Paul Regier

Curriculum Vitae

University of Science and Arts of Oklahoma
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▬▬▬ Profile Statement

- Assistant Professor of Mathematics at the University of Science and Arts of Oklahoma (USAO)
- Interest in teaching and research that builds a better understanding of the impact of creativity on student motivation and self-efficacy for mathematics.
- Research experience in quantitative and qualitative data analysis.
- Capabilities:
  - **Teaching:** Seven years of teaching and mentoring experience in undergraduate mathematics.
  - **Language:** English (first language), Spanish (conversationally fluent)
  - **Computer:** R, NVivo, Qualtrics, Matlab, C++, Java

▬▬▬ Education

Doctor of Philosophy, Mathematics, *University of Oklahoma (OU)*, Norman, OK | 2020

> Thesis: *How creativity-fostering instruction impacts student motivation & self-efficacy for proving*
> Advisor: Miloš Savić, Ph.D

M.S., Electrical and Computer Engineering, *Oklahoma University*, Norman, OK | 2010-2011

> Thesis: *Generalized and Controlled Equalizing Algorithms for Distributed Convex Optimization*
> Advisor: Choon Yik Tang, Ph.D

B.A., Mathematics and Physics, *Bethel College (BC)*, North Newton, KS | 2005-2009

▬▬▬ Academic Employment

Assistant Professor of Mathematics, *USAO*, Chickasha, OK | 2020 – Present

Graduate Teaching Assistant, *OU*, Norman, OK | 2014 – 2020

Bethel College Summer Science Institute Instructor, *BC*, North Newton, KS | June 2019

Faculty of Mathematics and Natural Science, ***Hesston College***, Hesston, KS | 2012 – 2014

Graduate Research Assistant, *OU*, Norman, OK | 2010 – 2011

▬▬▬ Courses Taught

Instructor of Record:

> Foundations of Mathematics (Introductions to Proofs) | Fall 2021
> Calculus and Analytical Geometry IV | Fall 2021
> Multivariate Regression Analysis | Spring 2021
> Math in the Modern World | Fall 2020, Spring 2021, Fall 2021
> Linear Algebra | Fall 2020
> Elementary Statistics | Fall 2020, Spring 2021, Fall 2021
> Linear Algebra | Fall 2020
> Trigonometry | Spring 2018, Fall 2020, Spring 2021

Courses Taught (Continued)

Instructor of Record:

College Algebra | Spring 2013, Spring 2014, Fall 2014, Spring 2015
Pre-calculus for Business, Life, and Social Sciences | Spring 2017
Calculus I for Business, Life, and Social Sciences | Spring 2016, Fall 2017
Calculus II for Business, Life, and Social Sciences | Fall 2016, Spring 2018
Principles of Physical Sciences | Fall 2012, Fall 2013
Introduction to MS Excel | Spring 2013

Discussion/Recitation:

Calculus II | Fall 2019
Calculus III | Fall 2015

Instructional Certifications

Quality Matters (QM) Designing Your Online Course (DYOC) Certification | 2021
Completed QM's inter-institutional peer-reviewed quality assurance DYOC certification process for designing and teaching online courses

Departmental Teaching Certification, *OU*, Norman, OK | 2018
Departmental endorsement in preparation for teaching undergraduate mathematics

Math Center Head Learning Specialist, *OU*, Norman, OK | 2015
Appointed mathematics tutor center position, attended the University College (UC) Peer Learning training

Academic Service

Reviewer for Zentralblatt für Didaktik der Mathematik (International Reviews on Mathematical Education) | 2021

Reviewer for Problems, Resources, and Issues in Mathematics Undergraduate Studies (PRIMUS) | 2021

Reviewer for the Journal of Mathematical Behavior (JMB) | 2019-2020

Reviewer for the Proceedings of the Conference on RUME | 2017-2020

Collaborative Active Learning Resource Development In Calculus I-II under SEMINAL (Mathematics through an Institutional Network for Active Learning) grant (NSF-IUSE-1624610) | Summer 2018/2019

Mathematics Department Graduate Seminar Organizer, *University of Oklahoma* | 2019-2020

Academic Appeals Panelist, *University of Oklahoma* | 2019-2020

Committee Member for Hesston College Campus Stewardship Council | 2012-2014

Research Experience

Thesis Research on Undergraduate Mathematics Education (RUME), *OU* | 2017 − 2020

Topic: *The impact of creativity-fostering instruction on student self-efficacy and self-motivation toward mathematics*
Advisor: Miloš Savić, Ph.D,

▬▬▬ Research Experience (Continued)

Collaborative research under National Science Foundation (NSF) Improving Undergraduate STEM Education (IUSE) grant, *OU* | 2018 to Present

> Topic: *Reshaping Mathematical Identity by Valuing Creativity in Calculus*
> Award: NSF-IUSE-1836371, 1836369
> Principal Investigators: Miloš Savić, Ph.D, & Gail Tang, Ph.D,

Research Assistantship in Computer Engineering, *OU* | 2010 − 2011

> Topic: *Control-Theoretic Approaches to Communication-Efficient, Distributed Convex Optimization over Wireless Networks*
> Award: NSF-CMMI-0900806
> Principle Investigator: Choon Yik Tang, Ph.D

Research Experience for Undergraduates (REU) in Metrology, *OU* | Summer 2008

> Topic: *Simulation of Distributed Algorithms for Convex Optimization*
> Award: NSF-EEC-0755011
> Supervisor: Choon Yik Tang, Ph.D

▬▬▬ Publications

Peer-Reviewed Journal Articles

Regier, P. (in preparation). How does Mathematical Problem Posing foster Intrinsic Motivation?

