## **Eunhye Grace Flavin, Ph.D.**

Curriculum Vitae

Senior Research Scientist
Georgia Institute of Technology
Center for Education Integrating Science, Mathematics, and Computing
eflavin@gatech.edu | https://flavineducationlab.com

#### RESEARCH EXPERTISE

Learning Sciences, Technology-mediated Learning (Augmented reality, Artificial intelligence), Mathematics Education, Immigrant Family Engagement, and Mixed Methods

**OVERALL AIM:** As a learning scientist, my work centers on exploring how technology and intelligent systems—such as artificial intelligence (AI) and augmented reality (AR)—can be leveraged to design innovative learning experiences. I am particularly interested in creating learning environments that make abstract knowledge, such as mathematics and computing, more immersive, tangible, and accessible for learners of all ages.

#### **EDUCATION**

Ph.D. Boston College, Chestnut Hill, MA.

Major: Curriculum and Instruction (Specialization: **Mathematics and Technology Education**)

Dissertation Title: The effects of school mathematics resources on students' intention to study mathematics over other subjects: Multilevel mediation structural equation modeling

M.A. Seoul National University, Seoul, South Korea.

Major: Foundations of Education

B.A. Daegu National University of Education, Daegu, South Korea

Major: Elementary Education

Teaching Certification: Elementary School Teacher

#### PROFESSIONAL APPOINTMENTS

2024-current	Senior Research Scientist, Georgia Institute of Technology, Atlanta, GA. Center for Education Integrating Science, Mathematics, and Computing
2021–2024	Assistant Professor of STEM Education (Tenured-track), Stonehill College, Easton, MA.

- Department of Graduate Teacher Education (2023–2024): Faculty
  Coordinator for the Graduate Mathematics/Science Teacher Education
  program
- Department of Education Studies (2021–2023)
- 2022 July Instructor, Summer Program: Competition Math (Grades 5–6)
  Center for Talent Development, Northwestern University, Evanston, IL.

2017–2021	Teaching Fellow (2020–2021), Graduate Assistant (2017–2021) Lynch School of Education and Human Development, Boston College, Chestnut Hill, MA.
2016–2017	Associate/Instructional Designer e-Learning Contents Development Division, Seoul National University, Seoul, South Korea.
2015–2016	Associate Researcher Center for Bahrom Character Education, Seoul Women's University, Seoul, South Korea.
2013–2016	Teaching Assistant (2013-2014) & Lecturer (2015-2016) College of Education, Korea National Open University, Seoul, South Korea.
2011–2015	Elementary School Teacher (Grades 1-6, Curriculum development, part-time) The School of Global Sarang, Seoul, South Korea.
2011–2014	Assistant Administrator The Korean Society for the Study of Anthropology of Education, Seoul, South Korea.
FUNDED RI	ESEARCH and RESEARCH EXPERIENCE
Under review	VOICE (Vital oral interactions for clinical excellence): Harnessing AI to build clinical communication competence and confidence for international nurses  Sponsor: Bill Kent Family Foundation Amount: \$9,000
	Polo: Co DI (F. Flavin) DI (Varan Patarson), Co DIs (Aborra Pahmat

Role: Co-PI (E. Flavin), PI (Karen Peterson), Co-PIs (Abeera Rehmat,

Katherine Samford)

#### 2025-2026 Building an AI-assisted online course for the College of Lifetime Learning

Sponsor: Georgia Institute of Technology – Provost Teaching and Learning

**Initiatives** 

Amount: \$24,885.65 (\$15k from the Provost's Office, the remainder from

CEISMC)

Role: PI (E. Flavin), Co-PIs (Abeera Rehmat, Jeonghyun Lee)

#### Building a sustainable AI-assisted online calculus professional development Submitted

for rural teachers

Sponsor: William T. Grant Foundation – Reducing inequality in youth outcomes

Amount: \$600,000

Role: PI (E. Flavin), Co-PIs (Dabae Lee, Keisha Simmons)

#### Submitted Place-based CS and AI: Empowering rural communities

Sponsor: National Science Foundation (NSF) – CS for All

Amount: \$999,945

Role: Co-PI (E. Flavin) and PI (Norman "Storm" Robinson)

Submitted Bridging the role of AI with student voices in mathematics education

Sponsor: The Spencer Foundation – Research Small Grant

Amount: \$50,000

Role: PI (E. Flavin) and Co-PI (Nicholas Witt)

Speculative design with mathematical modeling: Children building a new future in an urban mathematics program

Sponsor: American Educational Research Association – Education Research

Service Projects Grant

Amount: \$5,000 Role: PI (E. Flavin)

Collaborator: Horizons at Georgia Tech

Submitted A pressing need: Smart haptic clothing for affective STEM learning

Sponsor: National Science Foundation (NSF) – Research on Innovative

Technologies for Enhanced Learning (RITEL)

Amount: \$900,000,000

Role: PI (Matthew T. Flavin), Co-PI (E. Flavin), and Co-PI (Bruce Walker)

Submitted "Mathematics as the foundation of artificial intelligence": Co-designing culturally responsive mathematics tasks in the context of AI

Sponsor: National Council of Teachers of Mathematics – Early Career Grant

Amount: \$10,000 Role: PI (E. Flavin)

