# Amelia M. Farid
Curriculum Vitae

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## EDUCATION

Ph.D.  **University of California, Berkeley**
Science and Mathematics Education (SESAME); expected 2022

Dissertation: *Mathematical practices of defining: Shifts in form-function relations in undergraduates' activity*

Committee: Dor Abrahamson (co-chair), Geoffrey Saxe (co-chair), Alan Schoenfeld

Qualifying Exam specializations: cultural-developmental theories of mathematical cognition; mathematical practices of defining; the development of rational number knowledge

M.A.  **University of California, Berkeley**
Mathematics; 2015

Thesis: *The Sato-Tate conjecture: A survey.* Advisor: Xinyi Yuan

B.A.  **Columbia University,** New York, NY
Mathematics, East Asian Languages and Cultures (double major); 2011

Thesis: *Grassroots NGOs in China and their relationship with local government*

## PUBLICATIONS

*Refereed Journal Articles*

**Farid, A.** (Under review). A comparative analysis of undergraduates' definitional practices: Differing forms and functions for mathematical definitions.

**Farid, A.** (In preparation). A sociocultural approach to definitional practices in mathematics: Defining as shifts in form-function relations.

Saxe, G. B., **Farid, A.** (2021). The interplay between individual and collective activity: An analysis of classroom discussions about the Sierpinski triangle. *International Journal of Research in Undergraduate Mathematics Education.*

Brereton J., **Farid A.**, Karnib M., Marple G., Quenon A., & Tefera A. (2011). Combinatorial and Automated Proofs of Certain Identities. *The Electronic Journal of Combinatorics.* *18*(2).

*Conference Proceedings*

**Farid, A.** (2016). Supporting discursive shifts toward mathematical defining. In M. Wood, E. Turner, M. Civil & J. A. Eli (Eds.), *Proceedings of the 38th annual meeting of the North-American Chapter of the International Group for the Psychology of Mathematics Education* (p. 701). University of Arizona.

## CONFERENCE PRESENTATIONS

**Farid, A.** (2022, February 24). *Undergraduates' conceptualizations of the functions and forms of mathematical definitions* [Poster presentation]. 2022 Conference on Research in Undergraduate Mathematics Education (RUME); Boston, MA.

**Farid, A.** (2020, April 18). *Student conceptualizations of the functions served by mathematical definitions* [Poster presentation]. 2020 American Educational Research Association (AERA) Annual Meeting; San Francisco, CA (Canceled due to COVID-19).

**Farid, A.** (2020, March 12). *Relations between disciplinary practices and conceptual understanding in mathematics: Leveraging definitional practices to support students' fraction understanding* [Discussion panel]. The 2020 National Academy of Education/Spencer Fellows Spring Retreat, Washington, D.C.

**Farid, A.** (2018, June 2). *Definitional forms and their functions in mathematical thinking: Students' epistemological considerations* [Paper presentation]. The 48th Annual Meeting of the Jean Piaget Society, Amsterdam, the Netherlands.

**Farid, A.**, & Kulinsky, E. (2018, April 9). *Students' mathematical practices of defining: a Piagetian perspective* [Paper presentation]. The 1st Annual Meeting of Mathematical Cognition and Learning Society, Oxford, UK.

**Farid, A.** (2017, June 9). *Definitional shifts in mathematics* [Paper presentation]. The 47th Annual Meeting of the Jean Piaget Society, San Francisco, CA.

**Farid, A.** (2016, November 5). *Supporting discursive shifts toward mathematical defining* [Poster presentation]. The 38th annual meeting of the North-American Chapter of the International Group for the Psychology of Mathematics Education (PME-NA). Tuscon, AZ: University of Arizona.

**Farid, A.** (2016, February 26). *The Specifications Game: Developing mathematical practices of defining* [Poster presentation]. The 16th Annual Education Research Day, Berkeley, CA: UC Berkeley.

**Farid A.** (2010, August 5). *Proofs Outside the Box: Combinatorial Proofs of Certain Identities* [Paper presentation]. The Mathematical Association of America Mathfest. Pittsburgh, PA.

## AWARDS & HONORS

2020    UC Berkeley Dissertation-Year Fellowship ($27,000)
2019    National Academy of Education/Spencer Dissertation Fellowship ($27,000)
2019    Barbara White Bequest for STEM Education ($1,080)
2018    Summer Mentoring and Research Teams Research Funds ($1,000)
2018    Summer Mentoring and Research Teams Award ($5,000)
2018    Barbara White Bequest for STEM Education ($1,400)
2017    UC Berkeley Graduate Division Conference Travel Grant ($1,500)
2017    SESAME Block Grant ($5,000)
2016    UC Berkeley Graduate Division Conference Travel Grant ($900)

2016    SESAME Block Grant ($2,000)
2013    UC Berkeley Chancellor's Fellowship ($24,500)
2012    UC Berkeley Chancellor's Fellowship ($24,500)

## RESEARCH EXPERIENCE

2017-2019     Online Placement & Assessment for Undergraduate Mathematics Students
              P.I.: Dean Frances Hellman, College of Letters & Sciences, **UC Berkeley**

2016-2017     Gesture Enhancement of Virtual Agent Mathematics Tutors
              P.I.: Dor Abrahamson, Graduate School of Education, **UC Berkeley**

2010          Eisenstein Series and Zeta Functions
              P.I.: Yakov Kerzhner, **Columbia University**

2009          Combinatorial Identities
              P.I.: Aklilu Zeleke, **Michigan State University**

## TEACHING EXPERIENCE

**UC Berkeley**

2021 – 2022    **Learning and Knowing in Mathematics and Science**
               Graduate student instructor; 2 semesters

2017           **Pre-Calculus**
               Lead instructor; 2 semesters

2014 – 2016    **Calculus I; Calculus II; Linear algebra; Math for biology**
               Graduate student instructor; 6 semesters

**Academic Talent Development Program**

2017           **Algebra I**
               Teacher for middle school students

**Columbia University**

Fall 2011      **Calculus I**
               Teaching assistant

**Community-Based Education**

2012 – present    **Junior Youth Empowerment Program**
                  Coordinator and mentor building partnerships with youth, families,
                  principals, classroom teachers, and coordinators of after-school programs

## CURRICULUM DEVELOPMENT

2019 – present      **Fundación para la Aplicación y Enseñanza de las Ciencias (FUNDAEC)**

Revised mathematics curricula for a formal, non-classroom education program for rural development, in use across Latin America, Africa, and Asia; piloted use of the FUNDAEC mathematics curricula in historically underserved neighborhoods in North America

2018 – present      **Junior Youth Empowerment Program (JYEP)**

Developed mathematics curricula for use in community-based educational programs

## MENTORING EXPERIENCE

2018-2019      **Thesis Advising, UC Berkeley**

Advised undergraduate student in conducting research and writing undergraduate senior thesis.

2018      **Student Mentoring and Research Teams, UC Berkeley**

Completed a course on mentoring in higher education; designed a mentored research opportunity for an undergraduate mentee; worked with undergraduate mentee in guided study and mathematics education research.

## SERVICE

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| Peer Review | *Journal for Research in Mathematics Education* <br> *Educational Studies in Mathematics* <br> *Digital Experiences in Mathematics Education* |
| Professional Memberships | American Educational Research Association (AERA), <br> International Society of the Learning Sciences (ISLS) |
| Application Review | CalTeach Undergraduate STEM Education Program |

## LANGUAGES

Mandarin (native), English (native), Spanish (fluent), Farsi (fluent).

## REFERENCES

**Geoffrey B. Saxe**
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**Dor Abrahamson**
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