

Lisa Townsley

Senior Academic Professional, Mathematics
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FIELDS OF INTEREST

Algebra, particularly group cohomology; also technology in mathematics education, particularly computer algebra systems and online homework delivery systems.

EDUCATION

Santa Clara University, Santa Clara, CA.; B.S. 1981
Northwestern University, Evanston, IL; M.S. 1983; Ph.D. 1988

PROFESSIONAL EXPERIENCE

9/13-present Senior Academic Professional, University of Georgia Mathematics
9/08-8/13 Academic Professional, UGA Mathematics
9/97-8/08 Professor, Benedictine University
9/91-8/97 Associate Professor, Benedictine University
(formerly Illinois Benedictine College)
9/87-8/91 Assistant Professor, Illinois Benedictine College
9/86-8/87 Instructor, full-time, Hamline University
9/85-6/86 Instructor, part-time, University of Minnesota
9/84-6/85 Adjunct Instructor, Northwestern University College
9/84-12/84 Adjunct Instructor, Elmhurst College

ADMINISTRATIVE EXPERIENCE

Math 1113 (Precalculus) Course Coordinator, 2008-present (UGA)
Math 2200 (Calculus) Course Coordinator, 2010-present (UGA)
Faculty Assembly Chairperson, 2006-2008 (Benedictine University)
Honors Committee Chairperson, 2000-2007 (Benedictine University).
AAUP-Illinois Conference Board member and Treasurer, 2003-2008.
ISMAA Board member 2004-2007
Faculty Welfare Committee (over 10 years experience, responsible for drafting many contractual changes) (Benedictine University)
Associate chairperson for mathematics within joint Mathematics/CS Department, 1994-1998 (Benedictine University).

REFERENCES

Professor Ralph Meeker, Benedictine University, Department of Computer Science (Emeritus)

Professor Caren Diefenderfer, Hollins University, Department of Mathematics

Professor Steven Schlicker, Grand Valley State University, Department of Mathematics

PROFESSIONAL ORGANIZATIONS

Mathematical Association of America, American Mathematical Society, Sigma Xi, Association for Women in Mathematics, American Association of University Professors, Phi Beta Kappa.

CONFERENCE LEADERSHIP

Conference co-chair, Tenth International Conference on Technology in Collegiate Mathematics, November 6-9, 1997. Approximately 1500 attendees. Benedictine University was a co-host institution. Conference underwritten by Addison-Wesley.

Conference chairperson, ISMAA (Illinois State MAA annual meeting), April 7-8, 2006. Conference hosted at North Central College. Record attendance exceeding 250 attendees, including record student attendance.

GRANTS

UGA CTL grant for hardware and software to provide video solutions to UGA-coded problems in WebAssign, \$2755.66, January 2012.

Title III summer stipend and release time at Benedictine University to generate new department-wide calculus laboratory experiments using DERIVE, WebCT, and other technological tools, June 2004-May 2005.

HHMI Directed student research at Benedictine University, \$12,000, "Space Group Investigations with MAGMA", June-July 2003.

NSF MRI Grant 0116202, \$70,953 for computing support, CO-PI with Mark Carlson (CO-PI, physics) and PI Ralph Meeker (computer science), August, 2001.

Benedictine University Summer Research Support, \$1998, June 2000; \$2168, June 2001.

NSF Instrumentation Grant for a dedicated Mathematics Laboratory, \$35,617, DUE 9351472, March 1993

OTHER EXPERIENCES

Assessment Coordinator, University System of Georgia design team for Online Precalculus Emporium, May 2013-present, the course debuted January 2014.

AMS/MAA Committee on Teaching Assistants and Part-Time Instructors, 2013-2015.

WebAssign Faculty Advisory Board, giving mathematics advice to WebAssign on collegiate needs, particularly for assessment, July 2010-present (formerly Mathematics Advisory Board).

CLEP Committee member, writing and updates of new Precalculus Exam for college credit, Fall 2003-present, the test is active since January, 2006.

AMS Short Course Subcommittee member, solicit and select short courses in applied mathematics for Joint MAA/AMS meetings each January, 2007-2010.

Program Committee, International Conference on Technology in Collegiate Mathematics, Strand Chair for 1998, 1999, and 2000 conferences.

Program Committee, The Fourth International Derive-TI92(89) Conference, Liverpool, UK, 2000.

Journal referee, The Pentagon and The International Journal of Computer Algebra in Mathematics Education, 1993-2009.