2024-2025 Mechatronics and motivation Seed Grant

Sponsor: Georgia Institute of Technology – Vertically Integrated Projects

Amount: \$5,000

Role: PI (E. Flavin & \*Matthew T. Flavin) \*equal contribution

2024-2027 Fostering mathematical modeling competencies via collaborative learning in large language model-simulated virtual classrooms

Sponsor: National Science Foundation (NSF) – Research on Innovative

Technologies for Enhanced Learning (RITEL)

Amount: \$578,047.00

Role: Senior Personnel (E. Flavin)

Haitian im/migrant caregiver and community engagement in mathematics education

Sponsor: Stonehill College – Research, Writing, & Artistic Production Grant

Amount: \$4,350 Role: PI (E. Flavin)

2023 An international comparative study on elementary preservice teachers' noticing of mathematics groupwork: Focusing on communication, collaboration, and problem-solving competencies (translated to Korean: 수학 그룹 활동에 대한 초등 예비교사의 노티싱 분석: 의사소통, 협력, 문제해결 역량에 대한 국제 비교 연구) Sponsor: South Korea Ministry of Education – Network Utilizing IDEA Grant of Chuncheon National University of Education Amount: \$5,000,000Role: Sunghwan Hwang (PI) and Co-PI (E. Flavin) 2023 ARGeometry: Urban informal mathematics education program for STEM for All Brockton Sponsor: Avanade Amount: 15 laptops (January 2023) Role: PI (E. Flavin) 2023 Augmented reality mathematics manipulatives for equity Sponsor: Stonehill College – Research, Writing, & Artistic Production Grant Amount: \$5,000 Role: PI (E. Flavin) 2022 -GeoComputation: Integrating computational thinking into elementary 2024 geometry lesson Sponsor: Stonehill College – College Start-up Funds Amount: \$5,000 Role: PI (E. Flavin) 2022 Four decades of research of the pedagogical content knowledge of mathematics teachers Sponsor: Stonehill College – Research, Writing, & Artistic Production Grant Amount: \$5,000 Role: PI (E. Flavin) 2021 -Social justice-oriented instructional practices grounded in real-world data 2022 Sponsor: Stonehill College – Research Expense Grant/Start-up Funds Amount: \$2,000 Role: PI (E. Flavin) 2018–2021 Collaborative fellow grant with Potter Rd elementary school in **Framingham** Sponsor: Boston College Amount: \$105,000 Role: Survey team lead & Research Assistant (E. Flavin) PI: Gabrielle Oliveira 2021 **Dissertation grant** 

American Educational Research Association/National Science Foundation Grant (submitted)

ETS Harold Gulliksen Psychometric Research Fellowship (submitted)

2019–2020 Catholic immigrant networks

Sponsor: Boston College Warmenhoven Fellowship

Amount: \$45,000

Role: Survey team lead & Research assistant, including field work (E. Flavin)

PI: Gabrielle Oliveira

2019–2020 The Hyukshin school innovation movement in Seoul

Sponsor: Seoul Metropolitan Office of Education

Amount: \$236,000

Role: Graduate student team leader & Research assistant (E. Flavin)
PI: Yoonmi Lee, Dennis Shirley, Deoksoon Kim, & Stanton Wortham.

2018–2019 Warmenhoven Fellowship

Sponsor: Boston College Rocche Center for Education

Amount: \$30,000

Role: Research assistant (E. Flavin)

PI: Gabrielle Oliveira

The Lemelson–Massachusetts Institute of Technology junior varsity

InventTeams program (Chill Out!)

Role: Research assistant (E. Flavin)

2016–2018 A longitudinal study on middle school free-semester program

Sponsor: Korean Educational Development Institute

Role: Research assistant (E. Flavin)

2015–2016 Measurement of educational effectiveness of the Bahrom character

education program

Sponsor: Seoul Women's University Role: Associate researcher (E. Flavin)

2014–2015 A study on job development and employment support for immigrant youth

Sponsor: Rainbow Youth Center in South Korea

Amount: ₩30,000,000

Role: Research assistant (E. Flavin)

PI: Deokhee Seo

2014–2015 A study on curriculum and educational contents development for training

instructors for multicultural education

Sponsor: Korean Healthy Family Support Center

Role: Research assistant (E. Flavin)

PI: Minseung Jung

2011–2012 A study on curriculum and manual for cultural diversity education

(KACES-1240-R024)

Sponsor: Korea Arts & Culture Education Service

Role: Lesson plan developer (**E. Flavin**)
PI: Cheol-II Lim, Seoul National University

2011–2012 A study on current issues in mathematics education in Korea (Policy

Research 2-11-9)

Sponsor: South Korean Ministry of Education

Role: Interviewer (E. Flavin)

PI: Kyung Mi Park

#### **FUNDING IN PREPRATION**

In T.I.N.K.E.R: Tangible interfaces nurturing kids' early AI readines

preparation Sponsor: National Science Foundation (NSF) – NSF K-12 STEM (November

15, 2025)

Amount: \$400,000

Role: E. Flavin, Abeera Rehmat

In A pressing need: Smart haptic clothing for sensory processing disorders

preparation

Sponsor: National Science Foundation (NSF) – Research on Innovative

Technologies for Enhanced Learning (RITEL) (November 4, 2025)

Amount: \$900,000,000

Role: PI (Matthew T. Flavin), Co-PI (E. Flavin), and Co-PI (Bruce Walker)

