**SELIN AKGUN**
Assistant Professor of Science Education
Department of Curriculum and Instruction
University of Minnesota
Saint Paul, MN, 55108, United States.
E-mail: sakgn@umn.edu

## EDUCATION

**Ph.D. in Curriculum, Instruction, and Teacher Education**
Michigan State University College of Education, East Lansing, MI, United States.
Graduation: August 2024
Dissertation: *Developing Teacher Identity in Elementary Science: A Longitudinal Study on the Interaction between Student Sensemaking and Teacher Identity*

**Master of Arts (M.A.), Graduate Program in Primary Education**
Bogazici University, Istanbul, Turkey. Graduation: June 2018.
Master's Thesis: *University Students' Understanding of the Nature of Science*

**Bachelor of Science (B.S.), Undergraduate Program in Primary Science Education**
Bogazici University, Istanbul, Turkey. Graduation: June 2015.

## TEACHER CERTIFICATION

**Primary Science Teacher's Certificate, Grades 5-8 | 2015 – Present**

*Primary Level (Middle School) Science Teaching, Ministry of Education, Turkey*

## PUBLICATIONS

### Publications in peer-reviewed journals

Adah Miller, E., Makori, H., **Akgun, S.,** Miller, C., Li, T., & Codere, S. (2022). Including teachers in the social justice equation of project-based learning: A response to Lee & Grapin. *Journal of Research in Science Teaching*, 59(9), 1726–1732.

**Akgun, S**., & Greenhow, C. (2021). Artificial intelligence in education: Addressing ethical challenges in K-12 settings. *AI and Ethics*, 1-10.

**Akgun, S**. & Kaya, E. (2020). How do university students perceive the nature of science? *Science & Education, 29*, 299-330.

Erduran, S., Kaya, E., Cilekrenkli, A., **Akgun, S**., & Aksoz, B. (2020). Perceptions of nature of science emerging in group discussions: A comparative account of pre-service teachers from Turkey and England. *International Journal of Science and Mathematics Education*.

Kaya, E., Erduran, S., Aksoz, B., & **Akgun, S**. (2019). Reconceptualized family resemblance approach to nature of science in pre-service science teacher education. *International Journal of Science Education, 41*(1), 21-47.

Kaya, E., Erduran, S., **Akgun, S.,** & Aksoz, B. (2017). Öğretmen eğitiminde bilimin doğası: Bütünsel bir yaklaşım. *Necatibey Eğitim Fakültesi Elektronik Fen ve Matematik Eğitimi Dergisi, 11*(2), 464-501.

**Peer-reviewed book chapters**

**Akgun, S**. (2021). Supporting students in figuring out phenomena, in J. Krajcik & B. Schneider (Eds.) *Science education through multiple literacies: Project-Based learning in elementary school* (pp. 17-33). Harvard Education Press.

**Akgun, S**., & Krajcik, J. (In publication process). Artificial Intelligence (AI) as the Growing Actor in Education: Raising Critical Consciousness Towards Power and Ethics of AI in K-12 STEM Classrooms: Oxford University Press

**Manuscripts with decision of revise and resubmit**

Adah Miller, E., Li, T., **Akgun, S.,** Makori, H., Codere, S., & Simani, M. Project-based science learning: Adaptation principles to promote equity and productive disciplinary engagement. Submitted to the *Journal of Research in Science Teaching* on July 10, 2023. Decision on August 24, 2023: Revise and Resubmit.

**Public and community engagement through various media outlets**

Invited speaker by STEMEd@State Speaker and Discussion Series. *Artificial intelligence (AI) in K-12 STEM education: Addressing societal and ethical challenges.* Talk will be delivered on February 14, 2024, at MSU's STEM Teaching & Learning Facility.

Invited panelist by Department of State's International Visitor Leadership Program. *Artificial Intelligence in Education: Societal and Ethical Challenges*. Talk was delivered on February 23, 2023, at MSU International Center.

**Akgun, S.** Using effective driving questions in science to help make sense of the world. Edutopia

**Akgun, S**., Miller, E., & Codere, S. Family interviews to promote equity and engagement in science. Edutopia

Invited panelist by UNESCO Institute for Information Technologies in Education for a webinar series called *the use of Artificial Intelligence and Advanced Technologies for Teacher Development* (January 2022).

