

## **Paul Gustafson**

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(979)774-9184

## **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