#### REFREED JOURNAL PUBLICATIONS

**Flavin, E.** & Flavin, M. Speculative design approach to mathematical modeling and belonging, *Mathematics Teacher: Learning and Teaching PK–12*, 118 (9), https://doi.org/10.5951/MTLT.2024.0315 [\*selected as a cover article]

- Hwang, S., Kang, Y., JE, Lee., & **Flavin, E**. (**in press**) Analysis of generative AI's diagnostic and feedback capabilities regarding fraction multiplication errors: Focusing on ChatGPT, Gemini, and DeepSeek, *Journal of Educational Research in Mathematics*.
- Lee, J. H. & \* Flavin. E. AI decision making and statistical modeling. *Mathematics Teacher: Learning and Teaching PK–12*. https://doi.org/10.5951/MTLT.2024.0217 \*Equal contribution
- **Flavin, E.** Chung, M. Hwang, S., & Flavin, M. Augmented reality for area measurement reasoning of elementary students. *Educational Technology Research and Development*. https://doi.org/10.1007/s11423-025-10502-0

- **Flavin, E.**, Hwang, S., & Morales, M. (2025). "Let's ask the robot!": Epistemic stance between teacher candidates toward AI in mathematics lesson planning. *Journal of Teacher Education*, 76(3), 262-279. https://doi.org/10.1177/00224871251325079
- **Flavin, E., \*** Hwang, S & Flavin, M.T. (2025). Augmented reality for mathematics achievement: A meta-analysis of main and moderator effects. *International Journal of Science and Mathematics Education*. https://doi.org/10.1007/s10763-025-10546-x (\*equal contribution)
- M. Flavin,\* K. Ha,\* Z. Guo,\* S. Li,\* J. Kim,\* T. Saxena, F. D. Simatos, F. Al-Najjar, Y. Mao, S. Bandapalli, C. Fan, D. Bai, Z. Zhang, Y. Zhang, E. Flavin, K. Madson, Y. Huang, L. Emu, J. Zhao, J. Yoo, M. Park, J. Shin, A. Huang, H. Shin, J. Colgate, Y. Huang, Z. Xie, H. Jiang, J. Rogers. (2024) Bioelastic state recovery for haptic sensory substitution, *Nature*, 635, 345–352. https://doi.org/10.1038/s41586-024-08155-9
- Lee, J., **Flavin, E.**, & Hwang, S. (2024). Open mathematical tasks conceived, designed, and reflected upon by preservice elementary teachers. *Journal of Mathematics Teacher Education*. https://doi.org/10.1007/s10857-024-09661-3
- **Flavin, E.** & \*Lee, J. H., Chamberlin, M., Powers, R. (2024). Artificial intelligence image processing. *Mathematics Teachers: Learning and Teaching PK-12, 117* (11). 848–852. https://doi.org/10.5951/MTLT.2024.0103 (\*equal contribution)
- **Flavin, E.,** & Flavin, M. (2024). Black feminist thought as a guide for ethical integration of artificial intelligence in mathematics classroom. *Connections*, *34*(1), 1–8, https://amte.net/sites/amte.net/files/FlavinFlavin\_Connections\_Fall2024.pdf
- Lee, J., **Flavin, E.**, Kim, S, & Hwang, S. (2024). Recording and representing student mathematical thinking: A comparison of preservice teachers in the U.S. and Korea. *Research in Mathematical Education* (Journal of the Korean Society of Mathematical Education Series D), *34*(3), 511–542. https://doi.org/10.29275/jerm.2024.34.3.511
- **Flavin, E.** & Suh, J. (2024). Centering empathy in a mathematics classroom. *Mathematics Teacher: Learning and Teaching PK–12. 117*(5), 361–370. https://doi.org/10.5951/MTLT.2023.0246
- **Flavin, E.,** Lima Becker, M., Hubacz, H., Barbieri, O., & Oliveira, G. (2024). "(Not) the same as it was": Parents' and teachers' perception of the impact of COVID-19 on a bilingual elementary program. *Language and Education*, 1–19. https://doi.org/10.1080/09500782.2024.2343479
- Segel, M., **Flavin, E**., Hubacz, H. & Oliveira, G. (2024). A currency of love: Illuminating motherhood across immigrant, cultural, and socioeconomic lines during Covid–19. *Urban Education*, 00420859241244769, https://doi.org/10.1177/00420859241244769

