Ella Yonai, PhD
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RESEARCH & TEACHING INTERESTS

Science education; social and emotional engagement in science teaching and learning; science teacher resilience and burnout; emotions as a driver of curriculum design and professional learning; and authentic construction and enactment of contemporary STEM knowledge
Mixed Methods, Network Analysis, Quantitative Methods

EDUCATION

2023 (May) Ph.D., Science Education
Advisor: Dr. Ron Blonder
Weizmann Institute of Science, Israel
The affective experience of authentic science education environments: design and research
Bar-Ner Award for Outstanding PhD Dissertation

2018 MSc., Science education (Part of a direct Ph.D. TRACK)
Advisor: Dr. Ron Blonder
Weizmann Institute of Science, Israel
Communication about contemporary science between scientists, teachers and students

2015 MSc., Physics and Physics education
Rothchild–Weizmann program for in-service teachers,
Weizmann Institute of Science, Israel
Using Facebook to facilitate online and class discussions between students about surface tension

2012 License and teaching certificate in secondary physics education
Ben-Gurion University in the Negev. Israel

2012 BSc, Physics with a minor in nanophysics
Ben-Gurion University in the Negev. Israel

2005 Practical Engineer Certificate in Mechanical Engineering
The Technion - Israel Institute of Technology

POSITIONS HELD

Tertiary Research and Teaching Experience

2025-present Visiting Assistant Professor of Science Education, Department of Curriculum and Teaching, Auburn University, AL.

2023-2025 Postdoctoral associate in science education, University of Georgia

The position is funded through three National Science Foundation grants. It involves developing ancillary projects, mentoring graduate students, conducting data collection and analysis, publishing and presenting research associated with the projects.

Undergraduate and Graduate Courses Taught

Auburn CTSE 5090/6090 Science Methods1
CTSE 2500 Inquiry Approaches to Science Teaching & Lesson Design (Step 1 & 2 Combo)

UGA ESCI 9730: Science Teacher Education; ESCI 6420E: Synchronous Instruction for Elementary Science; ESCI 4450/6450: (Secondary) Science Curriculum and Learning

Funded STEM Education Research Projects

2023-Present **SCAFFOLD** *(Science Coordinators Advancing a Framework For Outstanding Leadership Development)* NSF funded partnership between UGA and Clemson university.

RACER *(Resources Accessed to Cultivate and Enhance Resilience)* Noyce funded partnership between Kent State University, Eastern Washington University and UGA.

SPLENDIT (Science Professional Learning Enriching District Coordinators and Influencing Teachers) NSF funded partnership between Clemson university and UGA.

2018-2023 **We.SEM**, (Weizmann Educational Scanning Electron Microscope Initiative) Established and directed an outreach program at the Weizmann institute. The project involved scientists, science teachers and students. Participants worked together with a scanning electron microscope on inquiry projects in direct and remote modes.

Other Teaching Experience

2018-2022 Teaching professional development courses and workshops for in-service teachers in the national center for Chemistry teachers

2011-2019 Teacher in public education (Makif Sha'ar HaNegev, 2011-2015; Makif A, Be'er Sheva, 2015-2019): Grades 7 to 12, Physics (main focus, 2011-2019), Mathematics (2011-2013), and Engineering (2012-2015); *established the engineering program at Sha'ar HaNegev High School.*

2011-2017 Lecturer at a private engineering collage SCE (2011-2017): Undergraduate physics courses, robotics, and MATLAB programming labs at the Department of mechanical engineering.

2009-2011 Therapeutic instructor for at-risk youth at a crisis center.

2008-2010 Coordinator in a mentoring project for children from high needs homes.

