

# Kevin Grace

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## Academic Employment

**Heilbronn Institute for Mathematical Research/  
University of Bristol**, Bristol, UK  
Heilbronn Research Fellow

October 2018–August 2020

**Pensacola Christian College**, Pensacola, Florida, USA  
Mathematics Faculty

August 2006–May 2013

## Education

**Louisiana State University**, Baton Rouge, Louisiana, USA  
Ph.D., Mathematics  
Advisor: Stefan van Zwam  
Dissertation: *Templates for Representable Matroids*

August 2013 – August 2018

**University of South Alabama**, Mobile, Alabama, USA  
M.S., Mathematics

January 2008 – May 2010

**Pensacola Christian College**, Pensacola, Florida, USA  
B.S., Mathematics Education/History Education (*summa cum laude*)

September 2002 – May 2006

## Papers

### • **Published**

(with Nick Brettell, Rutger Campbell, Deborah Chun, and Geoff Whittle) On a Generalization of Spikes, *SIAM Journal on Discrete Mathematics* **33** (2019), 358–372.

(with Stefan H.M. van Zwam) The Highly Connected Even-Cycle and Even-Cut Matroids, *SIAM Journal on Discrete Mathematics* **33** (2019), 26–67.

(with Stefan H.M. van Zwam) On Perturbations of Highly Connected Dyadic Matroids, *Annals of Combinatorics* **22** (2018), 513–542.

(with Stefan H.M. van Zwam) Templates for Binary Matroids, *SIAM Journal on Discrete Mathematics* **31** (2017), 254–282.

### • **Submitted**

(with Rutger Campbell, James Oxley, and Geoff Whittle) On Density-Critical Matroids (16-page typescript). [arxiv.org/abs/1903.05877](https://arxiv.org/abs/1903.05877)

(with Ben Clark, James Oxley, and Stefan H.M. van Zwam) On the Highly Connected Dyadic, Near-Regular, and Sixth-Root-of-Unity Matroids (23-page typescript). [arxiv.org/abs/1903.04910](https://arxiv.org/abs/1903.04910)

The Templates for Some Classes of Quaternary Matroids (82-page typescript). [arxiv.org/abs/1902.07136](https://arxiv.org/abs/1902.07136)

## Honors and Awards

### **National Science Foundation**

Alliances for Graduate Education and the Professoriate - Graduate Research Supplement, August 2017–August 2018

- This was a supplement to the NSF grant *Connectivity and Structure in Representable Matroids*, awarded to Stefan van Zwam. The total value of the supplement was \$54,900.

### **Louisiana State University Department of Mathematics**

Pasquale Porcelli Graduate Student Research Excellence Award, December 2017

- One award is given each year to a graduate student “who shows the greatest promise of making significant contributions to mathematical research.”

### **Louisiana State University Graduate School**

Huel D. Perkins Diversity Fellowship, August 2013–August 2017

### **SIAM Conference on Discrete Mathematics**

SIAM Student Travel Award, June 2016

- This travel award was worth \$300.

### **Louisiana State University Department of Mathematics**

Certificate of Teaching Excellence, Spring 2015

## Conference Talks

“All that glitters is not golden-mean: Structure of golden-mean matroids”

Seminar in Combinatorial Optimization, TU/e; Eindhoven, The Netherlands; January 25, 2019

“Matroid templates” (5-minute talk)

Advances in Applied Algebraic Geometry; Bristol, UK; December 13, 2018

“Applications of matroid templates”

AMS Spring Southeastern Sectional Meeting; Nashville, Tennessee, USA; April 14, 2018

“All that glitters is not golden-mean: Structure of golden-mean matroids”

Joint Mathematics Meetings; San Diego, California, USA; January 12, 2018

“All that glitters is not golden-mean”

SiGMA 2017; Waterloo, Ontario, Canada; July 18, 2017

“Templates for minor-closed classes of binary matroids”

29th Cumberland Conference on Combinatorics, Graph Theory, and Computing; Nashville, Tennessee, USA; May 21, 2017

“All that glitters is not golden-mean”

