

Department of Mathematics
University of Colorado at Boulder
UCB 395
Boulder, CO 80309

manleyk@colorado.edu

Kevin W. Manley, PhD

Research Interests integral transforms, functional analysis, mathematical physics, and generalizations of the Fourier transform

Education University of Colorado at Boulder

Ph.D. in Mathematics	August, 2010
Eric Stade, Adviser	
Dissertation: <i>The Discrete Fourier-Riccati-Bessel Transform for Robin Boundary Conditions.</i>	
M.S. in Mathematics	May, 2006
B.S. in Mathematics, Physics	May, 1997

Employment History

- Senior Instructor (Mathematics), CU Boulder: Spring 2020-present
- Instructor (Mathematics), CU Boulder: 2014-2020
- Instructor (LEEDS), CU Boulder 2014
- Lecturer (Applied Mathematics), CU Boulder 2012-2014
- Lecturer (GoldShirt Program), CU Boulder 2013
- Lecturer (Mathematics), CU Boulder 2010-2013
- Lecturer (Continuing Education), CU Boulder 2010-2013

Awards and Honors

- Service Award (Mathematics Department) 2001
- Pre-collegiate Development Program Teaching Honors 2001
- Sewall Teaching Excellence Award 2000

Funding Sources

- University Research Fellowship (CU Boulder) 2005
- University Research Fellowship (CU Boulder) 2002
- University Research Fellowship (CU Boulder) 2001

Teaching & Mentoring Experience

- *Topics taught as a primary instructor and coordinator, supervising TA's and Instructors:*
 - MATH1150 Precalculus
Fall 2020, Spring 2020, Fall 2019, Spring 2019, Fall 2018
 - MATH1310 Calculus, Stochastics, and Modeling
Fall 2018, Spring 2015, Fall 2014
 - MATH1081 Calculus for the Social Sciences
Spring 2017, Fall 2016, Summer 2016, Spring 2016, Fall 2015
 - MATH2300 Calculus 2
Summer 2014
- *Topics taught as a primary instructor:*
 - MATH3850 SIGMI
Fall 2020, Spring 2020, Fall 2019, Spring 2019, Fall 2018
 - MATH1112 Mathematical Analysis in Business
Spring 2020, Fall 2016, Spring 2016, Fall 2015, Spring 2015, Fall 2014
 - MATH2130 Linear Algebra for Non-majors
Spring 2020, Fall 2019, Spring 2018
 - MATH2001 Discrete Mathematics

- Summer 2020, Summer 2019, Spring 2019, Summer 2018, Fall 2017
- MATH2300 Calculus 2
 - Summer 2019, Spring 2019, Spring 2018, Spring 2017, Fall 2014
- Math2400 Calculus 3
 - Fall 2018
- MATH2510 Introduction to statistics
 - Summer 2018, Summer 2014, Spring 2014, Fall 2013, Spring 2013, Summer 2013, Fall 2012, Spring 2012, Summer 2012, Fall 2011, Summer 2011, Spring 2011, Fall 2010
- MATH1300 Calculus 1
 - Fall 2017, Summer 2010
- MATH3130 Linear Algebra
 - Summer 2017, Spring 2015
- MATH3510 Introduction to Probability and Statistics
 - Summer 2015
- MATH1310 Calculus, Stochastics, and Modeling
 - Spring 2014
- APPM1360 Calculus 2 for Engineers
 - Spring 2014, Spring 2014
- APPM1235 Precalculus for Engineers
 - Fall 2013
- Summer Bridge Goldshirt Program (pre-engineering mentoring)
 - Summer 2013
- MATH1012 Quantitative Reasoning and Mathematical Skills
 - Spring 2013, Fall 2012, Spring 2011
- APPM2360 Linear algebra and differential equations
 - Spring 2013, Summer 2012
- APPM1350 Calculus 1 for Engineers
 - Fall 2012
- MATH1150 Precalculus
 - Spring 2012, Fall 2011, Fall 2010
- MATH1081 Calculus for the Social Sciences
 - Spring 2012

