ANDREA N. OVERBAY

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EDUCATION

Doctorate of Philosophy, Mathematics, August 2013
University of North Carolina, Chapel Hill, NC
Advisor: Dr. Lev Rozansky
Thesis Title: Perturbative Expansion of the Colored Jones Polynomial

Bachelor of Science, Mathematics and Physics, May 2008
Emory and Henry College, Emory, VA
Summa Cum Laude
First Major: Mathematics
Second Major: Physics

RESEARCH INTERESTS

Knot theory, quantum knot invariants, physically inspired mathematics, and mathematics education

TEACHING EXPERIENCE

Assistant Professor of Mathematics   August 2013-Present
Austin College, Sherman, TX

- C/I 101 A: The Science of Secret — Fall 2015
- Man vs. Machine: Programing in *Mathematica* — January 2015
- A Walk in the Woods: Hiking North Texas — January 2017
- Calculus I — Fall 2013, Spring 2014, Fall 2014, Spring 2015, Fall 2015, Spring 2016, Fall 2016, Spring 2017, Fall 2017
- Calculus II — Fall 2016, Spring 2017, Spring 2018, Fall 2018
- Calculus III — Fall 2014, Fall 2017
- Linear Algebra — Spring 2014, Spring 2015, Spring 2016, Spring 2018
- Numerical Analysis — Fall 2014, Fall 2016
- Applied Analysis — Fall 2013, Fall 2015, Fall 2017
- Knot Theory — Spring 2014, Spring 2016, Spring 2018
- Topology — Spring 2015, Spring 2017
- Complex Analysis — Fall 2018

Senior Teaching Fellow   August 2012-June 2013
University of North Carolina, Chapel Hill, NC
Observed, mentored, and supervised first time instructors. Co-taught the Teacher Training Seminar. with Dr. Miranda Thomas. Led discussions on departmental and university policies, lesson planning, exam writing, grading, and effective teaching strategies.

Co-taught the first time teacher seminar with Dr. Miranda Thomas and supervised graduate students during their first semester of teaching. This included approving all exams and course grades, and leading discussions concerning departmental and university policy, lesson planning, exam writing, and effective teaching strategies.

Teaching Fellow   Spring 2009-Summer 2013
University of North Carolina, Chapel Hill, NC
Instructed with full course responsibility:
- Elementary Number Theory — Summer 2013
- Linear Algebra with Applications — Summer 2012

- ○ Multi-variable Calculus — Spring 2012
- ○ Single Variable Calculus II, Two sections — Fall 2011
- ○ Precalculus — Summer 2011
- ○ Single Variable Calculus — Fall 2010
- ○ Selected Topics in Mathematics — Spring 2011, 2010, 2009
  Summer 2010, Fall 2009

Teaching Assistant — Fall 2008-June 2013
University of North Carolina, Chapel Hill, NC
Graded homework and led recitations for: Linear Algebra (Fall 2012), Advanced Calculus (Summer 2009). Graded: Graduate Real Analysis (Fall 2010), Multivariable Calculus (Fall 2009), Differential Equations (Fall 2008)

Project Excel Tutor and Scribe — Summer 2008
Virginia Highlands Community College, Abingdon, VA
Worked one-on-one with students as a tutor and provided testing accommodations for students with disabilities.

Supplemental Instructor — Spring 2006-Spring 2008
Emory and Henry College, Emory, VA
Graded homework and held recitations for: Differential Equations, Calculus II, College Algebra.

HONORS AND AWARDS

Alpha Delta Chapter of the Order of Omega Greek Honor Society — May 2018

The 2017-2018 E. Don Williams Outstanding Greek Sponsor Award — May 2018

Austin College Faculty of the Month Award — March 2018
Austin College Student Assembly

The 2017 Roy F. Melugin, Jr. Award for Outstanding Teaching in the Sciences — May 2017

Section NExT Fellow — Fall 2013-Fall 2015
Texas Section of the Mathematical Association of America

R.L. Moore Project NExT Fellow, Brown13 Dot — Fall 2013-Fall 2014
Mathematical Association of America

