 8/01/2022-present
Hamideh Talafian, Postdoctoral researcher, 8/01/2020—6/30/2021
Raúl Orduña Picón, Research Specialist, 9/01/2020—7/30/2021
Jasmine Nation, 7/01/2019 – 6/30/2020, appointed as Assistant Professor at Cal Poly San Luis Obispo

GRADUATE STUDENT ADVISOR

Victoria Nguyen, UCI graduate student
Doron Zinger, UCI Ph.D., completed in August 2018, appointed as the Director of UCI CalTeach program
David Liu, UCI Ph.D., completed in December 2019, hired as a researcher at AT&T

DISSERTATION COMMITTEE MEMBER

Ethan Rubin, UCI Ph.D., expected to complete in August 2024
Hye-Keoung Lee, Seoul National University (SNU) Ph.D., completed in December 2021
Jang-Hee Eom, SNU PhD, completed in December 2021
Gyeong-Heun, SNU PhD, completed in December 2021
Jiwon Lee, UCI Ph.D., completed in December 2021
Diane Hsieh, UCI Ph.D., completed in August 2021
Priyanka Agarwal, UCI Ph.D., completed in August 2019, appointed as Assistant Professor at University of Wisconsin-Madison.
Jason Buell, University of Colorado Boulder, expect to completed in August 2019
Tara Barnhart, UCI Ph.D., completed June 2016

UNDERGRADUATE STUDENTS MENTORING

Suh-Young Moon, Winter 2021, research assistant in the AI-integrated Science Education project
Yae-Rhin Song, Winter 2021, research assistant in the AI-integrated Science Education project
Sung-Il Lee, Winter 2021, research assistant in the AI-integrated Science Education project
Yae-Eun Kim, Winter 2021, research assistant in the AI-integrated Science Education project
Yae-Eun Kim, Winter 2021, research assistant in the AI-integrated Science Education project

Sun-Jeong Choi, Winter 2021, research assistant in the AI-integrated Science Education project
Hee-Joo Nam, Winter 2021, research assistant in the AI-integrated Science Education project
Ji-Yeon Suh, Winter 2021, research assistant in the AI-integrated Science Education project
Do-Gyu Lee, Winter 2021, research assistant in the AI-integrated Science Education project
Yasmeen Allie, 2019-2021, Research Assistant in NSF CAREER project
Mary Thuy Nguelyn, Spring, 2021, Research Assistant in NSF CAREER project
Daniel Quinonez, Fall 2020-Spring 2021, Research Assistant in NSF CAREER project
Madeline Lee, Fall 2020, Research Assistant in NSF CAREER project
Justin Amin, Winter & Spring, 2020, Research Assistant in NSF CAREER project
Guadalupe Barrera, 2019-2020, Research Assistant in NSF CAREER project
Diana Pablo-Ramirez, 2019-2020, Research Assistant in NSF CAREER project
Isabel Soto, 2019-2020, Research Assistant in NSF CAREER project
Sharon Stone, Summer 2019-2020, Research Assistant in NSF CAREER project
Brooke Koren, Spring 2018-2019, Research Assistant in Hellman Project
Tamara Spike, Fellow, UC-HBCU Summer Education Research Internship program, accepted to the
Master's of Science program in Geoscience at the Georgia State University.
Yongyin Zhu, the presenter of the symposium, the 2018 UCI Undergraduate Research Opportunities
Program
Cristina Alvarez, 2018 Summer Undergraduate Research Program, award the fellowship (\$1,200)
Miranda Lopez, 2018 Summer Undergraduate Research Program, award the fellowship (\$1,200)
Lani Matsumura, 2017-2018, Research Assistant, accepted to the Masters of Art in Teaching at Stanford
University
Joshua Visperas, Fall 2017-2019, Research Assistant in Hellman Project
Brooke Koren, Spring 2018-2019, Research Assistant in Hellman Project
Shelly Meirovitch, Spring 2018-2019, Research Assistant in Hellman Project
Joshua Scruggs, Winter-Spring 2018, Research Assistant in Hellman Project