

NATHAN DRUIVENGA

Education

- 2011-2016** **University of Iowa**, Iowa City, IA.
Ph.D. Mathematics, July 2016
Advisor: Charles Frohman
Thesis: Quantum Topology
- 2005-2008** **Indiana University**, Bloomington, IN.
M.S. in Mathematics
- 2002-2005** **University of Iowa**, Iowa City, IA.
B.S. in Mathematics

Employment

- 2016 - present** **University of Kentucky**, Lexington, KY.
Lecturer
- 2011 - 2015** **University of Iowa**, Iowa City, IA.
Graduate Teaching Assistant
- 2009 - 2010** **Des Moines Area Community College**, Ames/Boone, IA.
Adjunct Instructor
- 2005 - 2008** **Indiana University**, Bloomington, IN.
Graduate Teaching Assistant

Research Interests

Low-Dimensional Topology, Quantum Topology, Representation Theory.

Publications

- **Heegaard Diagrams Corresponding to Turaev Surfaces**, with C. Armond and T. Kindred, *J. Knot Theory Ramifications* 24 (2015), no. 4, 1550026

- **Tangle Functors from Semicyclic Representations**, with C. Frohman and S. Kumar, J. Knot Theory Ramifications 26 (2016), no11
- **The AJ Conjecture for Cables of Two-Bridge Knots**, arXiv:1412.1053
- **Quantization and the AJ Conjecture**, (in preparation)

Conference and Seminar Talks

- **Tangle Functors at Roots of Unity**, 2016 Joint Math. Meetings Seattle, WA.
- **Tangle Functors at Roots of Unity**, AMS Fall Eastern Sectional Meeting Rutgers University. (November 2015)
- **Tangle Functors at Roots of Unity**, AMS Fall Western Sectional Meeting California State, Fullerton. (October 2015)
- **Quantum A Curves**, Conference on Knot Theory and Its Applications to Physics and Quantum Computing, The University of Texas at Dallas, (January 2015)
- **The AJ Conjecture for Cables of Knots**, Topology Seminar, University of Iowa (October 2014)
- **Obstacles to Quantization**, Topology Seminar, University of Iowa (March 2014)
- **Character Varieties and the AJ Conjecture**, Topology Seminar, University of Iowa (November 2013)

Awards and Honors

- Graduate College Summer Fellowship (Summer 2014)
- UIOWA Graduate Teaching Assistant Award (Fall 2011 - Spring 2012)
- Rothrock Teaching Award (Fall 2007)

Teaching Experience and Service at the University of Kentucky

Courses Coordinated:

- Finite Mathematics (Fall 2017-Spring 2019)
- Elementary Calculus, Co-coordinator (Fall 2016-Spring 2017)
- Elementary Calculus, Online (Summer 2017, 2018, 2019)

Courses Taught:

- College Algebra (Fall 2106)

- Elementary Calculus (Fall 2016-Fall 2017, Fall 2018)
- Differential Equations (Spring 2017, 2018)
- Finite Mathematics (Fall 2017-Spring 2019)

Teaching Experience at the University of Iowa

Courses Taught:

- Topology Qualifying Exam Preparation Seminar (Summer 2013, 2015)
- Calculus I (Spring 2014)
- Substituted Math for Biological Sciences (500 person lecture) for 2 weeks.

Recitation Leader: Responsible for discussion sections and grading.

- Math for Biological Sciences (Fall 2015)
- Calculus for Biological Sciences (Spring 2011)
- Calculus II (Fall 2011)
- Engineer Math II - Multi-Variable Calculus (Spring 2012)
- General Topology (Fall 2012)
- Smooth Manifolds (Spring 2013)
- Basic Analysis (Fall 2013)

Grader:

- Differential Geometry (Fall 2013, Fall 2014)
- Algebraic Topology (Fall 2013, Fall 2014)
- Complex Variables (Fall 2014)

Teaching Experience at Des Moines Area Community College

Course Instructor: Responsible for all lectures, tests, and grading.

- Basic Algebra (Spring 2009)
- Math for Liberal Arts (Spring 2009, Summer 2009)
- Finite Mathematics (Spring 2009)
- Business Calculus (Spring 2009, Summer 2009)

Teaching Experience at Indiana University

Course Instructor: Responsible for all lectures, tests, and grading.

- Algebra I (Fall 2008, Summer 2006)
- Pre-Finite (Fall 2006)
- Introduction to Logic (Spring 2006)
- Groups Algebra (Class was reserved for first generation college students, Fall 2005)
- Groups Calculus (Class was reserved for first generation college students, Spring 2007)

Service

- Tutor Review Session (Fall 2017)
- FastTrack instructor Calc II (Summer 2017)
- Created video lectures for Elementary Calculus (Summer 2017)
- Coach: GRE Math Subject Preparation (Spring 2013, Spring 2014)
- Co-Coach: Putnam Practice (Fall 2012, Fall 2013)
- Judge: Iowa Intercollegiate Math Competition (2012)

References

Prof. Charles Frohman,
Department of Mathematics,
University of Iowa,
Iowa City,
IA 52242,
charles-frohman@uiowa.edu

Prof. Oguz Durumeric (Teaching Reference),
Department of Mathematics,
University of Iowa,
Iowa City,
IA 52242,
oguz-durumeric@uiowa.edu

Prof. Ben Cooper,
Department of Mathematics,
University of Iowa,
Iowa City,
IA 52242,
cooper.ben.j@gmail.com

Prof. Oliver Dasbach,
Department of Mathematics,
Louisiana State University,
Baton Rouge,
LA 70803,
kasten@math.lsu.edu

Prof. Adam Lowrance,
Department of Mathematics and Statistics,
Vassar College,
Poughkeepsie,
NY 12604,
lowrance.adam@gmail.com