MSU College of Education News Post – Exploring the ethics of artificial intelligence in K-12 education (https://education.msu.edu/news/2021/exploring-the-ethics-of-artificial-intelligence-in-k-12-education/). Posted on November 3, 2021.

The Sci-Files podcast interview on educational research during pandemic (https://impact89fm.org/95450/podcasts/the-sci-files-02-21-2021-selin-akgun-educational-research-during-a-pandemic/). Posted on February 22, 2021.

Bogazici University News Post – Boğaziçili öğrenciler bilimi nasıl algılıyor? **(**https://haberler.boun.edu.tr/en/node/20400). Posted on March 16, 2020.

## REFEREED CONFERENCE PRESENTATIONS AND PROCEEDINGS

**Akgun, S.,** Lee, H., Choi, K., & Krajcik, J. (2024, March). Supporting AI literacy in K-12 science education: Raising critical consciousness towards ethical AI. Proposal is submitted to present at Annual NARST Conference, Denver, Colorado.

**Akgun, S.,** & Krajcik, J. (2023, August). Sensemaking practices and its relationship to the change in teacher identity: Supporting elementary students in science sensemaking. Paper presented at European Science Education Research Association (ESERA) Biannual Conference.

**Akgun, S**., & Krajcik, J. (2023, April). Rethinking science education through applications of artificial intelligence: Unpacking ethical and societal aspects. Paper presented at the Annual NARST Conference, Chicago, Illinois.

**Akgun, S**. (2023, April). Ethnoreligious discourses in science curriculums and textbooks in Turkey: Exploring science teachers' perspective on the changing content and instruction. Paper presented in a symposium session at Annual AERA Conference, Chicago, Illinois.

**Akgun, S**., Chen, I., Miller, C. S., Makori, H., & Codere, S. (2023, April). Teacher's teaching trajectory in supporting students' learning experiences through the ML-PBL program. Paper presented in a symposium session at Annual AERA Conference, Chicago, Illinois.

Adah Miller, E., Codere, S., & **Akgun, S.** (2023, April). Teacher-driven adaptations: seeding productive uncertainty and moving toward equity-oriented practices. Paper presented at the Annual NARST Conference, Chicago, Illinois.

Greenhow, C., Akhmedova, A., Sutcliffe, J. & **Akgun, S.** (2023). A Vision for teacher education: Blurring learning boundaries with social media. In E. Langran, P. Christensen & J. Sanson (Eds.), *Proceedings of Society for Information Technology & Teacher Education International Conference* (pp. 1835-1841). New Orleans, LA, United States: Association for the Advancement of Computing in Education (AACE).

Lee, R., Choi, K., **Akgun, S.,** Shin, J., Malvi, P., & Dedema, M. (2022). AI & Co-design in public libraries: Empowering underserved youth to cultivate symbiotic relationships between

Artificial Intelligence (AI) and their communities. Workshop delivered in the ASIS & T Annual Meeting, Pittsburg, PA.

Miller, E. A., Li, T., Bateman, K., **Akgun, S**., Makori, H., Codere, S., Richar, S., Simani, M. C., & Krajcik, J. (2022). Adaptation principles to foster engagement and equity in project-based learning. In Chinn, C., Tan, E., Chan, C., & Kali, Y. (Eds.), Proceedings of the 16th International Conference of the Learning Sciences - ICLS 2022 (pp. 1289-1292). International Society of the Learning Sciences.

**Akgun, S.,** Greenhow, C. (2022, June). Artificial intelligence (AI) in education: Addressing societal and ethical challenges in K-12 settings. Paper presented virtually at the Annual ISLS Conference, Hiroshima, Japan.

**Akgun, S**., Simani, M., & Makori, H. (2022, March). PBL adaptation principles to support equitable science instruction. Paper presented at the Annual NARST Conference, Vancouver, Canada.

**Akgun, S**., Chen, I., Li, T., Miller, E., Codere, S., & Krajcik, J. (2022, March). Using ML-PBL teaching practices to support student sensemaking and social-emotional learning in elementary science classrooms. Paper presented at the Annual NARST Conference, Vancouver, Canada.

Fitzgerald, M., Li, T., Miller, C., Miller, E., **Akgun, S.,** Easley. K., Krajcik, J. Severance, S., & Codere, S. (2022, March). Teacher change of practice during project-based science learning enactment: Case studies across diverse contexts. Paper presented at the Annual NARST Conference, Vancouver, Canada.