Reader and Table Leader/Question Leader, AP Calculus Exams, June 1991-2001, 2004, 2005.

Consultant to College Board, author of textbook, video, webpage reviews, AP Central website, 2001-2008; and reviewer/editor for teacher training materials, 2002-2008.

Editorial board member, www.mathdemos.org, 2004-2008.

PUBLICATIONS

“MOOC Precalculus (almost) at the University System of Georgia”, Proceedings of the Twenty-sixth International Conference on Technology in College Mathematics, Pearson Education Inc, 2014.

“First Cohomology for Finite Groups of Lie Type: Simple Modules with Small Dominant Weights”, UGA VIGRE Algebra Group, Transactions of the Amer.Math.Soc. **365**(2013), no. 2.

“Second Cohomology for Finite Groups of Lie Type”, UGA VIGRE (Vertical Integration of Research and Education in the Mathematical Sciences) Algebra Group, Journal of Algebra **360**(2012).

“High Stakes Testing Using WebAssign”, Proceedings of the Twenty-fourth International Conference on Technology in College Mathematics, Pearson Education Inc, 2012.

“Uniform Assessment of Precalculus Skills Using WebAssign”, Proceedings of the Twenty-second International Conference on Technology in College Mathematics, Pearson Education Inc, 2010.

“Testing Across Precalculus Sections Using WebAssign”, Proceedings of the Twenty-first International Conference on Technology in College Mathematics, Pearson Education Inc, 2009.

“Calculus Lab Transformation: from Derive to Derive and Biology”, Proceedings of DES-TIME conference, Dresden 2006.

Kaur, M. and Townsley, L., “Derive - A Mathematical Assistant”, Proceedings of DES-TIME conference, Dresden 2006.

Comar, T. and Townsley, L., “A Common Calculus Laboratory Course for Traditional Calculus and Biocalculus Students”, Proceedings of the International Conference on Technology in collegiate Mathematics, Orlando 2006.

“Proving the Fundamental Theorem of Calculus”, AP Calculus training coursepack, 2005.

“Why we use Theorem in Calculus”, Web article on <http://apcentral.collegeboard.com>, 2005.

“Why *DO* We Use Theorem in Calculus?”, Proceedings of the Conference: Technology and its Integration into Mathematics Education, Montreal Canada, 2004.

Carlson, J.F. and L. Townsley, *The Cohomology Rings of Finite Groups*, Kluwer, 2003.

“Multimedia Classes: Can there *ever* be too much technology?” Proceedings of the Vienna International Symposium on Integrating Technology into Mathematics Education, Vienna Austria, 2002.

“Crossroads: Choosing a 'New' CAS Platform”, Proceedings of the Thirteenth International Conference on Technology in College Mathematics, Addison-Wesley-Longman, 2000.

“Computer Algebra in Abstract Algebra”, invited submission to The International Journal of Computer Algebra in Mathematics Education, 1999.

“Enhancing College-Level Understanding of Group Theory with Technology”, Proceedings of the Fourth International Conference on Technology in Mathematics Teaching, Plymouth, UK, 1999.

“High-Tech Discoveries We Never Expected”, co-author James Kulich, Proceedings of the Ninth Annual International Conference on Technology in College Mathematics, Addison-Wesley, 1997.

The State of Computer Algebra in Mathematics Education, Berry, et. al, editors, contributing editor, Chartwell-Bratt, 1997.

“Using DERIVE to Teach Calculus”, Co-author Barbara Victor, in Graham, et al, *Mathematical Activities with DERIVE*, Chartwell-Bratt, 1997.

The DERIVE Calculus Workbook, Co-author Barbara Victor, HarperCollins, 1994. (Also Instructor's Guide)

“DERIVE use for Matrix Algebra and Linear Algebra Instruction”, Proceedings of the Fifth Annual International Conference on Technology in College Mathematics, Lewis Lum, editor, Addison-Wesley, 1994.

“Integrating Precalculus into Calculus I using DERIVE”, Proceedings of the Fourth International Conference on Technology in College Mathematics, Addison-Wesley, 1993.

“Calculus - Reformation or Affirmation? A Survey of Other Disciplines”, PRIMUS Vol. 1, No. 4, December 1991.

“Applications of Set Theory and Topology to Economics”, *Journal of Undergraduate Mathematics*, March, 1981.