- **Flavin, E.** & \* Hwang, S. (2024). U.S. and Korean teacher candidates' approaches to mathematics modeling on a social justice issue. *Research in Mathematical Education* (Journal of the Korean Society of Mathematical Education Series D), 27(1), 25–47. https://doi.org/10.7468/jksmed.2024.27.1.25 (\*equal contribution)
- Hwang, S., **Flavin, E.**, & Lee, J. (2023). Exploring research trends of technology use in mathematics education: A scoping review using topic modeling. *Education and Information Technologies*, 1–28. https://doi.org/10.1007/s10639-023-11603-0
- Oliveira, G., **Flavin, E**., & Hubacz, H. (2023). Teachers and parents at odds: Results from a survey on a dual language program implementation. *Education and Urban Society*. 00131245221141071. https://doi.org/10.1177/00131245221141071
- Hwang, S., **Flavin, E.**, Lee, J. (2023). The use of technology in Korean mathematics education: A systemic review. *Research in Mathematical Education* (Journal of the Korean Society of Mathematical Education Series D), *33*(3), 537–557. https://doi.org/10.29275/jerm.2023.33.3.537
- Hwang, S. & **Flavin, E**. (2023). Understanding a mathematics teacher community through a computational text analysis: Review of *change in mathematics pedagogical lexicons* by Lee & Kim (2022). *Research in Mathematical Education* (Journal of the Korean Society of Mathematical Education Series D), 26 (1), 31–38. https://doi.org/10.7468/jksmed.2023.26.1.31
- **Flavin, E.**, & Hwang, S. (2022). Examining multicultural education research in Korean mathematics education. *Research in Mathematical Education* (Journal of the Korean Society of Mathematical Education Series D), *25* (1), 45–63. https://doi.org/10.7468/jksmed.2022.25.1.45
- Hwang, S., & Cho, E. (2021). Exploring latent topics and research trends in mathematics teachers' knowledge using topic modeling: A systematic review. *Mathematics*, 9, 2956. https://doi.org/10.3390/math9222956
- Oliveira, G., Cho, E., & Barbieri, O. (2021). Latino family engagement in a network of Catholic bilingual schools. *Journal of Catholic Education*, 24(1), 183–203. http://dx.doi.org/10.15365/joce.2401102021
- **Cho, E.**, Albert., L, & Hwang, S. (2021). Exploring white preservice mathematic teachers' racial identity and culturally relevant teaching practices. *Research in Mathematical Education* (Journal of the Korean Society of Mathematical Education Series D), 24(1). 29–47. http://doi.org/10.7468/jksmed.2021.24.1.29
- Hwang, S., Cho, E., & Albert, L. (2020). Examining mathematics teachers' perception toward multicultural education: Teachers' noticing of multicultural contents in mathematics textbooks. *Research in Mathematical Education* (Journal of the Korean Society of

- Mathematical Education Series D), *23* (2), 93–111. https://doi.org/10.7468/jksmed.2020.23.2.93
- Oliveira, G., Chang-Bacon, C. K., **Cho, E.**, & Baez-Cruz, M. (2020). Parent and teacher perceptions of a Brazilian Portuguese two-way immersion program. *Bilingual Research Journal*, 43(2), 212–231. https://doi.org/10.1080/15235882.2020.1773961
- Kim, D., **Cho, E.**, Stephanie, C., & Barnett, M. (2019). Culturally relevant science: Incorporating visualizations and home culture in an invention-oriented middle school science curriculum. *Technology & Innovation*, 20, 251–266. https://doi.org/10.21300/20.3.2019.251
- **Cho, E.** & Hwang, S. (2019). Exploring changes in multi-ethnic students' mathematics achievement motivation: A longitudinal study using expectancy-value theory. *The Mathematical Education (Journal of the Korean Society of Mathematical Education Series A)*, 58(1), 101–120. https://doi.org/10.7468/mathedu.2019.58.1.101
- Seo, D. & Cho, E. (2017). An exploratory research on career dispositions of immigrant youths and their ecological conditions. *Journal of Education and Culture, 23*(1), 217–247. https://doi.org/ 10.24159/joec.2017.23.1.217

### JOURNAL ARTICLES UNDER REVIEW / IN PREPARATION

- **Flavin, E.**, Hwang, S., & Flavin, M. Lekòl, Legliz, Lakay: Haitian immigrant parental engagement in mathematics education. Reviewed and in revision: *Educational Studies in Mathematics*, 2024.
- **Flavin, E.**, Chung, M., & Flavin, Augmented reality—based intervention package on children's construction of a volume measurement. Under review.
- **Flavin, E.**, Cudd., M., Mauntel, M., Witt, N., Suh, J. Designing AI virtual students to support teacher noticing towards asset-based pedagogy. Under Review. *Journal of Mathematics Teacher Education*.

#### REFREED CONFERENCE PROCEEDINGS

- **Flavin, E.**, Witt, N., Suh, J., Panorkou, N., Chandler, K., Joseph, M., Mauntel, M., Jegede, K., & Shojaei, L., Year 3 of TechQuity Working Group. Under review: *Proceedings of the 47<sup>th</sup> Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (October 26-29, 2025). PA, United States.
- Witt, N., Jogede, K., **Flavin, E.**, Panorkou, N., Chandler, K., McCulloch, A., Suh, J., Joseph, M., & Mauntel, M. Report from year 2 of the TechQuity Working Group. Under review: *Proceedings of the 47<sup>th</sup> Annual Meeting of the North American Chapter of the*