**Akgun, S.,** & Krajcik, J. (2021, August). Supporting elementary students in making sense of phenomena through project-based learning: A case study. Paper presented at virtual European Science Education Research Association (ESERA) Biannual Conference.

Miller, E., **Akgun, S.,** Fitzgerald, M., Miller, C., Easley. K., Palincsar, A., Li, T., Bartz, K., Schneider, B., Krajcik, J. (2021, April). Teacher change of practice across contexts: Case studies of large-scale project-based science curriculum enactment. Paper presented at virtual Annual AERA Conference.

**Akgun, S**., & Kaya, E. (2021, April). Investigating university students' perceptions of the nature of science. Poster presented at the Annual International NARST Virtual Conference.

**Akgun, S.** (2021, April). Transnational Ph.D. students' learning trajectories with the lens of identity resources. Poster presented at the Annual International NARST Virtual Conference.

**Akgun, S.,** & Kaya, E. (2019). How do university students perceive social-institutional aspects of nature of science? Proceedings of the International History, Philosophy, and Science Teaching (IHPST) Conference, Thessaloniki, Greece.

Aksoz, B., Kaya, E., Erduran, S., **Akgun, S.,** & Cilekrenkli, A. (2019, August). Pre-service science teachers' perceptions of nature of science: Focus group discussion. Paper presented at the European Science Education Research Association (ESERA) Biannual Conference, Bologna, Italy.

Cilekrenkli, A., Kaya, E., Erduran, S., **Akgun, S.**, & Aksoz, B. (2019, April). Perceptions of nature of science: a comparative study on pre-service teachers from England and Turkey. Paper presented at the Annual NARST Conference, Baltimore, MD.

McDonald, C. V., Dagher, Z. R., Erduran, S., Kaya, E., Cullinane, A., Kelly, R., Cilekrenkli, A., Aksoz, B., & **Akgun, S**. (2019, April). Emergent Research using the family resemblance approach to nature of science in science education. Paper presented at the Annual NARST Conference, Baltimore, MD.

Aksoz, B., Erduran, S., Kaya, E., & **Akgun, S.** (2018, March). *Investigating pre-service science teachers' understanding about cognitive-epistemic systems of science.* Paper presented at NARST Annual Conference, Atlanta, GA.

**Akgun, S**., Erduran, S., Kaya, E., & Aksoz, B. (2018, October). *Öğretmen adaylarının bilimin epistemik, bilişsel ve sosyal-kurumsal yönlerine ilişkin algıları.* XIII. Ulusal Fen Bilimleri ve Matematik Eğitimi Kongresi, Denizli, Turkey.

**Akgun, S.**, & Kaya, E. (2018, May). *University students' understanding of nature of science in terms of reconceptualized family resemblance approach.* Paper presented at V. International Eurasian Educational Research Congress, Antalya, Turkey.

**Akgun, S.,** & Kaya, E. (2018, October). *Üniversite öğrencileri bilimi nasıl algılıyor?* XIII. Ulusal Fen Bilimleri ve Matematik Eğitimi Kongresi, Denizli, Turkey.

**Akgun, S**., & Kaya, E. (2018, October). *Üniversite öğrencilerinin bilimin doğasına ilişkin anlayışları* XIII. Ulusal Fen Bilimleri ve Matematik Eğitimi Kongresi, Denizli, Turkey.

Cilekrenkli, A., **Akgun, S**., Aksoz, B., Erduran, S., & Kaya, E. (2018, May). *Nature of science in science teacher education: A comparative study in the context of the Turkey and England.* Paper presented at V. International Eurasian Educational Research Congress, Antalya, Turkey.

Cilekrenkli, A., Kaya, E., Erduran, S., Aksoz, B., & **Akgun, S.** (2018, October). *Türkiye ve İngiltere'deki öğretmen adaylarının bilimin doğasına ilişkin görüşlerinin karşılaştırılması.* XIII. Ulusal Fen Bilimleri ve Matematik Eğitimi Kongresi, Denizli, Turkey.

Kampourakis, K., Abd-El-Khalick, F., Lederman, J., Lederman, N. G., Clough, M., McCommas, W. F., Erduran, S., Kaya, E., Aksoz, B., & **Akgun, S.** (2018, March). Practical perspectives in teaching and learning nature of science. Paper presented at the Annual NARST Conference, Atlanta, GA.