PRESENTATIONS (since 2000)

“Teaching a MOOC with WebASsign, Coursera, ProctorU and more”, invited principal speaker, WebAssign Users Group Conference, Raleigh-Durham, June 2014.

“MOOC Precalculus (almost) at the University System of Georgia”, Twenty-sixth ICTCM (International Conference on Technology in College Mathematics), San Antonio, March 2014.

“Online Precalculus Emporium: Student Views”, joint presentation with Allison Arnold, STEM Institute, Athens GA, April 2014.

“Going State-Wide with MOOC-like Precalculus in Coursera”, WebSigmaa session presentation, Joint MAA/AMS Meetings, Baltimore, January 2014.

“High Stakes Testing Using WebAssign” invited principal speaker, WebAssign Users Group Conference, Raleigh-Durham, June 2013.

“Using WebAssign for Homework and Testing in Precalculus: Assessment of Student Performance”, contributed paper at Joint MAA/AMS Meetings, San Diego, January 2013.

“High Stakes Testing Using WebAssign”, Computer Minicourse at ICTCM 24 (International Conference on Technology in College Mathematics), Orlando, March 2012.

“WebAssign Testing in Precalculus: No Grading Necessary”, MAA-SE regional conference contributed paper, Morrow GA, March 2012.

“Effective Use of Online Homework to Enhance Student Learning and Retention”, Invited panelist for Project Next meeting prior to Mathfest, Lexington, August 2011.

“Using Online Assessment Effectively in Large Courses”, Mathfest contributed paper, Lexington, August 2011.

“Using WebAssign for Testing”, invited principal speaker, WebAssign Users Group Conference, Raleigh-Durham, June 2011.

“Uniform Assessment of Precalculus Skills Using WebAssign”, Twenty-second ICTCM (International Conference on Technology in College Mathematics), Chicago, March 2010.

“Using WebAssign for Uniform Assessment in Precalculus, 1300 Students at a Time”, contributed paper at Joint MAA/AMS Meetings, San Francisco, January 2010.

“Uniform Assessment of Precalculus Skills Using WebAssign”, Computer Minicourse at ICTCM (International Conference on Technology in Collegiate Mathematics), New Orleans, March 2009.

“A Joint Computer Lab can Serve Both Biocalculus and Traditional Calculus Students”, Joint MAA/AMS meetings, San Diego, January 2008.

“Introduction to Characters and Representations”, Elmhurst College Seminar, Elmhurst, March 2007.

“Using DERIVE to Emphasize Understanding in Linear Algebra”, Joint MAA/AMS meetings, New Orleans, January 2007.

“Calculus Lab Transformation: from Derive to Derive and Biology”, DES-TIME conference, Dresden, July 2006.

“Derive-A Mathematical Assistant”, workshop presented with M. Kaur, DES-TIME conference, Dresden, July 2006.

Invited panelist at Mathfest, “AP Calculus Workshop: Focusing on the Fundamental Theorem”, Albuquerque NM, August 2005.

“Math Majors at a "science serious" Liberal Arts College”, Mathfest, Albuquerque NM, August 2005.

Invited panelist on jobs for new PhDs, ISMAA, Galesburg IL, April 2005.

“The New CLEP Exam in Precalculus”, ISMAA, Galesburg IL, April 2005 and Mathfest, Albuquerque NM, August 2005.

“Introduction to DERIVE 6.0”, ICTCM 16 (International Conference on Technology in Collegiate Mathematics), New Orleans, October 2004.

“Why *DO* We Use Theorem in Calculus?”, International Conference: Technology and its Integration into Mathematics Education, Montreal Canada, July 2004 and ICTCM in New Orleans, October 2004.

Invited Panelist , MAA Project Next Session on publication in mathematics, MAA Mathfest, Boulder CO, August 2003.

“Multimedia Classes: Can there ever be too much technology?”, Vienna International Symposium on Integrating Technology into Mathematics Education, Vienna Austria, July 2002.

Panel Coordinator and Moderator, “Restructuring the Mathematics Bachelor Degree”, Joint MAA/AMS meetings, New Orleans, January 2001.

Panel Coordinator and Moderator, “Moving Beyond Computation”, International Conference on Technology in College Mathematics, Atlanta, November 2000.

Panel Coordinator and Moderator, “Q&A on IAI”, ISMAA annual meeting, North Central College, April 2000.

“Using DERIVE to Teach Calculus”, Invited Presentation to ISMAA annual meeting, North Central College, April 2000.

17 presentations prior to 2000.