- *International Group for the Psychology of Mathematics Education* (October 26-29, 2025). PA, United States.
- Flavin, E., & Flavin, M. (2024). Developing an augmented reality system for embodied mathematics learning. In Kosko, K. W., Caniglia, J., Courtney, S., Zolfaghari, M., & Morris, G. A., (2024). Proceedings of the forty-sixth annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education (pp. 1985–1989). Kent State University.
- Witt, N., Chandler, K., Flavin, E., Suh, J., Panorkou, N., McCulloch, A., Hollebrands, K., & Joseph, M. Working group proposal (Year 2): Conceptualizing the role of technology in equitable mathematics classrooms (Math TechQuity). In Kosko, K. W., Caniglia, J., Courtney, S., Zolfaghari, M., & Morris, G. A., (2024). Proceedings of the forty-sixth annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education (pp. 1985–1989). Kent State University.
- Chandler, K., Witt, N., Suh, J., Hollebrands, K., McCulloch, A., Flavin, E., Panorkou, N., Joseph, M., Yao, X. Working group report (Year 1): Conceptualizing the role of technology in equitable mathematics classrooms (Math TechQuity). In Kosko, K. W., Caniglia, J., Courtney, S., Zolfaghari, M., & Morris, G. A., (2024). Proceedings of the forty-sixth annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education (pp. 2126–2135). Kent State University.
- **Flavin, E.** (2024). The role of artificial intelligence for equitable mathematics teaching. *Proceedings of the Korean Society of Educational Studies in Mathematics* (pp. 2195–2197). Incheon, South Korea.
- Hwang, S. & **Flavin**, E. (2024). The impact of augmented reality on mathematics performance: A meta-analysis. *Proceedings of the Korean Society of Educational Studies in Mathematics* (pp. 180–182). Incheon, South Korea.
- Hwang, S., Lee, J., & **Flavin, E.** (2024). Analysis of preservice teachers' perception of open mathematical tasks (개방형 수학 과제에 대한 예비교사들의 인식 분석). Proceedings of the Korean Society of Elementary Mathematics Education 2024 Annual Conference. (pp. 75–78). Seoul, South Korea.

#### SCHOLARLY CONFERENCE PRESENTATION (\*Research with a mentoring student)

- **Flavin, E.** & Hwang, S. (<u>Accepted, 2026</u>, February 5-7). AI governance: Reconfiguring power and politics in mathematics education. 2025 Association of Mathematics Teacher Education
- **Flavin, E.** (2024, December 6–7). *The role of artificial intelligence for equitable mathematics teaching* [Paper presentation]. The Korean Society of Educational Studies in Mathematics 2024 62nd Annual Conference (December 5, 2024), Incheon, South Korea.

- **Flavin, E., &** Flavin, M. (2024, November 7–10). *Developing augmented reality system for embodied mathematics learning* [Brief report presentation]. North American Chapter of the International Group for the Psychology of Mathematics Education (PME–NA) 2024 46th Annual Conference. Cleveland, Ohio, United States.
- Hwang, S., Lee, J., & **Flavin, E.** (2024, November 1–2. A study on the characteristics of open mathematical tasks developed by preservice teachers (예비교사들이 개발한 개방형 수학 과제의 특성 연구) [Paper presentation]. The Korean Society of Mathematical Education Fall Academic Conference. Suwon, South Korea.
- **Flavin, E.**, Flavin, M, & Hwang, S. (2024, September 25–28). *Augmented reality: Integrating real-world into math classroom* [Paper presentation]. National Council of Teachers of Mathematics [NCTM] 2024 Annual Meeting & Exposition. Chicago, IL, United States.
- Hwang, S., Lee, J., & **Flavin, E.** (2024, August 9). Analysis of preservice teachers' perception of open mathematical tasks (개방형 수학 과제에 대한 예비교사들의 인식 분석) [Paper presentation]. Korean Society of Elementary Mathematics Education 2024 Annual Conference. Seoul, South Korea.
- Hwang, S. & **Flavin**, E. (2024, April 5–6). *International comparative study of mathematical modeling strategies* (수학적 모델링 전략 국제비교 연구) [Paper presentation]. 2024 Spring conference for the Korean Society of Mathematical Education. Busan, South Korea.
- **Flavin**, E., Flavin, M., Chung, M., Simeon, M., Marie, R.\*, & Solari, M.\* (2024, February 8–10). *Teaching mathematics at a Black immigrant church: Implications for mathematics teacher education* [Paper presentation]. Association of Mathematics Teacher Educators [AMTE] 2024 28th Annual Conference. Orlando, FL, United States.
- **Flavin, E.**, Lee, J., & Hwang, S. (2023, October 1–4). *Technology in mathematics education research: Analysis of the past four decades* [Poster presentation]. North American Chapter of the International Group for the Psychology of Mathematics Education (PME-NA) 2023 45th Annual Conference. Reno, NV, United States.
- **Flavin, E.** & Hwang, S. (2023, April 13–16). *A systemic review on mathematics education and technology* [Paper presentation]. American Educational Research Association [AERA] Annual Meeting. Chicago, IL, United States.
- **Flavin, E.** (2023, February 24–26). *Racialized identities and mathematics teacher education: White preservice teachers' teaching practices* [Paper presentation]. American Association of Colleges for Teacher Education (AACTE) 2023 75<sup>th</sup> Annual Conference. Indiana, MN, United States.
- **Flavin, E.** & Hwang, S. (2022, November 17–20). What knowledge is needed for teaching mathematics? Using topic modeling [Poster presentation]. North American Chapter of the