**Akgun, S**., Aksoz, B., Kaya, E., & Erduran, S. (2017, July). *Pre-service science teachers' understanding of methods and methodological rules of science.* Paper presented at the International History, Philosophy and Science Teaching Group (IHPST) Biannual Conference, Ankara, Turkey.

Aksoz, B., **Akgun, S.,** Erduran, S., & Kaya, E. (2017, July). *Exploring pre-service science teachers' understanding social-institutional aspects of science.* Paper presented at the International History, Philosophy and Science Teaching Group (IHPST) Biannual Conference, Ankara, Turkey.

Aksoz, B., Kaya, E., Erduran, S., & **Akgun, S.** (2017, August). *Pre-service science teachers' understanding of scientific practices: A mixed-method investigation.* Paper presented at the European Science Education Research Association (ESERA) Biannual Conference, Dublin, Ireland.

**Akgun, S**., Erduran, S., Kaya, E., & Aksoz, B. (2017, August). *Pre-service science teachers' understanding of aims and values of science.* Paper presented at the European Science Education Research Association (ESERA) Biannual Conference, Dublin, Ireland.

**Akgun, S**., Kaya, E., Erduran, S., & Aksoz, B. (2017, April). *Pre-service science teachers' perceptions of scientific knowledge.* Paper presented the Bogazici Symposium on Nature of Science in Science Education. Istanbul, Turkey.

**Akgun, S.**, Kaya, E., Erduran, S., & Aksoz, B. (2017, April). *Pre-service science teachers' perceptions of scientific knowledge.* Paper presented at the Annual NARST Conference, San Antonio, TX.

Tas, T., Cetin, Kaya, E., Erduran, S., **Akgün, S.,** & Aksöz, B. (2017). Öğretmen eğitiminde bilimin doğası: Bütünsel bir yaklaşım. *Necatibey Eğitim Fakültesi Elektronik Fen ve Matematik Eğitimi Dergisi*, *11*(2), 464-501.

**Akgun, S**., Aksoz, B., Kaya, E., Erduran, S., & Tas, T. (2016, September). *Aile benzerliği yaklaşımına dayalı bilimin doğası öğretimi: Öğretmen adaylarının bilimin sosyal ve kurumsal yönlerine ilişkin algıları.* XII. Ulusal Fen Bilimleri ve Matematik Eğitimi Kongresi, Trabzon, Turkey.

**Akgun, S.,** Aksoz, B., Kaya, E., & Erduran, S. (2016, October). *Pre-service science teachers' perceptions about social-institutional systems of science: A research project based on the family resemblance approach.* Paper presented at the Limerick Symposium on Nature of Science in Science Education: Recent Debates and Future Directions. Limerick, Ireland.

Aksoz, B., **Akgun, S**., Kaya, E., & Erduran, S. (2016, October). Teaching scientific practices and scientific knowledge through a holistic approach. Paper presented at the Limerick Symposium on Nature of Science in Science Education: Recent Debates and Future Directions. Limerick, Ireland.

**Akgun, S.** (2016, September). *Bilimin doğasına yönelik karşılaştırmalı çalışma: Farklı disiplinlerde eğitim gören üniversite öğrencilerinin bilimin doğasına ilişkin algıları.* XII. Ulusal Fen Bilimleri ve Matematik Eğitimi Kongresi, Trabzon, Turkey.

Aksoz, B., Kaya, E., Erduran, S., **Akgun, S.,** & Tas, T. (2016, June). *Pre-service science teachers' perceptions of the nature of science: An investigation based on the Family Resemblance Approach.* Paper presented at III. International Eurasian Educational Research Congress, Mugla, Turkey.

P. S., Kaya, E., Erduran, S., **Akgun, S**., & Aksoz, B. (2016, September). *Öğretmen adaylarının bilimin doğasına ilişkin görüşleri: Aile benzerliği yaklaşımına dayalı bir çalışma.* XII. Ulusal Fen Bilimleri ve Matematik Eğitimi Kongresi, Trabzon, Turkey.

