

# Postdoctoral Associate in Mathematics Education

University of Pittsburgh | School of Education | Department of Teaching, Learning, and Leading  
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## Postdoctoral Research Fellow Position in Mathematics Education

**Invitation:** Applicants are invited to apply for a full-time postdoctoral research fellow position at the University of Pittsburgh School of Education under the mentorship of Dr. Kari Kokka. The postdoctoral research fellow will have the opportunity to work with a highly-engaged group of mathematics teacher-leaders working in partnership with their high school students to implement social justice mathematics. Social justice mathematics involves teaching the dominant mathematics while investigating a social issue, taking action, and using healing-informed practices.

**Summary of the Position:** Partnering with Teachers and Students to Engage in Mathematical Inquiry about Relevant Social Issues is a five-year research project funded by the National Science Foundation. The postdoctoral research fellow will join the project in year 2 of the study. The position start time is flexible, either in the Summer or Fall of 2022. This is an exciting opportunity to work alongside mathematics teacher partners working to use social justice mathematics tasks in their classrooms with students advising their task design. This research was initiated by the teachers and administrators of the school, and therefore the teacher partners are highly engaged and are leaders in the work. The position will also allow time (20%) for the postdoctoral researcher to forward their own work (e.g., publishing from their dissertation) and receive mentorship from Dr. Kokka. The postdoctoral research fellow will be invited to engage with and become a member of the scholarly community at Pitt. Dr. Kokka will connect the postdoctoral research fellow with faculty and students in the School of Education, involve the researcher with research groups, and share about events facilitated by the Center for Urban Education, the Department of Teaching, Learning, and Leading, the Dean's office, as well as share about events related to mathematics education and social justice teaching outside of the University of Pittsburgh. Dr. Kokka will also work closely with the postdoctoral research fellow to collectively set goals so that she can support the candidate's career aspirations.

**Brief Study Info:** This qualitative, participatory design study partners with the mathematics department of one high school to investigate the following research questions: (1) How do teachers learn to adapt mathematics tasks to make them cognitively demanding and socially relevant for their students? How do contextual factors (e.g., specific school context/location/history, student backgrounds, teacher backgrounds, such as race, ethnicity, and class) influence teacher learning? (2) What dilemmas become salient and how do teachers negotiate them while implementing the tasks? (3) How do these tasks improve students' attitudes about mathematics and feelings of empowerment? In the first year, the research team (PI) and two mathematics teacher-leaders from the school will co-design the professional development experience focused on designing and implementing mathematics tasks grounded in issues that are socially relevant to students. In years 2-4, the mathematics department will engage in this professional development, co-facilitated by the PI, postdoctoral researcher, and teacher-leaders with continual input from teacher participants. Teacher participants will create student advisory boards who will offer feedback to teachers about the relevance of the mathematics tasks. Participants will videotape their own classrooms to share brief vignettes (5-8 minutes long) that highlight dilemmas and/or successes for video club sessions as part of the professional development series. Video club sessions

offer opportunities to discuss challenges and successes with colleagues and offer peer support. These video clips will also become video case studies, along with the mathematics task and teacher reflections, for use by mathematics teacher educators and professional development providers through a project website. In addition, in years 3-4 the project team will develop four detailed classroom case studies, accompanied by coaching support from the research team.

### **Position Responsibilities:**

- Meet with teachers to support their design and implementation of social justice mathematics tasks
- Build relationships with, observe, support, and coach teachers using a collaborative nonhierarchical approach
- Co-facilitate professional development sessions with teachers and Dr. Kokka
- Collect and analyze data (e.g., classroom observations, teacher meetings, professional development workshops)
- Write articles for co-publication
- Organize data
- Design and maintain a website of social justice mathematics tasks, templates, protocols, resources, etc.
- We will also work toward the postdoctoral research fellow's professional goals, e.g., publishing from the dissertation, tenure track job search, etc. and include them in the scholarly community at Pitt

### **Minimum Qualifications:**

- Doctorate in mathematics education, curriculum, and instruction, teacher education, or a related field preferably by the start date of the position
- Experience teaching mathematics in PK-12 schools
- Demonstrated ability to form strong relationships with teachers and students
- Demonstrated ability to conduct research (e.g., collect and analyze data, write)
- Demonstrated ability to communicate well, meet deadlines, ask for help when needed, etc.

### **Desired Qualifications:**

- Experience designing or implementing social justice mathematics (e.g., [Berry et al, 2019](#) ), culturally relevant mathematics, or real-world mathematics tasks
- Experience with project-based learning or performance assessment
- Experience with student group work
- Experience teaching mathematics at the middle or high school level
- Experience facilitating teacher professional development workshops
- Experience as an instructional coach
- Qualitative methods training (Any experience with video analysis would be a big plus as this is an area of expertise needed for the project.)
- Demonstrated ability to publish research
- Experience or interest in creating and managing a website

- Experience with or interest in learning how to use various technological tools to help with data collection and analysis, e.g., Swivl, Go React

The position will begin Summer or Fall of 2022, depending on the availability of the applicant. The grant has funding for a postdoctoral researcher for four years. The position is renewable after the first year, given strong performance, and the duration is flexible given what opportunities arise for the postdoctoral research fellow. Salary starts at \$53,000 with yearly increases and benefits. The postdoctoral research fellow will also receive a computer and travel support to conferences.

Please send your (a) cover letter describing your relevant background, your professional goals, and your interest in and potential contribution to the project, (b) curriculum vitae, (c) a sample research paper (does not need to be published), and (d) a list of 2-3 professional references and their contact information (please do not ask them for letters), (e) optional: any other relevant information the candidate wishes to include.

Materials should be sent to Dr. Kari Kokka, PI, at [kokka@pitt.edu](mailto:kokka@pitt.edu). Application review will begin on **January 18, 2022**, and will continue until the position is filled. Thank you for your consideration, and feel free to reach out with any questions.

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**Assignment Category** Full-time regular

**Campus** Pittsburgh

**Required Attachments** Cover Letter, Curriculum Vitae, Other (see posting for additional details) <https://bit.ly/PittPostdoc>

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