- International Group for the Psychology of Mathematics Education (PME-NA) 2022 44th Annual Conference. Nashville, TN, United States.
- **Flavin, E.** (2022, September 28–October 1). *Rich mathematical and computational tasks for grade 4-6 geometry: Using a language, Scratch* [Paper presentation]. National Councils of Teachers of Mathematics [NCTM] 2022 Annual Meeting & Exposition. Los Angeles, CA, United States.
- Segel, M., Cho, E., Hubacz, H., & Oliveira, G. (2022, April 21–26). From gratitude to frustration: Two-way immersion parents' perceptions of school supports during COVID-19 [Paper presentation]. American Educational Research Association [AERA] Annual Meeting. San Diego, CA, United States.
- **Cho, E.**, Hwang, S., & Herosian, G.\* (2022, April 6–8). *Three decades of research in mathematics teacher knowledge: Using text network modeling* [Paper presentation]. New England Educational Research Organization [NEERO] Annual Meeting. Portsmouth, NH, United States.
- Cho, E. (2022, February 10–12). Multilevel mediation structural modeling to assess whether attending a mathematics school can predict students' intention to pursue a mathematics-related field [Manuscript Review Group]. Association of Mathematics Teacher Educators [AMTE] Annual Meeting. Henderson, NV, United States.
- Cho, E., Hwang, S., & Herosian, G.\* (2022, January 7). *Exploratory analysis on research in mathematics teacher knowledge* [Paper presentation]. National Councils of Teachers of Mathematics [NCTM] Research Conference. Virtual Meeting.
- Cho, E., Hubacz, H., Oliveira, G. (2021, Apr 8–12). School community members at odds in dual language program implementation [Paper presentation]. American Educational Research Association [AERA] Annual Meeting, Virtual Meeting.
- Oliveira, G., Cho, E., et al. (2021, Feb 26–27). *Im/migrant children and families' experiences in dual language education in Massachusetts* [Paper presentation]. 2021 Ethnography in Education Research Forum, Virtual meeting.
- **Cho, E.** (2020, Dec 12) *Understanding the development of multi-ethnic students' mathematics achievement motivation* [Paper presentation]. 2020 International Conference of the Korean Society of Mathematical Education, Virtual meeting.
- **Cho, E.**, Hwang, H., & Albert, L. (2020, Dec 12) *Understanding mathematics teachers'* perception toward multicultural education [Paper presentation]. 2020 International Conference of the Korean Society of Mathematical Education, Virtual meeting.
- Chang-Bacon, C., Cho, E., & Oliveira, G. (2020, Dec 2) Community consciousness: Parallel parent and teacher perceptions of a two-way dual language immersion program [Paper

- presentation]. Literacy Research Association (LRA) 70<sup>th</sup> Annual Conference, Virtual meeting.
- **Cho, E.**, Jeon, A. & Oliveira, G. (2020, Apr 17–21) *Promoting Latino family engagement in Catholic bilingual school* [Roundtable presentation]. AERA Annual Meeting. San Francisco, CA, United States. http://tinyurl.com/vpcyu4f
- Chang-Chris, B., Cho, E., & Cruz, M, & Oliveira, G., (2020, Apr 17–21) Parallel perceptions of two way immersion program implementation: How parents and teachers understand its merits [Paper presentation]. AERA Annual Meeting San Francisco, CA, United States.
- Cho, E & Hwang, S. (2019, April 25) Why do multiethnic students in South Korea choose (not) to study mathematics over time? [Paper presentation]. Lynch School of Education, Boston College, Chestnut Hill, MA, United States.
- Hwang, S & Cho, E. (2019, April 5) Exploring changes in multi-ethnic students' achievement motivation: A longitudinal study using expectancy-value theory [Conference presentation]. Korean-American Educational Researchers Associations Annual Conference. Toronto, Canada.
- **Cho, E.**, & Hwang, S (2019, April 5) *Mathematics preservice teachers' culturally sustaining teaching strategies* [Conference presentation]. Korean-American Educational Researchers Associations Annual Conference. Toronto, Canada.
- Kim, D., **Cho, E**., & Kim, S (2019, March 31–April) *Leveraging youth's diverse backgrounds to broaden participation in STEM through invention education* [Paper presentation]. NARST Annual International Conference. Baltimore, MD, United States.
- Barnett, M., Kim, D., **Cho, E**., & Kim, S (2019, March 3) *Culturally relevant science: An invention program for middle school English Language Learners* [Paper presentation]. The American Association for Applied Linguistics [AAAL] Conference. Atlanta, GA, United States.
- Kim, D., Cho, E., & Kim, S (2018, Oct 19) Inventing the future: Leveraging cultural assets to create young STEM inventors (Culturally Relevant Science: English Language Learners' Experiences in a Modified Invention Science Curriculum) [Paper presentation]. Diversity Challenge (The Institute for the Study and Promotion of Race and Culture), Chestnut Hill, MA, United States.
- Kim, D., Cho, E., Mannion, P., Long, Y., & Zhou, S. (2018, April 25) Fostering English Language Learner's reflection through multimodal digital storytelling [Paper presentation]. Graduate Research Symposium, Lynch School of Education, Boston College, Chestnut Hill, MA, United States. [Awarded the 1st Best Student Presentation]

- Kim, D., Mannion, P., Long, Y., Zhou, S., & Cho, E. (2018, March 24). *Middle school English Language Learner's multimodal digital storytelling* [Paper presentation]. The American Association for Applied Linguistics Conference. Chicago, Illinois, United States.
- **Cho, E.** & Won, M. (2015, December 23). An Analysis on Bahrom Character Education III Learning outcomes related OECD key Competency. [Paper presentation]. Seoul Women's University, Seoul, Korea