## TEACHING EXPERIENCE

**Primary (Middle School) Science Teacher | Sept 2014- June 2015**
Istanbul Technical University Science Education Center, Istanbul, Turkey

*I developed instructional materials based on the Turkish National Science Curriculum from 5$^{th}$ to 8$^{th}$ grade. I also implement those materials to middle school students specifically from minoritized communities (immigrants and/or socioeconomically disadvantaged students).*

**Primary (Middle School) Science Teacher | Aug 2015- June 2016**
Istanbul Bilgi University, Energy Museum for Youth, Istanbul, Turkey

*I taught science to middle school students from 6$^{th}$ to 8$^{th}$ grade. I supported them in figuring out the phenomena connects to earth and physical sciences, and in resolving environmental community issues relates back to science.*

**Tutor, Middle School Science and Mathematics | Sept 2017- June 2019**

*I taught middle school science (including physical sciences, earth and space sciences, life sciences) and middle school-level mathematics*

**Teaching Assistant | Fall, 2017**
PRED 351- Laboratory Applications in Primary Science Education, Bogazici University, Turkey

*I supported pre-service science teachers in designing and planning various middle-school level science investigations as they implement them in their micro-teachings in methods courses, as well as in their internship schools.*

**Course Instructor | Fall, 2021**
TE 403- Teaching Science to Diverse Students, Michigan State University

*I taught this course to provide a foundation for elementary pre-service teachers to begin teaching science and to continue growing as a teacher of science throughout their career. During the course, I supported them to work towards equitable and just science teaching and learning aligned with research-based principles embodied in the NGSS.*

**Course Co-Instructor | Spring, 2022**
TE 804 - Reflection and Inquiry in Teaching Practice, Michigan State University

*I co-taught reflection and inquiry in elementary science teaching practice with Dr. Christina Schwarz. The course was designed to support pre-service teachers (PSTs) to reflect and build on ideas and concepts they have encountered throughout their work in the teacher preparation program. We supported PSTs in analyzing their own and peers' planning and enactment of NGGS-aligned lessons.*

**Course Instructor | Fall, 2022**
*TE 403*- Teaching Science to Diverse Students, Michigan State University

*I taught this course to provide a foundation for elementary pre-service teachers to begin teaching science and to continue growing as a teacher of science throughout their career. During the course, I supported them to work towards equitable and just science teaching and learning aligned with research-based principles embodied in the NGSS.*

**Course Instructor | Spring, 2023**
*TE 804* - Reflection and Inquiry in Teaching Practice, Michigan State University

*I taught this course to support elementary pre-service teachers to teach science in elementary classrooms. Drawing from sensemaking and justice-centered science teaching practices, the class was designed to support elementary pre-service teachers in planning and implementing NGSS-aligned, equitable lessons focused on building on student ideas.*

## RESEARCH EXPERIENCE

**Graduate Research Assistant | January 2016 – January 2018**
Nature of science in science teacher education: A comparative research and development project, funded by Bogazici University Research Fund Grant Number 10621. PIs: Dr. Ebru Kaya, Dr. Sibel Erduran

*I worked with pre-service science teachers to support them how to incorporate epistemic-cognitive and institutional aspects of nature of science in their future elementary science classrooms. As a research assistant, I supported quantitative and qualitative data generation and analysis. I helped developing and conducting surveys and interview protocols with pre-service teachers. I used various analysis software (SPSS and NVivo) to analyze the generated data*.

**Graduate Research Assistant | June 2017 – June 2018**
University students' understanding of reconceptualized family resemblance approach to nature of science: A case study, funded by Bogazici University Research Fund Grant Number 12860. PI: Dr. Ebru Kaya

*This research fund is allocated by Bogazici University to support my masters' thesis through the data generation and analysis process. I worked with university students from different disciplines (arts and sciences, education, and engineering majors) and investigated the similarities and differences in their perceptions of the nature of science (NOS) on epistemic, cognitive, and social-institutional aspects of science.*

**Graduate Research Assistant | August 2019 – June 2023**
Multiple Literacies in Project-Based Learning, Michigan State University, CREATE for STEM Institute, funded by Lucas Education Research. PI: Dr. Joseph Krajcik; Co-PIs: Dr. Barbara Schneider, Dr. Emily Adah Miller

*I worked with elementary students and teachers, and researchers across sites to support data generation and analysis. I acted as lead researcher to develop and facilitate professional development session with 3rd grade teachers and to collect and analyze interview data using Atlas.ti. I generated observation field notes, conducted interviews, and documented artifacts. I created analytic heuristics and codebooks used by the team to analyze data across years in the project.*

**Graduate Research Assistant | February 2022 – August 2023**
AI & Co-design in public libraries: Empowering underserved youth to cultivate symbiotic relationships between Artificial Intelligence (AI) and their communities. Michigan State University, funded by National Leadership Grants – Libraries. PIs: Dr. Heerin Lee, Dr. Kahyun Choi