SCHOLARLY ACTIVITIES

Peer-Reviewed Publications (*with graduate students)

In Review ***Yonai, E.**, He, X., Luft, J., & Whitworth, B. Mapping the Emotion Domain of Science Practices through Teachers' Lesson Reflections. *Journal of the Learning Sciences.*

In Review *__Yonai, E.,__ Shinar, I., & Blonder, R. Have We Allowed Science Teacher Knowledge Lose Touch with Real Science? Time to Tie the Knot Between Introductory and Contemporary Content Knowledge *Journal of Science Teacher Education.*

In Review *__Yonai, E.,__ Loureiro, P., Ayano, E., Luft, J__.,__ & Navy, S. Situated Emotional Resilience as a Balancing Act: A Network Analysis of New Science Teachers Attunement in Laboratory and Text Centered Lessons. *Journal of Research in Science Teaching.*

In Review Adah Miller, E., Berland, L., **Yonai. E.** A Humanist Approach to Professional Learning: Centering Satisfaction as Integral to Learning with and through New Curriculum. *Science Education.*

In Review Navy, S.L. & **Yonai, E.** Early Career STEM Teacher Burnout: Trends and Explanations. *Journal of Teacher Education*

Accepted Luft, J.A., Huang, Y., Singh, H., Deluca, J., **Yonai, E.**, Bateman, J., Watson, S., Ayano, E., Ozen-Tasdemir, H., & Whitworth, B. Practices, attributes and knowledge of science district coordinators: Building a foundation. *Journal of Science Teacher Education*

Accepted *__Yonai, E.,__ Ayano, E., Loureiro, P., Navy, S. & Luft, J__.__ Navigating Challenges as Opportunities: The Role of Emotions in Teaching Science as Practice. *The Science Teacher.*

2025 *__Yonai, E.,__ Roy, A., He., X, Schwendemann, M., Luft, J., & Whitworth, B (2025). The Asset of Noticing: What New Science Teachers' Noticing of Classroom Instruction Reveals About Their Knowledge of Science Practices. *Journal of Science Teacher Education.*

2025 **Yonai, E.**, Weiner, S., Shimoni, E. & Blonder, R. (2025). The SEMinal Impact of Contemporary Science: Integrated Authentic Science Design and Students' Self-Efficacy and Career Aspirations. *International Journal of Science Education.*

2025 **Yonai, E.**, Adah Miller., E., Sherman., & M., Koom., J. (2025). PCK, Who? Exploring Cultural Context in Science Teacher Knowledge Models. *The Science Teacher.*

2024 **Yonai, E.**, & Blonder, R. "Powered by emotions": Exploring emotion induction in out-of-school authentic science learning. *Journal of Research in Science Teaching.*

2022 **Yonai, E.**, & Blonder, R. Uncovering the emotional aspect of inquiry practices in a remote SEM environment and the development of a designated questionnaire. *Journal of Chemical Education.*

2022 **Yonai, E.**, Shimoni, E. & Blonder, R.. Authentic science learning during COVID-19: The adaptive design of a SEM outreach activity. *The Biophysicist.*

2020 Rap, S., Feldman-Maggor, Y., Aviran, E., Shvarts-Serebro, I., Easa, E., **Yonai, E.**, ... & Blonder, R.. An applied research-based approach to support Chemistry teachers during the COVID-19 pandemic. *Journal of Chemical Education.*

2020 **Yonai, E.**, & Blonder, R.,. USE YOUR OWN WORDS! Developing science communication skills of NST experts in a guided discourse, *International Journal of Science Education, PartB.*

2020 **Yonai, E.**, & Blonder, R. (2020). Scientists suggest insertion of nanoscience and technology into middle school physics. *Physical Review Physics Education Research.*

Book Chapters

2020 Blonder, R., & **Yonai, E.** (2020) *Exposing school students to nanoscience: A review of published programs.* 21st Century Nanoscience–A Handbook

Professional Conference Presentations- peer reviewed (*with graduate students)

ACS 2026 **Yonai, E.,** & Blonder, R. Cracking the egg: Aligning teacher content knowledge with the nature of science through authentic engagement with contemporary content knowledge (CCK)

AERA 2025 ***Yonai, E.,** Roy, A., He., X, Schwendemann, M., Luft, J., & Whitworth, B. Newly-hired Science Teachers Noticing and Early Perceptions of Science and Engineering Practices.

Adah Miller, E., Berland, L., **Yonai, E.** Centering affect and emotion toward justice and dignity in science education.

NARST 2025 ***Yonai, E.,** Loureiro, P.C., Ayano, E., Luft, J., & Navy. S., Emotional Resilience Narratives in New Science Teachers' Lessons: Delineating Emotion-Attuned Science Instruction.

