

Dr. Greg Mayer

Academic Professional, School of Mathematics, Georgia Institute of Technology, Atlanta, GA, USA

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Skills

Writing and Editing

Published 11 peer-reviewed articles in mathematics, image processing, and education. Over five years of experience on an editorial board for the World Journal of Educational Research.

Teaching

Ten years of experience teaching at the post-secondary level. Experience teaching large (200+ students) classes and MOOC courses on EdX. Experience with face-to-face, online, and hybrid.

Programming Languages and Software

Asana, LaTeX, Python, Fortran, MATLAB, HTML, Arduino, MSOffice, SoftChalk, Camtasia Studio, Final Cut Pro, WordPress, MediaWiki, WebWork, Canvas, Desire2Learn, Angel, Sakai, Moodle.

Education

Master of Education, Specializing in Distance Education

Athabasca University, Athabasca, AB, Canada. Completed 2018.

Doctorate of Philosophy

Applied Math, University of Waterloo, Waterloo, Canada. Completed 2008.

Master of Science

Electrical and Computer Engineering. University of Calgary, Calgary, Canada. Completed 2003.

Honors Bachelor of Science

Applied Math and Geophysics. University of Western Ontario, London, Canada. Completed 2001.

Work Experience

Academic Professional (July 2018 to current), and Academic Professional Associate (May 2015 to July 2018)

School of Mathematics, Georgia Institute of Technology, Atlanta, GA, USA

- teach, coordinate, support, and develop curriculum for undergraduate level courses
- support instruction of distance learning programs and courses
- assist with organization of undergraduate events and conferences
- conduct research on online undergraduate courses for high school students
- assist with course scheduling, communications, and School of Math internal website

Course Instructor

TestDaily, <https://www.testdaily.cn/>

August 2020 to January 2021

- developed and taught two project-based six-week courses on ordinary differential equations for high school students in China via online learning

Academic Coach

Instructional Connections, instructionalconnections.com

July 2020 to current

- supporting course instructor and graduate students in education research courses offered at Southern Oregon University
- facilitating and grading online forum discussions

Private Tutor

December 2020 to January 2021 (six weeks)

- met with a Grade 5 student twice a week to support learning of fractions and decimals
- developing worksheets and homework to meet the individual needs of the student

Postdoctoral Fellow

School of Mathematics, Georgia Institute of Technology, Atlanta, GA, USA

June 2014 to May 2015

- conducted research on fully online outreach programs for high school students who are enrolled in undergraduate level courses through dual enrollment
- co-authored articles and conference abstracts
- developed content for online professional development courses for high school teachers
- developed curriculum for online math courses for advanced high school students

Postdoctoral Fellow

Center for Education Integrating Science, Engineering, Mathematics and Computing, Georgia Institute of Technology, Atlanta, GA, USA

June 2012 to June 2014

- researched online outreach programs for high school students enrolled in undergraduate level courses in linear algebra, multivariable calculus, and number theory
- co-authored articles and conference abstracts to present primary education research
- developed content for online professional development courses for high school teachers
- developed curriculum for online math courses for advanced high school students

Mathematics Curriculum Postdoctoral Fellow

Department of Mathematics, University of British Columbia, Vancouver, BC, Canada

May 2011 to May 2012

- collaborated with faculty and graduate students to create online digital media and interactive applications for calculus courses
- set-up, delivered, and evaluated the success of an online pre-calculus program
- conducted a needs analyses with instructors to develop funding proposals for online learning programs and resources
- co-wrote a proposal that secured \$41,472 in funding for the development of a pre-calculus program to help students transition from high school to college

Instructional Digital Media Developer

Centre for Extended Learning, University of Waterloo, Waterloo, Ontario, Canada

August 2009 to April 2011

- developed content and interactive applications for the delivery of online courses
- served on committees to investigate emerging technologies and accessibility issues
- investigated, tested, and introduced instructional innovations
- advised instructors on the effective use of technology in online math courses

Recent Publications

Mayer, G., Sekai, D. (2018). Pedagogical Practices of Teaching Assistants in Polysynchronous Classrooms: The Role of Professional Autonomy. *InSight*. 13, 130-139.

Mayer, G., Lingle, J., Usselman, M. (2017). Student involvement, satisfaction, and cohesion in synchronous online recitations mediated over web conferencing software. *Educational Technology & Society*. 20(2), 15-26.

Mayer, G. (2016). The Development of Collaboration and Community Among Advanced High School Mathematics Students Mediated via Web Conferencing Software. *International Journal for Scholarship of Technology Enhanced Learning*, 1(1)

Mayer, G., & Hendricks, C. (2014). Interaction Patterns in Synchronous Online Calculus and Linear Algebra Recitations. *Online Journal of Distance Learning Administration*, 17(2).

Mayer, G. S., Vrscay, E. R., Lauzon, M. L., Goodyear, B. G., & Mitchell, J. R. (2008). Self-similarity of Images in the Fourier Domain, with Applications to MRI. In *Image Analysis and Recognition* (pp. 43-52). Springer Berlin Heidelberg.