*I collaborated with scholars from the Department of Media and Information to design and implement modules for promoting upper elementary students' critical AI literacy. As a research assistant, I helped facilitating series of workshops with the students as we enacted the modules we created. I also generated field notes, collected documented artifacts created by students, and conducted interviews with the with students.*

**Graduate Research Assistant | August 2023 – May 2024**
Evaluating Effects of Automatic Feedback Aligned to a Learning Progression to Promote Knowledge-In-Use. Michigan State University, funded by National Science Foundation (NSF). PIs: Dr. Kevin Haudek, Dr. Leonora Kaldaras, Dr. Joseph Krajcik

*I am working as part of a research team to study the effects of automatic feedback which aligned with learning progression to promote knowledge-in-use for high school students. I am helping to develop meaningful and relevant feedback statements for students' models, develop and conduct interview protocols for teachers and students about the feedback statements, and facilitate PL sessions for the teachers.*

## PROFESSIONAL SERVICE

**Journal Reviewer, *Science Education* |** September 2020 – Present

**Journal Reviewer, *Science & Education* |** September 2020 – Present

**Journal Reviewer, *TechTrends* |** June 2022 – Present

**Journal Reviewer, *AI and Ethics* |** March 2023 – Present

**Conference Proposal Reviewer, *NARST* |** 2018 – Present

**Conference Proposal Reviewer, *ESERA* |** 2021 – Present

**Facilitator of Critical Conversations in Research for Doctoral Students | February 2020**
*I helped planning and assisting the session on 'Alternative' milestones: Reimagining the dissertation and exploring research possibilities." doctoral students in College of Education, Michigan State University*

**Professional Development | October 2020 - May 2021**
Adapting Multiple Literacies in Project-Based Learning (ML-PBL) for Virtual Contexts

*I co-planned and facilitated online professional learning sessions for 3rd grade in-service teachers who participated in ML-PBL project during 2020-2021. The sessions focused on how to adapt ML-PBL curriculum in online learning settings in a meaningful and equitable way.*

**CITE Steering Committee Representative | June 2020- June 2021**
*College of Education, Curriculum, Instruction and Teacher Education (CITE) Program, Michigan State University, East Lansing, MI*

**CITE Mentoring Committee | June 2021- June 2022**
*College of Education, Curriculum, Instruction and Teacher Education (CITE) Program, Michigan State University, East Lansing, MI*

**Program Committee Member | March 27-April 2, 2023**
*The 38th ACM/SIGAPP Symposium on Applied Computing: Special Track on Artificial Intelligence for Education; Tallinn, Estonia*

**Practicum Committee Member | September 2023 - May 2024**
*Serving as a graduate student committee member for the practicum committee of Anara Akhmetova, Curriculum, Instruction and Teacher Education (CITE) Program, Michigan State University, East Lansing, MI.*

## FELLOWSHIPS

**Science Writing for News Outlets Program | September 2020- December 2020**
*Michigan State University, The Graduate School, East Lansing*

**Global Curriculum Fellowship (GCF) | February 2021- February 2022**
*Office of International Studies in Education (OISE), Michigan State University, East Lansing*

**Summer Research Fellowship | May 2021 - August 2021**
*College of Education, Michigan State University, East Lansing, Joseph Krajcik (Faculty P.I.).*

**Summer Research Fellowship | May 2022 - August 2022**
*College of Education, Michigan State University, East Lansing, Joseph Krajcik (Faculty P.I.).*

**Summer Research Fellowship | May 2023 - August 2023**
*College of Education, Michigan State University, East Lansing, Joseph Krajcik (Faculty P.I.).*

**Sandra K. Abell Institute for Doctoral Students | June 4-9, 2023**
*Clemson University, College of Education, Clemson, SC*

**ESERA Summer School for Doctoral Students | July 3-8, 2023**
*Institute of Science Education, Kaiserslautern, Germany*

## MEMBERSHIP IN PROFESSIONAL SOCIETIES

American Education Research Association (AERA)
European Science Education Research Association (ESERA)
National Association for Research in Science Teaching (NARST)
International Society of the Learning Sciences (ISLS)
International History, Philosophy, and Science Teaching Group (IHPST)
Science Educators for Equity, Diversity, & Social Justice (SEEDS)
National Science Teaching Association (NSTA)