J. Burton Linker Award in Recognition of Excellence in Teaching, Recipient — Spring 2013
Mathematics Department, University of North Carolina, Chapel Hill

Future Faculty Fellow — Summer 2012
Center for Faculty Excellence
University of North Carolina, Chapel Hill

Tanner Award for Excellence in Undergraduate Teaching, Semi-finalist — Spring 2012
University of North Carolina, Chapel Hill

Paul Adrian Powell III Award — Spring 2008
Emory and Henry College
Awarded to the supplemental instructor who has shown the highest level of commitment to student learning

PROFESSIONAL MEETINGS ATTENDED

MAA Texas Section Meeting   April 2018
Regional meeting of the Mathematical Association of America, Dallas, TX
Attended with three students and gave a presentation

MAA Texas Section Meeting   April 2017
Regional meeting of the Mathematical Association of America, Commerce, TX
Accompanied two student researchers who presented

Joint Mathematics Meetings   January 2017
National meeting of the American Mathematical Society and
the Mathematical Association of America, Atlanta, GA

Professional and Organizational Development Network Conference   November 2016
Annual Meeting of the POD Network, Louisville KY
Attended as a member of the Johnson Center Committee

Joint Mathematics Meetings   January 2016
National meeting of the American Mathematical Society and
the Mathematical Association of America, Seattle, WA

Texas Undergraduate Mathematics Conference   October 2015
Accompanied research student who presented, Tyler, TX
Also accompanied three additional students

MathFest   August 2015
National meeting of the Mathematical Association of America, Washington, DC
Judge for student presentations

MAA Texas Section Meeting   April 2015
Regional meeting of the Mathematical Association of America, San Antonio, TX
Attended as a Section NExT Fellow

Joint Mathematics Meetings   January 2015
National meeting of the American Mathematical Society and
the Mathematical Association of America, San Antonio, TX

Texas Undergraduate Mathematics Conference   October 2014
Attended as Section NExT Fellow, Nacogdoches, TX
Accompanied three students

MathFest   August 2014
Attended as a Project NExT Fellow, Portland, OR
Completed Teaching Statistics Workshop

Joint Mathematics Meetings   January 2014
Attended as a Project NExT Fellow, Baltimore, MD
Co-organized undergraduate research panel

Texas Undergraduate Mathematics Conference   October 2013
Attended as a Section NExT Fellow, San Antonio, TX

MathFest   August 2013
Attended as a Project NExT Fellow, Hartford, CT

Project NExT Workshop   August 2013
MAA New Experiences in Teaching Workshop, Hartford, CT
Completed Undergraduate Research Workshop

Joint Mathematics Meetings   January 2013
San Diego, CA

PROFESSIONAL MEMBERSHIPS

American Mathematical Society
Mathematical Association of America

PRESENTATIONS

"Setting Boundaries to Avoid Burn-out"   May 2018
Johnson Center Roundtable, Austin College

"You Actually Want Me to Write in a Math Class?" Using Team Writing in
Mathematics Classes to Enhance Student Learning   April 2018
MAA Texas Section Meeting, Dallas, TX

"Mindfulness and Meditation in the Classroom"   May 2017
Johnson Center Roundtable, Austin College

"Mentoring Students"   August 2017
Organizer and Panelist, New Faculty Orientation, Austin College

"The Use of Writing in Mathematics Courses to Enhance Student Learning", February 2017
Johnson Center Research and Pedagogy Talk, Austin College

"New Knot Invariants in an Expansion of the Colored Jones Polynomial"   January 2016
Joint Mathematics Meetings, Seattle, WA
Presented with Austin College student, Kathryn Van Dinh

"What Works and What Doesn't"   August 2015
Panelist, New Faculty Orientation, Austin College

"The Nuts and Bolts of Undergraduate Research"   January 2014
Co-orgainizer, Joint Mathematics Meetings, Baltimore, MD

"Polynomial Invariants in the Melvin-Morton-Rozansky Expansion   January 2013
of the Colored Jones Polynomial"
Young Mathematician's Network/Project NExT Poster Session
Joint Mathematics Meetings, San Diego, CA