*He, X., **Yonai, E.**, Luft, J., Ayano, E., Loureiro, P. A. C., DeLuca, J., & Huang, Y. Is AI a viable coder? An exploratory study using ChatGPT for in vivo coding.

Borgerding, L.A., Navy, S.L., **Yonai, E.**, & Ayano, E. Early Career Science and Math Teacher Wellbeing: Self-care Needs and Practices.

Navy, S.L., **Yonai, E.,** & Prince, A.O. Early Career STEM Teacher Burnout: Trends and Explanations.
Idsardi, R., Hamada, E., Navy, S. Borgerding, L., Luft, J., **Yonai, E.** Early Career Science and Mathematics Teachers' Access to and Use of Resources Over Two Years.

Pavez, J., **Yonai, E.**, Navy, S. Newly Hired Science Teachers Cultivating Resilience: Proximal Assessments and Distal Reflections.

NARST 2024 **Yonai, E.,** & Blonder, R., The SEMinal impact of out-of-school science: A study of affective models in authentic learning

Yonai, E., Rap, S., & Blonder, R. The resilience of science teachers facing an emerging crisis in different career stages.

Pavez, J., **Yonai, E.,** Navy, S., Luft, J., Prince, A., Borgerding, L. & Idsardi, R. (2024). From Challenge to Coping: Exploring Resilience Trends and Strategies Among Newly Hired Science Teachers.

*DeLuca, J.D., Luft, J.A., & **Yonai, E.** Sensemaking of District Provided Curriculum: How Teachers Adapt Resources in their Own Context.

Luft, J. A., **Yonai., E.,** Deluca, J., Ozen, H., Ayano, E., Huang, Y., Bateman, J., & Whitworth, B.A. (2024). The learning of science teachers within a district: Teachers' Perspectives.

Idsardi, R., Navy, S., Luft, J., Borgerding, L., **Yonai, E.,** Hamada, E., Prince, A., Kulp, K., Ayano, E., & Pavez, J. (2024). Early Career Science and Mathematics Teachers' Access to and Use of Resources.

*Ayano, E. I., Prince, A., Luft, J.A., Navy, S., Borgerding, L., Idsardi, R, & **Yonai, E.** (2024). Exploring the new science teacher practices that reflect a growth mindset.

NARST 2022 **Yonai, E.,** & Blonder, R. An adaptive design of a remote, authentic-SEM, outreach activity.

NARST 2021 **Yonai, E.,** & Blonder, R. An authentic experience with a Scanning Electron Microscope as a "resonator" for emotion towards science. *(ONLINE)*

ACS 2021 **Yonai, E.,** & Blonder, R. Design principles of an authentic SEM activity for high school chemistry students. *(ONLINE)*

ESERA 2019 **Yonai, E.,** & Blonder, R. *PRINCIPLE-BASED DESIGN:* A course for teachers on working with a Scanning Electron Microscope (SEM).

IPEN 2019 **Yonai, E.,** & Blonder, R. Evaluating nanoscience and technology (NST) experts' science communication skills during a guided discourse. ***BEST POSTER AWARD.***

Invited talks and workshops

2026 *Show and Tell: On using visuals in conference presentations.* Invited online talk, Clemson university graduate student forum, USA.

2022 *A window into contemporary science research: A hands-on workshop with a scanning electron microscope.* ECRICE, Israel

2019 *Communicate yourself - workshop for scientists.* IPEN, Germany

Service

2026-present JRST Editorial Board Member

2025-present NARST Professional Learning and Institutes Committee

2022-present Reviewer for journals, *International Journal of Science Education, Journal of Research in Science Teaching.*
Outstanding Reviewer Award for Excellence in Scholarly Reviews, International Journal of Science Education, 2024

2022-present Conference Reviewer for ECRICE 2022, NARST 2024-2026, AERA 2025

2023-2025 Leading an academic writing group for graduate students at UGA

2023-2024 NARST ECI, Project coordinator for the first NARST Early Career Institute

2018 Conference organization committee member: Science and Mathematics Learning Technologies in Education Innovation and Pedagogical Aspects