#### RESEARCH REPORT

- Oliveira, G., Becker, M., Cho, E., Segel., M., Haylea, H., Barbieri, O., and Alex, V. (2020). Report on school climate survey — Potter Rd. Elementary School — Framingham Public Schools. The Framingham multilingual education department. Presented at Potter Rd. Elementary School teacher meeting Jan 27, 2020.
- Shirley, D., Kim, D., Wortham, S., **Cho, E**., Lee, J., Kang, Y., Agostinelli, A., Kim, H., Yang, S., & Pu, M. (2019). *Hyukshin schools in Seoul, South Korea: An interim report*. Seoul Metropolitan Office of Education.
- Seo, D., Kim, E., Cho, E., & Lim., K. (2016). A study on job development and employment support for immigrant youth. Rainbow Youth Center. Retrieved from http://m.rainbowyouth.or.kr/bbs/board3/11024

#### **OTHER ARTICLES**

- Cho, E. (2015). A study on current status and feature of a multicultural alternative school in Korea (국내 다문화 대안학교 현황과 특징에 관한 소고). *Korean Journal of Education Review*, 35, 227–253.
- **Cho, E.** (2015). Sadang Dong +25: Poverty, culture, and research. *Korean Anthropology of Education Newsletter*, 21(4), 1–4.
- **Cho, E.** (2014). Niki de Saintpale: Creative healing of suffering. *Korean Anthropology of Education Newsletter*, 20(1), 3–9.

#### INVITED TALKS

- Supporting immigrant students in schools and communities: Technology-integrated STEM Education. Johns Hopkins University, School of Education, December 4, 2023.
- Korea's innovative (Hyukshin) School movement and curriculum. Deokseong women's university (Prof. So Yoon Kim), Oct 13 & Oct 15, 2020.
- Current status of multiculturalism in Korea and understanding of multiculturalism. Seoul Women's University (Prof. Teresa Pyeon), May 11, 2017.

Research Project on Immigrant Education in South Korea. Seoul Women's University (Prof. Soo-Young Kim), May 17, 2016.

#### TEACHING EXPERIENCE

#### **Georgia Institute of Technology**

#### Senior Research Scientist

Mechatronics and Motivation (In-person) (Undergraduate and graduate, Spring/Fall 2025)

#### **Stonehill College**

#### Assistant Professor

#### **Graduate Courses**

- EDU 609 (In-Person) Educational Equity and Inclusivity (Graduate, Spring/Summer 2024)
- EDU 610 (In-Person) Contemporary Issues in Education (Graduate, Spring/Summer 2024)
- EDU 621 (In-Person) Teaching Math to Students with Disabilities (Graduate, Fall 2023)
- EDU 623 (In-Person) Teaching Content Math to Middle & High School Students with Disabilities (Graduate, Fall 2023)
- EDU 655 (In-Person) Mathematics Teaching and Learning in the Middle School
- EDU 644 (In-person) EDU 644: Graduate Practicum: GEMS (Math/Science 5–8) (Spring 2024) \**Note*: As a program supervisor

#### **Undergraduate Courses**

- EDU 301 (In-Person) Assessment and Analysis in Education (Undergraduate, Fall 2021, Spring/Fall 2022, Spring/Fall 2023)
- MTH 143 (In-Person) Mathematical Reasoning for Education (Undergraduate, Spring/Fall 2022, Spring 2023)
- EDU 320 (In-Person) Teaching Mathematics, Science, and Technology (Undergraduate, Fall 2021, Spring/Fall 2022)
- EDU 315 (In-Person) Curriculum and Instruction (Undergraduate, Fall 2021)
- EDU 435 (In-person) Practicum: Elementary Education 1-6 (Undergraduate, Spring 2021) \**Note*: As a program supervisor
- Directed Study (In-person) Data Science in Education (Undergraduate, Fall 2022)
- Directed Study (In-person) Teaching Mathematics, Science, and Technology [Secondary Education] (Undergraduate, Fall 2022)

#### **Supervising**

EDU 644 (In-person) – Graduate Practicum: GEMS (Math/Science 5–8)

EDU 435 (In-person) – Practicum: Elementary Education 1–6

#### Syllabus Development

EDU 624: Mathematics Teaching & Learning in the Elementary Grades

EDU 625: Number and Operations

EDU 626: Functions and Algebra

EDU 627: Geometry and Measurement

EDU 628: Probability, Statistics, and Data Analysis

#### **Boston College**

#### Instructor

EDUC 7520 (Hybrid) – Mathematics and Technology: Teaching, Learning, Curriculum in the Elementary School (Graduate, Spring 2021)

EDUC 7301 (Online) – Teaching, Curriculum, and Learning Environments (Graduate, Fall 2020)

EDUC 7305 (Online) – Globalization, Migration, and Education (Graduate, Summer 2021)

### Teaching Assistant

EDUC 7301 (Online) – Teaching, Curriculum, and Learning Environments (Graduate, 2018)

EDUC 9819 (In-person) – Educational Change: Communication of Innovations (Graduate, 2018)

Supervising Practicums (In-person) – Using a mixed-reality simulation program (Graduate, Fall 2017)

### **Korea National Open University**

#### Lecturer

Life Development and Education (Undergraduate, 2015, 2016; Department of Lifelong learning \*Lecture per one semester and mid-term exam evaluator)

