

Joash Geteregechi, Ph.D.

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Education

- 2015 – 2020 **Ph.D. (Mathematics Education), Syracuse University, New York, USA**
Dissertation: *Investigating middle school students' mathematical reasoning in a connected in-school and out-of-school context*
Advisor: Prof. Joanna Masingila.
- 2010 – 2013 **M.Sc. (Mathematics Education), Kenyatta University, Nairboi, Kenya**
Thesis: *Determinants of students' mathematics performance in Nyamira North District, Kenya*
Advisor: Dr. Marguerite Khakasa Miheso-O'Connor, & Dr. Rukangu Simon.
- 2005 – 2008 **B.Ed. (Mathematics & Chemistry), Egerton University, Kenya.**
Project: *3-D Glass Models for Supporting High School Students' Learning of Geometry (Implemented during Teaching Practicum)*

Employment History

- 2020 – **Assistant Professor of Mathematics, Ithaca College (IC), NY, USA.**
I have taught the following courses at Ithaca College:
- MATH 145: Statistics for life, health, and social sciences
- MATH 111: Calculus I
- [MATH 108](#): Applied Calculus
- MATH 105: Math for Decision-making
- [MATH 246](#): Intermediate Statistics
- MATH 321: Graph Theory and Combinatorics
- [MATH 155](#): Basic Statistical Reasoning
- MATH 144: Statistics for Business, Economics and Management
- [MATH 104](#): Finite Mathematics with Calculus
- [MATH 240](#): Basic Statistics with R
- 2015 – 2020 **Teaching Assistant (Mathematics), Syracuse University, NY, USA.**
I taught the following courses at Syracuse University as Instructor of Record:
- MATH 194: Regular Pre-calculus
- MATH 193: Algebra-infused pre-calculus
- MATH 296: Calculus I
- MATH 286: Calculus for Life Sciences I
- MATH 121: Probability and Statistics for Liberal Arts I
- MATH 122: Probability and Statistics for Liberal Arts II
- MATH 117: Foundational Mathematics via problem-solving I - For preservice teachers
- MATH 118: Foundational Mathematics via problem-solving II - For preservice teachers

Employment History (continued)

- 2017 ■ **Teaching Assistant (Secondary Mathematics Methods Course).** Syracuse University, NY, USA.
Assisted in a mathematics methods and curriculum course (SED 413/614) meant for pre-service mathematics teachers. More specific roles included:
- Reviewing the pre-service teachers' edTPA materials and providing feedback.
- Collaborative lesson planning with the professor.
- Choosing readings in line with weekly themes.
- Occasional leading of classroom discussions.
- 2013–2015 ■ **Part-time Lecturer (Statistics & Research Methods).** University of Eldoret, Kenya.
- My students were government administrators (chiefs and assistant chiefs) drawn from several locations in Nyakach Constituency in Kisumu County in Kenya.
- This course explored the use of statistical techniques for evidence-based policy-making and decision processes.
- 2014 ■ **Part-time Lecturer (Mathematics).** University of Kabianga, Kericho, Kenya.
- Taught a math course (Real Analysis) for students in the in-service (holiday) teacher program.
- 2010–2015 ■ **High School Teacher (Mathematics & Chemistry).** Nyamauro Secondary, Kenya.
- Taught mathematics and chemistry across all grades (Form 1 to 4). - Served as acting deputy principal for two years and then as senior teacher for two years. - Served as head of the department of mathematics and sciences.
- 2009–2010 ■ **High School Teacher (Mathematics & Chemistry).** Kebabe Girls High School, Kenya.
- Taught mathematics and chemistry across all grades.
- Served as academic parent to a group of six girls.
- Organized events to promote a favorable attitude toward mathematics.
- Organized and conducted remedial classes during after-school hours and weekends.

Research Publications







Journal Articles (Peer reviewed)

- 2025 ■ **Geteregechi, J.M.** (2025) An Examination of undergraduate students' problem-posing and its interaction with problem-solving processes. *International Electronic Journal of Mathematics Education*, 20(1), emo809. <https://doi.org/10.29333/iejme/15738>
- 2023 ■ **Geteregechi, J.M.** (2023) Investigating undergraduate students' mathematical reasoning via problem posing. *International Journal of Mathematical Education in Science and Technology*, 1-20. <https://doi.org/10.1080/0020739X.2023.2169646>
- 2018 ■ Ogembo, J.O., & **Geteregechi, J.M.** (2018). Influence of language skills on students' learning and achievement in mathematics in basic education in Kenya. *Research Journal of Educational Studies and Review* 4 (1), pp. 6-11.