Recent Presentations

The Distance Math Program. Celebrating Teaching Day, GT Campus, March 2020.

The Distance Math Program. Celebrating Teaching Day, GT Campus, March 2019.

Teaching Assistant Experiences in Blended Learning Settings, and Open Educational Resource Development for Introductory Linear Algebra Courses. G. Mayer, A. Abbas, J. Rabinoff, K. Williams. Gateway Course Experience Conference, Atlanta, GA. Mar 18, 2019.

The Distance Math Program. Celebrating Teaching Day, Georgia Tech Campus, March 2018

Supporting Teaching Assistants in a Blended Synchronous Learning Environment. G. Mayer, A. Abbas. Joint Math Meeting, San Diego, CA. Jan 2018.

The Pedagogical Practices of Teaching Assistants in Polysynchronous Classrooms: The role of Professional Autonomy. G. Mayer, D. Sakai. AMS Spring Southeastern Sectional Meeting, Charleston, SC. Session on Active Learning in Undergraduate Mathematics. March 11, 2017.

Recent Workshop Organization and Facilitation

2020: led a five-day math-refresher bootcamp for incoming graduate students in the MS Analytics Program at Georgia Tech on calculus, linear algebra, and probability and statistics.

2020: with Dr. Henry Matzinger organized and facilitated a two-day machine learning bootcamp in March at Agnes Scott College for roughly 20 students. Led a session on text classification.

2019: with Dr. Henry Matzinger organized a machine learning bootcamp in December for roughly 30 graduate students from across campus. Gave sessions on programming in Python and classification.

2019: organized a MATH 3012 mini-conference for 45 high school students. The event involved a research poster session, lunch, talks from GT faculty.

2018: helped organize the MATH 2803 mini-conference for 57 high school students. The event involved a poster session, lunch, talks from GT faculty.

Teaching Experience

Teaching Appointments on EdX

Offer Date	Course Name	Approximate Enrollment
09/2020 - current	Linear Algebra 1	6,000
09/2020 - current	Linear Algebra 2	2,100
10/2020 - current	Linear Algebra 3	1,200
10/2020 - current	Linear Algebra 4	1,100

Teaching Appointments at The Georgia Institute of Technology in Atlanta, GA

Semester	Course	Course Name	Enrollment	Format
2021 Spring	MATH 1554	Linear Algebra	120	Online
2021 Spring	MATH 2552	Differential Equations	50	Online
2020 Fall	MATH 1554	Linear Algebra	577	Online
2020 Summer	MATH 2552	Differential Equations	155	Online
2020 Spring	MATH 2552	Differential Equations	54	Online
2020 Spring	MATH 1554	Linear Algebra*	86	Face-to-face
2019 Fall	GT 1000	First Year Seminar	31	Face-to-face
2019 Fall	MATH 1554	Linear Algebra*	377	Blended
2019 Summer	MATH 2552	Differential Equations	128	Blended
2019 Spring	MATH 1554	Linear Algebra*	113	Face-to-face
2018 Fall	MATH 1554	Linear Algebra*	369	Blended
2018 Fall	GT 1000	First Year Seminar	36	Face-to-face
2018 Spring	MATH 2552	Differential Equations	86	Face-to-face
2017 Fall	MATH 1554	Linear Algebra*	269	Blended
2017 Fall	GT 1000	First Year Seminar	39	Face-to-face
2017 Spring	MATH 1553	Introduction to Linear Algebra	56	Face-to-face
2017 Spring	MATH 1551	Differential Calculus	86	Face-to-face
2016 Fall	MATH 1554	Linear Algebra	279	Blended
2016 Fall	GT 1000	First Year Seminar	32	Face-to-face
2016 Summer	MATH 2550	Intro to Multivariable Calculus	14	Face-to-face
2016 Spring	MATH 2550	Intro to Multivariable Calculus*	83	Face-to-face
2015 Fall	MATH 1502	Calculus II	250	Blended

* indicates I was also the course coordinator with at least three different sections.

Teaching Appointments at The University of Waterloo, in Waterloo, ON, Canada

Semester	Course	Course Name	Enrollment	Format
2010 Fall	MATH 250	Introduction to Differential Equations	201	Face-to-face
2009 Fall	MATH 116	Calculus I for Engineers	85	Face-to-face
2009 Winter	MATH 228	Differential Equations	13	Face-to-face
2008 Fall	MATH 117	Calculus I for Engineers	125	Face-to-face
2007 Fall	MATH 116	Calculus I for Engineers	67	Face-to-face
2006 Fall	MATH 116	Calculus I for Engineers	105	Face-to-face

Recent Awards

- Fulmer Prize. Awarded 2020. Recognizes School of Math faculty who exhibit genuine regard for undergraduate students during the first few years of Engineering studies at Georgia Tech.
- Student Recognition of Excellence in Teaching: Fall 2020 CIOS Honor Roll. Awarded 2021 for Teaching MATH 1554 in Fall 2020. Acknowledges Georgia Tech instructors who have earned excellent scores on questions related to instructor's respect and concern for students, level of enthusiasm about teaching the course, and ability to stimulate interest in the subject matter.