Regier, P., & Miloš , M. (2019). How teaching to foster mathematical creativity may impact student self-efficacy for proving. *Journal of Mathematical Behavior*: 100720.

Lu, J., Tang, C. Y., **Regier, P. R.**, & Bow, T. D. (2011). Gossip algorithms for convex consensus optimization over networks. *IEEE Transactions on Automatic Control*, vol. 56, no. 12, pp. 2917-2934.

Refereed Proceedings

Regier, P., Miloš , M., & El Turkey, H. (2021). A quantitative analysis of six aspects of student identity and creativity-fostering instruction. *Proc. of the 14th International Congress on Mathematics Education,* Shanghai, China.

Karakök, G., El Turkey, H., & **Regier, P.** (accepted). Creativity-in-progress rubric for problem solving. *Proc. of the 14th International Congress on Mathematics Education,* Shanghai, China.

Regier, P. (2020). How problem posing may impact student motivation: A case study. *Proc. 22th Annual Conference on Research in Undergraduate Mathematics Education*, Boston, MA.

El Turkey, H., Karakök, G., Tang, G., **Regier, P.**, Miloš , M., & Cilli-Turner, E. (accepted). Tasks to Foster Mathematical Creativity in Calculus I. *Proc. 23rd Annual Conference on Research in Undergraduate Mathematics Education*, Boston, MA.

Tang, G., Miloš , M., Cilli-Turner, E. **Regier, P.**, Karakök, G., & El Turkey, H. (accepted). Shifting Pedagogical Beliefs into Action through Teaching for Mathematical Creativity. *Proc. 23rd Annual Conference on Research in Undergraduate Mathematics Education*, Boston, MA.

Regier, P. & Savic, M. (2018). How can Fostering Creativity Promote Self-efficacy for Proving? In A. Weinberg, C. Rasmussen, J. Rabin, M. Wawro, & S. Brown (Eds.), *Proc. 21st Annual Conference on Research in Undergraduate Mathematics Education* (pp. 1509-1515). San Diego, CA, 2018.

Lu, J., **Regier, P. R.**, & Tang, C. Y. (2010). Control of Distributed Convex Optimization. *Proc. IEEE Conference on Decision and Control*, pp. 489-495, Atlanta, GA.

Lu, J., Tang, C. Y., **Regier, P.R**, & Bow, T. D., (2010). A Gossip Algorithm for Convex Consensus Optimization over Networks. *Proc. American Control Conference*, pp. 301-308, Baltimore, MD.

Research Awards

Mathematics Department Summer Research Award, *University of Oklahoma* | Summer 2019
Mathematics Department Scholarship, *University of Oklahoma* | Fall 2017/2018

Presentations

Title: "How Can Instructors Fostering Mathematical Creativity Build Student Self-efficacy for Proving?" Joint Mathematics Meetings
Baltimore, MD | Jan, 2019

Title: "How may Fostering Creativity Impact Student Self-efficacy for Proving?"
Special Interest Group of the Mathematical Association of America (SIGMA) on Research in Undergraduate Mathematics Education (RUME)
San Diego, CA | Feb, 2018

Title: "Discussion of Problem Posing and Self-Determination Theory,"
University of Oklahoma, Seminar in Research on Undergraduate Mathematics Education (RUME)
Norman, OK | Jan 2019

Title: "How does Mathematical Creativity impact Student Self-efficacy for Proving?"
Oklahoma Conference for Research on Undergraduate Mathematics Education (RUME)
Norman, OK | Dec 2017

Conferences

International Commission on Mathematical Instruction (ICME), Topic Study Group 18: "Students' Identity, Motivation, and Attitudes towards Mathematics and Its Study" | Shanghai, China – July 2021
Southern Oregon University Creativity Conference | July 2021
23nd Annual Conference on RUME, Oklahoma City, OK | Feb – Mar 2020
Joint Mathematics Meetings, Denver, CO | Jan, 2020
22nd Annual Conference on RUME, Oklahoma City, OK | Feb – Mar 2019
Joint Mathematics Meetings, Baltimore, MD | Jan, 2019
21st Annual Conference on RUME, San Diego, CA | Feb 2018
18th Annual Conference on RUME, Pittsburg, PA | Feb 2015

Memberships

Mathematical Association of America (MAA) | 2018 – present
Special Interest Group of the MAA on RUME (SIGMAA on RUME) | 2018 – present
American Mathematical Society (AMS) | 2015 – present

Other Experience

Vocational

Computer Programmer, J.B.Hunt, Lowell, AR | 2012
Programmed warehouse data management system for the Dedicated Contract Division Final Mile Delivery Service

International Travel

Youth Venture, Ecuador | Summer 2016

Co-lead a learning tour organized by Mennonite Mission Network with with four high schools students.

Central American Study and Service (CASAS), Guatemala | Summer 2009

Studied Spanish language and Guatemalan history, worked at rural non-governmental organization Technología para la Salud, and volunteered for the Latin American Anabaptist Seminary

References

Available on request.