#### PROFESSIONAL DEVELOPMENT

- 2019 Results from a survey on parental and teacher perception of Portuguese-English bilingual program. Potter Road Elementary School, Framingham, Massachusetts
- 2017 Collaborative coaching and learning program. Epiphany Middle School, Dorchester, Massachusetts

#### **MENTORING and ADVISING**

#### **Mentoring Recognition**

Mentor nominee, 2024 Tri-Alpha inaugural induction ceremony and reception at Stonehill (Inductee, Marissa Solari)

Supporting a mentee (RA) for the NCTM scholarship <u>Link</u>

Selected mentor honoree, 2023 Senior class gift honoree at Stonehill

Link

Mentor nominee, 2023 Tri-Alpha inaugural induction ceremony and reception at Stonehill (Inductee, Gina Herosian)

#### **Academic Advisor**

2023 Fall – 2024 Spring	4 graduate advisees (Graduate Math/Science program) & all graduate students in grad teacher education program at Stonehill
2022 Fall – 2023 Spring	36 undergraduate advisees, Stonehill College
2021 Fall – 2022 Spring	19 undergraduate advisees, Stonehill College
Research Mentoring	
2022–2023	2 research assistants and 2 teaching assistants, Stonehill College
2021-2022	2 research assistants, Stonehill College
2020–2021	Doctoral student mentor (1 doctoral student), Boston College
2019–2020	4 doctoral students and 3 undergraduate students for the Hyukshin school research project, Boston College
	1 graduate student in the survey team of G. Oliveira's research project

## UNIVERSITY SERVICE

Stonehill College	
2023-Present	Led development of two new mathematics education programs for
	teacher licensure in Massachusetts (Mathematics $1-6$ ,
	Mathematics $5 - 8$ )
2023-Present	Diversity, Equity, and Inclusion Com
2021-Present	Affiliated Faculty, Faculty of Color Association
2022-Present	Faculty Advisor, Stonehill College Dance Club
2022-2023	Assistant Director of Accreditation and Assessment Search
	Committee, Education Studies Department
2022	Affiliated Faculty, Book Talk (Whistling Vivaldi: How stereotypes
	affect us and what we can do)

#### SERVICE TO THE PROFESSION

SERVICE TO THE I ROLESSION	
<b>Committee</b>	
2024–2027	Research Committee, The Association of Mathematics Teacher
	Educators
Ad-Hoc Journal	
Reviewer	
2025	Digital Experiences in Mathematics Education
2022-Present	Mathematics Teacher: Learning and Teaching PK-12
2022-Present	Education and Information Technologies
2022	Asia Pacific Journal of Education
2022	Research in Mathematical Education
2021 – Present	Journal of Educational Research in Mathematics
	v

Ad-Hoc Conference Proposal Reviewer	
2025	STEAM leadership conference 2025
2022	The Association of Mathematics Teacher Educators
Others	
2024-2025	Lead, AI Subgroup, Math TechQuity Working Group at the PME-
2018–2019	NA
	Chairperson, Boston College Korean Graduate Student
2008–2009	Association
	Chairperson, Multicultural Education Club (Activity: Tutoring and mentoring immigrant children), Daegu National University of Education

## HONOR, AWARD, & SCHOLARSHIP

2023, 2024	Awarded as an Early Career BIPOC Faculty Mentee, The Association of Mathematics Teacher Educators
2022	Selected Mentee, Manuscript Review Group, The Association of Mathematics Teacher Educators
2022 (March)	The "Professor of the Month" Award, National Residence Hall Honorary, Stonehill College, Easton, MA.
2018	The Best Student Presentation Award, Graduate Research Symposium, Lynch School of Education, Boston College, Chestnut Hill, MA
2017–2021	Fully Funded Ph.D. Scholarship — Stipend and Tuition Waiver, Boston College.
2018–2020	Travel Grants at Boston College  (a) Lynch Doctoral Student Travel Grant 2020 (\$500); 2019  (\$500); 2018 (\$400)  (b) Boston College Graduate Student Association (GSA) 2021
	(\$130);
	(c) Boston College Graduate Education Association (GEA) 2021 (\$125); 2018 (\$120)
2011–2012	Superior Academic Performance, Seoul National University
2011–2012	Lecture & Research Scholarship, Seoul National University
2009–2010	Superior Academic Performance Scholarship, Daegu National University of Education

## **CERTIFICATES**

2021 (Jun 24–30)	Certificate of Achievement, Computer Science Crash Course
2020 (Feb 6–8)	2021, Krause Center for Innovation at Foothill College Selected Attendee, 2020 National Assessment of Education
	Progress (NAEP) Data Training Workshop, American Institutes for Research (AIR)
2007	Teaching Certifications: Elementary School Teacher License, South Korea

## PROFESSIONAL AFFILIATIONS

2022-Present	North American Chapter of the International Group for the Psychology of Mathematics Education [PME–NA] Note. Affiliated working group: Conceptualizing the role of technology in equitable mathematics classrooms (Math TechQuity)
2022–2024	American Association of Colleges for Teacher Education [AACTE]
2021-Present	The Association of Mathematics Teacher Educators [AMTE]
2021-Present	National Council of Teachers of Mathematics [NCTM]
2021-Present	Faculty of Color Association [FOCA], Stonehill College
2017–Present	American Educational Research Association [AERA]
2025-Present	The International Society of the Learning Sciences
2025–Present	Korean-American Scientists and Engineers Association