"A Walk through Königsberg"   May 2012
Sonya Kovalevsky Day, University of North Carolina, Chapel Hill
Presented during Sonya Kovalevsky Day sponsored by the Association for
Women in Mathematics UNC Student Chapter

"*Quantum $\mathfrak{sl}(N+1)$ and its Hopf Algebra Structure*" April 2012
Graduate Mathematics Association Vision Seminar
University of North Carolina, Chapel Hill

"*Motivation of Material in the Mathematics Classroom*" September 2011
Teacher Training Seminar, University of North Carolina, Chapel Hill

"*The Coyote Bounty: Is there Relief in a Blue Sky Catastrophe?*" April 2007
Sciencefest, Emory and Henry College

"*Southwest Virginia's Coyote Bounty and the Blue Sky Catastrophe*" October 2006
Appalachian College Association Summit, Abingdon, VA

STUDENT PRESENTATIONS

"*New Knot Invariants Relating the Alexander and Jones Polynomials*" March 2017
Annual Meeting of the Texas Section of the
Mathematical Association of America, Commerce, TX
Alejandro Moran and Kathryn Van Dinh

"*Relating the Alexander and Jones Polynomials through*
New Polynomial Knot Invariants" March 2017
Austin College Student Scholarship Conference
Alejandro Moran and Kathryn Van Dinh

"*New Polynomial Knot Invariants*" March 2016
Austin College Student Scholarship Conference
Kathryn Van Dinh

"*New Knot Invariants in an Expansion of the Colored Jones Polynomial*" January 2016
Joint Mathematics Meetings, Seattle, WA
Kathryn Van Dinh

"*New Polynomial Knot Invariants:*
Relating the Alexander and Jones Polynomials" October 2015
Texas Undergraduate Mathematics Conference in Tyler, TX
Kathryn Van Dinh

"*Tile Design Using Mathematics for an Aesthetically Pleasing Tile*" March 2015
Austin College Student Scholarship Conference
Amy Glazier

SERVICE

Title IX Task Force Summer 2018-Present
Appointed by President O'Day

Diversity and Inclusion Standing Committee Spring 2018-Present
Appointed by President O'Day

ACCESS Program Fall 2017-Present
Co-organizer and designer of first year student programing for STEM Scholars

Austin College Student Scholarship Committee Fall 2016-Present
Associate Coordinator Fall 2017-Spring 2018
Science Division Representative Fall 2016-Spring 2017

Curriculum Review   Spring 2017-Spring 2018
Co-author of four curriculum proposals: Facets, Clusters,
First-Year Experience, Quantitative Literacy

STAR Leadership Steering Committee   Spring 2016-Fall 2017
Math/CS Representative

Johnson Center Committee   Spring 2016-Present
Elected as Science Representative. Co-organizer of New Faculty Lunches

MathFest Student Session Judge   August 2015
Mathematical Association of America

Title IX Task Force   Spring 2015
Training Sub-committee
Austin College

Academic Integrity Council   Fall 2014-Spring 2016
Austin College

Math/CS Library Liasion   Fall 2014-Present
Austin College

Graduate Student Mentor   Fall 2011-Spring 2013
University of North Carolina, Chapel Hill
Throughout each academic year, acted as the department sponsored mentor to two first-year math-
ematics graduate students

Vice President   Fall 2011-Fall 2012
Student Chapter of the Association for Women in Mathematics
University of North Carolina, Chapel Hill

North Carolina Science Festival   September 2010, April 2012
Morehead Planetarium, Chapel Hill
Led a mathematical activity about hexaflexagons for participants

FUNDING

Austin College's Career Empowering STEM Scholars (ACCESS) Program   June 2017-May 2021
Senior Personnel, S-STEM grant to AC.
Amount requested: $649,161, Result: Funded as of June 2016

Noyce AC STEM Education Leadership Scholars (ACSELS) Program   June 2017-May 2022
Co-Pi, NSF Noyce grant to AC.
Amount Requested: $1,439,289.00, Result: Funded as of March 2017

Cultivating Civic Empathy: A Humanities-Based Curriculum-to-Career
Pathway for Responding to Rural America's Crisis of Care   Fall 2017-Spring 2018
Collaborative Team Member, NEH Humanities Connections Grant Proposal