Articles in Conference Proceedings (Peer reviewed)

- 2023 ■ **Geteregechi, J.M.** (2023). Analyzing the Reasoning Types potentially Required by Tasks in an Open-Source Introductory Statistics Textbook. In Cook, S., Katz, B. & Moore-Russo D. (Eds.). *Proceedings of the 25th Annual Conference on Research in Undergraduate Mathematics Education*. Omaha, Nebraska, USA. http://sigmaa.maa.org/rume/RUME25_Proceedings.pdf



Research Publications (continued)

- 2022  **Geteregechi, J.M. (2022).** Investigating undergraduate students' mathematical creativity via problem posing. In Scott, A.C (Eds) *Proceedings of the 12th Annual Conference on International Group on Mathematical Giftedness and Creativity*. Las Vegas, NV, USA. <https://doi.org/10.37626/GA9783959872263.0>
-  **Geteregechi, J.M. (2022).** Characterizing undergraduate students' problem-posing products and processes in an Introductory Business mathematics course. In Karunakaran, S. S., & Higgins, A. (Eds.). (2022). *Proceedings of the 24th Annual Conference on Research in Undergraduate Mathematics Education*. Boston, MA, USA. <http://sigmaa.maa.org/rume/RUME24.pdf>
-  Altindis, N. **Geteregechi, J.M., & Waswa A. (2022).** Networking multiple reasoning perspectives to characterize students' thinking about quantities and quantitative relationships. In Karunakaran, S. S., & Higgins, A. (Eds.). *Proceedings of the 24th Annual Conference on Research in Undergraduate Mathematics Education*. Boston, MA, USA. <http://sigmaa.maa.org/rume/RUME24.pdf>
- 2020  **Geteregechi, J.M., & Waswa A. (2020).** Opportunities for reasoning-and-proving in a University precalculus textbook. In Karunakaran, S. S., Reed, Z., & Higgins, A. (Eds.). *Proceedings of the 23rd Annual Conference on Research in Undergraduate Mathematics Education*. Boston, MA, USA. <http://sigmaa.maa.org/rume/RUME23.pdf>
- 2019  Wambua, W.M., Fonger, N.L., & **Geteregechi J.M. (2019).** Exploring cogenerative dialogues with undergraduates to improve teacher feedback practices in probability and statistics. In Weinberg, A., Moore-Russo, D., Soto, H., & Wawro, M. (Eds.). *Proceedings of the 22nd Annual Conference on Research in Undergraduate Mathematics Education*. Oklahoma City, Oklahoma, USA. *Proceedings of the 22nd Annual Conference on Research in Undergraduate Mathematics Education*. pp. 1195-1196 Oklahoma City, Oklahoma, USA. http://sigmaa.maa.org/rume/RUME22_Proceedings.pdf
- 2015  **Geteregechi, J.M.,** Miheso-O'Connor, M. K., & Ondigi, S.R. (2015). How does notational competence affect student understanding and performance in mathematics? *Proceedings of the 4th International Conference on Education*, pp. 221-226. Nairobi, Kenya.





Talks

- Mar 2021  Exploring undergraduate students' mathematical reasoning via problem posing. Research Talk (Preliminary Report) at the 2021 Mathematical Association of America (MAA) Mathfest Meeting. Virtual (Hopin and Zoom), USA. **(Peer reviewed Abstract)**
- Nov 2021  Opportunities for mathematical reasoning in Open-source Statistics textbook. Research talk at the 5th North Eastern Chapter of Research in Undergraduate Mathematics Education. Virtual (Zoom), New York, USA. **(Peer reviewed Abstract)**
- Sep 2020  Opportunities for reasoning-and-proving in a precalculus course textbook. Research Brief at the 47th annual conference on Research Council on Mathematics Learning (RCML). Las Vegas, Nevada, USA. **(Peer reviewed Abstract)**
- Sep 2019  Investigating the nature of student learning in a precalculus course from a mathematical reasoning perspective. Talk at the 3rd North Eastern Chapter of Research in Undergraduate Mathematics Education. York College, New York, USA. **(Peer reviewed Abstract)**
- Mar 2019  Creative mathematical reasoning among undergraduate students of mathematics. Talk at the 44th Annual New York State Regional Graduate Mathematics Conference. Syracuse University, New York, USA. **(Peer reviewed Abstract)**
- Sep 2018  Opportunities for reasoning and proof in Form 2 (Grade 10) Mathematics textbooks in Kenya. Talk at the 10th Annual conference of Kenya Scholars and Studies Association (KESSA). Atlanta, Georgia, USA. **(Peer reviewed Abstract)**

Talks (continued)









- Sep 2017  Investigating the role of mathematical problem posing on pre-service teachers' problem solving processes. Proceedings of the 45th Annual Conference on Research Council on Mathematics Learning. Baton Rouge, Louisiana, USA. **(Peer reviewed Abstract)**
- July 2015  A focus on research methods for doctoral work. Participant and speaker at the pre-conference (4th International Conference on Education) workshop bringing together graduate students from South, East, and Central Africa. Held at Kenyatta University in Nairobi, Kenya.

