

Timothy B.P. Clark

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University Employment

Affiliate Visiting Assistant Professor, Loyola University Maryland, 2010 – Present.

Visiting Assistant Professor, Northwestern University, 2008 – 2010.

Research Interests

Commutative Algebra, Algebraic Combinatorics, Homological Algebra.

Publications

T.B.P. Clark, *Poset resolutions and lattice-linear monomial ideals*, J. Algebra, 323 (2010) 899–919.

A minimal poset resolution of stable monomial ideals, to appear in Progress in Commutative Algebra, DeGruyter 2011.

Rigid monomial ideals, joint with S. Mapes, submitted, preprint available at <http://arxiv.org/abs/1102.2243>.

Education

Ph.D. Mathematics, *University at Albany, SUNY*, Albany, NY, 2008.
Thesis: Poset Resolutions of Monomial Ideals.

M.A. Mathematics, *University at Albany, SUNY*, Albany, NY, 2005.

M.S. Mathematics Education, *College at Cortland, SUNY*, Cortland, NY, 2003.

B.A. Mathematics, *College at Geneseo, SUNY*, Geneseo, NY, 1997.

In preparation

CW complexes and poset resolutions, joint with A. Tchernev.

A combinatorial description of Uniform T-Complexes, joint with A. Beecher and A. Tchernev.

Rigid posets and monomial ideals, joint with S. Mapes.

Invited Talks

Rigid monomial ideals: posets and resolutions, Algebra/Topology Seminar, University at Albany, SUNY, Albany, NY, November 2011

Rigid monomial ideals, Resolutions Day, Cornell University, Ithaca, NY, May 2011

CW complexes and poset resolutions, Special Session on Graded Resolutions, AMS Southeastern Sectional Meeting, Boca Raton, FL, October 2009

Poset resolutions of monomial ideals, Special Session on Combinatorial and Homological Aspects of Commutative Algebra, AMS Eastern Section Meeting, University Park, PA, October 2009

CW complexes and poset resolutions, Topology Seminar, Northwestern University, Evanston, IL, February 2009.

A poset resolution of stable monomial ideals, Capital Region Algebra and Number Theory Seminar, University at Albany, SUNY, Albany, NY, April 2008.

Lattice-linear monomial ideals, Capital Region Algebra and Number Theory Seminar, University at Albany, SUNY, Albany, NY, November 2006.

On the Minimal Free Resolution of a class of Monomial Ideals, Route 81 Conference, Syracuse University, Syracuse, NY, September 2006.

University Teaching Experience

Loyola University Maryland

Review of Math for College, Precalculus, Mathematics, Numbers and the Real World, Algebraic Structures

Northwestern University

Finite Mathematics, Differential Calculus of One Variable, Integral Calculus of One Variable, Accelerated Mathematics for Mathematical Methods in the Social Sciences (Linear Algebra, Differential Equations and Multivariable Calculus with Economics applications), Combinatorics and Discrete Mathematics, Number Theory, Edge Ideals: Graph Theory and Commutative Algebra (Undergraduate research).

University at Albany, SUNY

Department of Mathematics and Statistics

Algebra and Calculus I, Survey of Calculus, Algebra and Calculus II, Calculus I, Calculus II, Calculus of Several Variables.

Educational Opportunity Program

College Algebra I, College Algebra II, PreCalculus

University Service

Loyola University Maryland

Moderated Putnam and Virginia Tech undergraduate mathematics competitions. Member of Calculus, Core Assessment and Placement Exam committees. Participant in department's peer evaluation of teaching program.

Northwestern University

Mentored new faculty members as they taught the undergraduate course Integral Calculus of One Variable. Supervised Graduate and Undergraduate Teaching

Assistants in their facilitation of class discussion sections. Served as a faculty advisor to Gateway Science Workshop, a program designed to enhance student learning.

University at Albany, SUNY

Coordinated graduate student seminar, securing speakers from higher education and industry. The goal of the seminar was to broaden graduate student exposure to mathematical topics, career opportunities and effective pedagogical techniques.

Grant-funded experience

Editorial Assistant, Research Foundation of SUNY, 2008

Proofread and typeset into L^AT_EX the manuscript *Building Diversity in Advanced Mathematics: Models That Work*, to be published in the Issues in Mathematics Education Series by the Conference Board of the Mathematical Sciences.

Graduate Assistant, *Teaching Mathematics for Understanding*, a Mathematics and Science Partnership between the University at Albany, the City School District of Albany, and the Schenectady City School District, funded by the New York State Department of Education, 2005 - 2007

Developed and facilitated curriculum workshops, planning seminars and mathematics content activities for teachers of mathematics in grades K-8. Directed the development of the project's database framework and managed the integration of project data into day-to-day operations, coordinating among the partners' divergent data needs. Worked as lead among graduate assistants in the planning and implementation of two, 3-day professional development conferences for approximately 200 K-8 teachers. Facilitated the development and implementation of a series of day-long professional development workshops for approximately 50 K-8 teachers.

Professional experience

Consulting Mathematician, Lecky Integration, 2010

Performed research relevant to machine vision topics including feature selection, statistical methods, algebraic topology, combinatorics and linear algebra. Created classification systems, metrics, parameters and theorems which improved accuracy of Optical Character Recognition algorithms.

High School Mathematics Teacher, Corcoran High School, Syracuse, NY, 1999-2002

Taught Algebra I, Intermediate Algebra, Integrated Mathematics II and Advanced Placement (AP) Calculus. Rewrote the curriculum for Intermediate Algebra to include topics from multivariable linear algebra, fractal geometry and mathematical modeling.

Analyst/Programmer, Information Management Services, Inc., Silver Spring, MD, 1998-1999

Wrote SAS programs to reformat and analyze National Cancer Institute data. Prepared results of analysis for presentation and publication. Provided technical

assistance for the preparation of the monograph: *Cancer Incidence and Survival among Children and Adolescents: United States SEER Program 1975-1995*, National Cancer Institute, SEER Program.

Awards

Distinguished Dissertation Award, University at Albany, College of Arts and Sciences, Spring 2009.

Positive Difference Award, Office of Learning Disabled Student Services, University at Albany, Spring 2005.

Excellence in Teaching Award for Teaching Assistants, Department of Mathematics and Statistics, University at Albany, Spring 2003.

References

Dr. Martina Bode, *Charles Deering McCormick University Distinguished Lecturer of Mathematics*, Northwestern University, 847.491.5598, bode@math.northwestern.edu

Dr. J.E. (Ned) Lecky, *Owner*, Lecky Integration, 315.505.4710, ned.lecky@lecky.com

Dr. Irena Peeva, *Professor of Mathematics*, Cornell University, 607.255.4013, irena@math.cornell.edu

Dr. Michael Stein, *Professor of Mathematics*, Northwestern University, 847.491.5524, mike@math.northwestern.edu

Dr. Alexandre Tchernev, *Associate Professor of Mathematics* and thesis adviser, University at Albany, SUNY, 518.442.4614, tchernev@math.albany.edu