Paul Gustafson
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Work Experience

Texas A&M University 2013 - Present
PhD Candidate, Department of Mathematics

Knowledge Based Systems, Inc. 2008 - 2012
Programmer Analyst

Education

Texas A&M University 2013 - Present
Doctor of Philosophy in Mathematics May 2018 (Expected)

Field of study: Mapping class group representations from TQFTs

Advisor: Eric Rowell

Texas A&M University 2012-2013
Bachelor of Science in Mathematics 2013

Princeton University 2007 - 2011

Research Interests

Topological quantum computation, 3-manifold and link invariants, topological quantum field theories, fusion categories, mapping class groups, quantum groups

Publications and Preprints

Paul Gustafson. "Finiteness for Mapping Class Group Representations from Twisted Dijkgraaf-Witten Theory", arXiv:1610.06069.

Ronald Fernandes; Biyan Li; Kalyan Vadakkeveedu; Ajay Verma; Paul Gustafson, et al. "Agent-based analysis of trustworthiness in wireless sensor networks", Proc. SPIE 8407, Multisensor, Multisource Information Fusion: Architectures, Algorithms, and Applications 2012, 84070W (May 1, 2012); doi:10.1117/12.920781.

Paul Gustafson; Nathan Savir; Ely Spears. "A Characterization of Refinable Rational Functions", American Journal of Undergraduate Research 5 (3): 11-20 (Nov. 11, 2006).

Conference Presentations

AMS Special Session on Tensor Categories: Bridging Algebra, Topology, and Physics, U. C. Riverside, CA, November 2017.

AMS Special Session on Invariants of Links and 3-Manifolds, U. North Texas, Denton, TX, September 2017.

AMS Special Session on Fusion Categories and Topological Phases of Matter, Salt Lake City, UT, April 2016.

Teaching Experience (Texas A&M University)

Mentor
REU on Mathematics of Topological Quantum Computation — Summer 2017

Instructor of Record
Mathematical Concepts – Calculus (M131) — Spring 2017

Teaching Assistant
Engineering Mathematics II (M152) — Fall 2015
Engineering Mathematics I (M151) — Spring 2016, Fall 2017

Grader
Algebraic Topology I (M643) — Fall 2016

Programming Languages

Java, Haskell, Python, C, Agda, Coq, MATLAB, NetLogo