Professional Development




- 2021 - 2022  **Project NExT Fellow - Mathematical Association of America** A series of professional development workshops focusing on supporting recent PhD graduates in academia. Workshops included the following topics:
- Innovative teaching techniques, e.g., Flipped classroom, Inquiry-Based-Learning, etc.
- Setting up a research agenda
- Finding service roles
- Standard-based grading, among others.
- July 2021  **United States Conference on Teaching Statistics (USCOTS)**
A workshop series focusing on effective teaching and learning of undergraduate introductory statistics courses.
- Implementing passion-driven statistics curriculum.
- Engaging students in authentic real-world statistics projects
- Jun 2021  **Mathematical Sciences Research Institute (MSRI)**
- Explored the role of mathematics in the movement for social justice
Discussed how classroom practices and bias in algorithms may perpetuate injustice.
- May 2024  **Expanding and Assessing the Art and Practice Of Statistical Thinking (EAPOST)**
- Teaching Introductory Statistics with GAISE: Statistical Investigation Process, Multi-Variable Thinking, Simulation-Based Inference"
- Feb 2024  **Expanding and Assessing the Art and Practice Of Statistical Thinking (EAPOST)**
Direct Experiences with Student Activities for Learning Statistical Concepts.
- 2021 - 2022  **Early Career Excellency Institute (ECEI): Course (Re)Design**
Program was sponsored by Ithaca College's Center for Faculty Excellence (CFE). The aim was to build community and share experiences in teaching. Emphasis was placed on evidence-based teaching:
- Participants shared specific teaching challenges (dilemmas) and brainstormed possible ways to address the dilemmas.
- Participants designed lessons to implement the suggested solutions and implemented them.
- Participants observed each other's lessons and shared feedback.

Service and Leadership

Service to the Mathematics Department






- 2021 –  **Ithaca College Math Department: Activities Committee**
- Planned mathematics colloquia.
 - Organized awards ceremonies to recognize student achievements in mathematics.
 - Planned mathematics exploration day - an event that brings high school students to the college to experience fun and hands-on math activities.
- 2022 –  **Ithaca College Math Department: Student Advising**
- Supporting students to navigate their academic journey by offering guidance on course selection for their major, graduation requirements, among others.
- 2021 - 2022  **Ithaca College Math Department: Supporting Students Committee**
-   - A committee whose role was to find ways that mathematics students at Ithaca College could be better supported to succeed.
- Created a **new** mathematics support center - a dedicated place where students can get free tutoring and help with homework.
 - Served as chair of the committee.
-  **Ithaca College Math Department: Diversity Equity and Inclusion Committee**
-  - The committee's role was to find ways to make the mathematics department more inclusive and to create a sense of belonging for all students.
- Conducted a survey among the faculty to inform us on where we were at the time as far as inclusivity goes.
 - Encouraged faculty to attend events planned by Physics department during the MLK week.
 - Highlighted underrepresented mathematicians from the past and their role in the development of the field of mathematics.
- 2021  **Ithaca College Math Department: World of Math Guest Lecturer**
- The Role of Problem Posing in teaching and learning of college-level mathematics courses.

Service to Ithaca College










- 2025  **Ithaca College: Center for Instructional Design and Educational Design and the Center for Faculty Excellence**
- As a previous recipient of the AI mini-grant, I was selected to serve as a reviewer of AI mini-grant proposals for the next cohort.
- 2023  **Ithaca College School of Humanities and Sciences: Curriculum Committee**
- We reviewed course and program proposals before they moved to the college-wide curriculum committee for further review and approval.
- 2023 –  **Ithaca College: Academic Policies Committee**
- Serving as a member of the college-wide committee in charge of reviewing course and program proposals (APC-Curriculum).
 - The committee also reviews new and revised college-wide policies in general.