Graduate Student Combinatorics Conference; Lawrence, Kansas, USA; April 18, 2017

“Templates for minor-closed classes of binary matroids”

International Workshop on Structure in Graphs and Matroids; Eindhoven, The Netherlands; July 26, 2016

“Templates for minor-closed classes of binary matroids”

SIAM Conference on Discrete Mathematics; Atlanta, Georgia, USA; June 7, 2016

“Templates for minor-closed classes of binary matroids”  
Graduate Student Combinatorics Conference; Clemson, South Carolina, USA; April 2, 2016

### *Teaching Experience*

Louisiana State University

- **Instructor of Record:** Prepared and delivered lectures; wrote and graded tests and quizzes; handled administrative duties.
  - Analytic Geometry and Calculus I (Spring 2015, 2016)

Pensacola Christian College

- **Course Coordinator:** Standardized and oversaw course outlines and deadlines for tests.
  - College Algebra II (Fall 2012)
- **Instructor:** Prepared and delivered lectures; wrote and graded tests, quizzes and homework; handled administrative duties.
  - Calculus II (Spring 2013)
  - College Algebra II (Spring 2011-2013; Fall 2006, 2008-2012)
  - College Trigonometry (Fall 2012)
  - Mathematics for Liberal Arts (Spring 2012; Fall 2011, 2012)
  - Calculus I (Spring 2012)
  - College Mathematics (Interterm 2010, 2011; Spring 2008-2011; Post-term 2010, 2011; Fall 2008-2010)
  - Basic Mathematics (Spring 2008-2011; Fall 2007-2010)
  - Math Skills for Nurses (Fall 2008)
  - College Algebra I (Interterm 2008; Fall 2006, 2007)
- **Lab Instructor:** Reviewed and reinforced lecture material; proctored and graded tests, quizzes, and homework; assisted lecture instructors with record keeping.
  - College Mathematics (Fall 2006, 2007)
- **Lab Instructor:** Oversaw weekly physics labs; graded lab reports.
  - Physics (Fall 2007)
  - Concepts of Physics (Spring 2007)
- **Video Proctor:** Oversaw classes taken by video; proctored and graded tests, quizzes, homework, and papers.
  - Interterm 2013: American Government, American Novel, Biology Terminology, Business Statistics, Child Growth and Development, College Algebra I, College Algebra II, College Trigonometry
  - Interterm 2012: Business Statistics, College Algebra II, College Trigonometry, Differential Equations
  - Post-term 2009: American Government, Business Statistics, College Trigonometry, Life of David, Political Science
- **Instructional Assistant:** Assisted instructor with class management, record keeping, and grading.
  - Old Testament Survey (Spring 2011)
  - Calculus I (Fall 2007)
  - Calculus II (Spring 2007)
  - New Testament Survey (Fall 2006)

### Service

- Referee for an article submitted to the journal *Discrete Mathematics*.
- Proctor and grader for LSU High School Mathematics Contest (2017 and 2018).
- Committee Member and speaker for the LSU G.E.A.U.X. program for new mathematics graduate students (2014 and 2017).
- Grader and tutor for A Beka Academy homeschool program, Pensacola, Florida (occasionally from August 2006 to May 2013).
- Assistant editor for *Precalculus with Trigonometry and Analytical Geometry*. Pensacola, FL: A Beka Book, 2008.
- Student Court Committee member at Pensacola Christian College (September 2007–December 2008).

### References

Jim Geelen (research)  
Department of Combinatorics and Optimization  
University of Waterloo  
200 University Avenue West  
Waterloo, Ontario, Canada N2L 3G1  
jim.geelen@uwaterloo.ca

James Oxley (teaching and research)  
Department of Mathematics  
Louisiana State University  
303 Lockett Hall  
Baton Rouge, LA 70803-4918, USA  
oxley@math.lsu.edu

Geoff Whittle (research)  
School of Mathematics and Statistics  
Victoria University of Wellington  
PO Box 600  
Wellington 6140  
New Zealand  
geoff.whittle@vuw.ac.nz

Stefan van Zwam (advisor)  
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formerly at:  
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Louisiana State University  
Baton Rouge, LA, USA