Selected Service Activities

- PUEC member for Lee Roberson, Fall 2020
- Diversity Committee, Fall 2020 and Spring 2020
- Serving on honors thesis committees (Jonathan Gruen, 4/20; Jared Popowski, 9/19; Kevin Boyce, 4/19)
- Coordinating MATH1081, MATH1310, and MATH2300 were all done in addition to my full time teaching duties with no course release
- Lecturer/graduate student/Instructor evaluations and observations Spring 2016 – Fall 2019
- Development and implementation of math placement exam (calc/precalc/none at CU), Fall 2017 - Fall 2019
- Calculus Steering Committee (ad hoc), Spring 2018 – Fall 2019
- Interviewed lecturers for new hires, Summer 2019
- Math Department Scholarship Committee (ad hoc) Fall 2016 - Spring 2019
- PUEC member for Joseph Timmer, Fall 2018
- Learning Assistant hiring Spring 2015 – Fall 2018
- Undergraduate Committee, Fall 2015 – Spring 2016, Fall 2017 – Spring 2018
- Linear Algebra Redesign Committee (ad hoc) Fall 2017
- Discrete Mathematics Redesign and Analysis Committee (ad hoc) Fall 2015 – Spring 2016
- Organized the Professional Development Seminar, about writing documents for job applications, with speakers and workshops, 2011
- Mathematical modeling for resistivity studies for the location of caves, 2010

Selected Presentations

- *The Discrete Fourier-Riccati-Bessel Transform for Robin Boundary Conditions*
Poster presentation, Joint Meetings of the MAA and AMS, January 2011
- *The Discrete Fourier-Riccati-Bessel Transform for Robin Boundary Conditions*,
Great Plains Operator Algebra Symposium, June 2010.
- *The Semi-classical Limit and Chaos*, University of Colorado, May 1998.

Colloquiums

- *Ruler/Compass vs Origami*, University of Colorado, September 2017
- *An Introduction to Feynman Path Integrals*, University of Colorado, April 2006.
- *Feynman Path Integrals: A Derivation*, University of Colorado, April 2006.
- *More Feynman Path Integrals*, University of Colorado, April 2006.
- *An Introduction to Morse Theory*, University of Colorado, April 2005.
- *An Introduction to the Weil Conjecture*, University of Colorado, October 2003.

Other Selected Presentations

- Invited talk: *Rigging and Safety for the Cavernacle*, Front Range Grotto, September 2020
- Invited talk: *Surveying Colorado's Longest Cave*, June 2020
- Invited talk: *Nonstandard Caves of NM*, Pajarito Grotto, May 2020
- Invited talk: *Adventuring Underground*, Mappy Hour (The North Face), November 2019
- Invited talk: *Hydrology and Exploration in the Deepest Cave in the US*, Front Range Grotto, September 2019
- Invited talk: *Search Problems in Caves (Mathematical Approach)*, Front Range Grotto, July 2019
- Invited seminar/workshop *Vertical Systems and Rope Work*, Montana Cave Camp, October 2018
- Invited seminar/workshop *Forces, Rigging, and Systems*, National Cave Rescue Commission, May 2017, August 2018
- Invited talk: *Caving in Trubar's Breath*, Colorado School of Mines, March 2018
- Invited seminar/workshop *Hazards to Rescuers in the Cave Environment* National Cave Rescue Commission, August 2018

- Invited talk: *Geology and Mathematics*, Barnum Elementary May, December 2017
- Invited talk: *Origami vs Ruler and Compass Constructions*, CU Math Club, September 2017
- Invited talk: *Caving in Colorado*, CU Caving Club, September 2017
- Invited talk: *Caving and Mapping in Slovenia*, Colorado Grotto, October 2016
- Invited talk: *Digital Cave Survey*, National Speleological Society Front Range Grotto, May 2015
- Invited talk: *Design Considerations in Headlamp Manufacturing*, National Speleological Society National Convention, Electronics Section, July 2014
- Invited talk: *Introduction to Cave Survey*, National Speleological Society Front Range Grotto, February 2014
- Invited talk: *Surveying in Carlsbad Caverns: the Spirit World*, Front Range Grotto, November 2013

Conferences Attended

- Gender and Diversity workshops, November 2019, August 2017, August 2018
- Inquiry Based Learning Intensive, August 2016
- COLTT, August 2013
- Joint Meetings of the MAA and AMS, January 2010-2013
- Great Plains Operator Algebra Symposium (GPOTS), June 2010

Other Scholarly Activity

- Evolution of the Caving Headlamp*, article for NSS with Steve Reames, 2018
College level content author and editor 2004 - 2013
Cengage Learning/Brooks-Cole/Thompson Learning/Houghton-Mifflin
- wrote online homework and quiz content
 - authored solution sets and manuals
 - wrote and coded interactive content

- wrote computer algebra system tutorials and exercises
- authored textbook supplements
- wrote clicker questions
- authored glossaries for math texts
- corrected coding and content in the work of other authors

Memberships

- American Mathematical Society

Related Skills

- Programming in HTML, Mathematica, Excel, Displet, XML, Maple, MatLab, Axum, C++, Python and assembly language.
 - Experienced with design, construction, and trouble shooting of circuits and robots.
 - 4 years of German language education