Service and Leadership (continued)










Service to the Community

- 2023, 2025  **Ithaca College Math Department: Math Exploration Day**
  - Math Exploration Day (MED) at Ithaca College brings together high school students and their teachers to experience fun and hands-on mathematics activities.
- Led a table activity during the MED in 2023 and 2025.
- Took part in the planning of the 2024 MED.
- 2022  **Ithaca College Math Department: Community Math Day**
 - Community Math Day brings together students in grades PreK–5 and their families to explore mathematics together through games, puzzles, building blocks, reading, music, art, and more.
- Led a table activity (The Last Cookie) during the Community Math Day.






Other Service Activities

- May 2024  **Alumni Talk: Syracuse University Future Professoriate Program (FPP).** Gave a talk to an audience of PhD students about "Experiences working at a liberal arts college in the United States". White Eagle Hotel and Conference Center, Hamilton, New York.
- 2021 –  **Research in Undergraduate Mathematics Education (RUME) reviewer**
- I have served as a reviewer for the RUME conference proposals since 2021.
- 2019–2020  **Syracuse University: Graduate Student Organization Senator**
- Graduate student representative at the University Senate as well as the Student Body Senate (GSO).
- served in the finance committee, where we reviewed various proposals for funding and made policies about budgets and funding of graduate student programs.
- 2018 - 2019  **Syracuse University: Academic Program Senator**
- Represented mathematics education graduate students at the GSO senate.
- Aug 2019  **Syracuse University: African Graduate Students Network (AGSN)**
- Initiated the formation of an organization that brings together African graduate students at Syracuse University. Served as secretary.
- 2010 - 2013  **Kenyatta University: Class Representative**
- Served as master's class representative with the main role of facilitating communication between the department/professors and the class members.
- printed and distributed course materials among our class members.
-  **Ikonge-Ekerenyo: INKA Association**
  - Together with my former high school principal and other students, we formed INKA (translates to Home) association, whose main goal was to sensitize our rural community on the importance of education and why children should be sent to school.
- I served as the chairman of the association.


Awards and Certificates

- 2024  **Ithaca College Center for Faculty Excellence: AI Mini Grant**
- Awarded a mini-grant to develop and implement lessons on the use of generative AI in the teaching and learning of statistics. Received a \$600 stipend.
-  **Pi Mu Epsilon National Honor Mathematics Society - Ithaca College Chapter**
- Inducted to Pi Mu Epsilon in recognition of contributions made in supporting the mathematics field.
- 2022  **Ithaca College Mathematics Department**
- Awarded a travel grant (\$1,600) to present my research at the *12th Annual Conference on International Group on Mathematical Giftedness and Creativity* held in Las Vegas, Nevada.
- 2021  **Syracuse University: All-University Doctoral Prize**
- Won the all-university doctoral prize. The prize comes with a \$500 honorarium.
- Key criteria were the rigor and depth of the research methods in the dissertation.
- 2020  **Syracuse University: Robert Exner Prize in Mathematics Education**
- Awarded annually to an outstanding student in the Mathematics Education PhD program.
- 2018  **Syracuse University — Certificate in University Teaching**
- Participated in the Future Professorial Program (FPP) that tracks and awards successful teaching of undergraduate courses. Awarded to a small fraction of the over 200 TAs who run their own courses.
-  **Syracuse University — Outstanding Teaching Award**
- Awarded by Syracuse University's Graduate School for outstanding performance in undergraduate teaching of mathematics courses.
-  **Phi Beta Delta International Honor Society - Syracuse University Chapter**
- Certificate awarded in recognition of academic excellence in graduate studies. Awarded only to those with GPA of greater than 3.7.
- 2014  **DePaul University - Certificate in Values-Centered Leadership (online)**
- Gained knowledge and skills in organizational management and enhancing collaboration among team members.
- Learned the value and importance of institutional mission/vision and how to design daily activities towards these broad goals.
Learned about polarity management strategies and how to apply them in conflict resolution.






Technical Skills

- Languages  English, Swahili, and Kisii (Kenya).
- Coding  Python, R, ...
- Data Analysis  **Quantitative:** R, Python, Minitab, and SPSS.
Qualitative: MAXQDA, NVIVO, ATLAS.ti
- Databases  MySQL, SQLite.
- Web Dev  HTML, CSS, JavaScript.

Technical Skills (continued)

LMS +  Canvas, Blackboard, and Sakai.
WebAssign, Edfinity, MyOpenMath, WebWork.

Professional Affiliations

-  Mathematics Association of America (MAA)
-  American Mathematical Society (AMS)
-  Research Council on Mathematics Learning (RCML)
-  International Group of Mathematical Creativity and Giftedness (IGMCG)
-  Teachers' Service Commission (Kenya)

References

Available on Request