Rachael M. Norton

Department of Mathematics
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EMPLOYMENT

Assistant Professor, Fitchburg State University — 2019–present

Postdoctoral Lecturer, Northwestern University — 2017–19

EDUCATION

Ph.D., Mathematics, University of Iowa — 2017
Advisor: Dr. Paul S. Muhly
Thesis: *Pick interpolation, displacement equations, and W^*-correspondences*

Graduate Certificate in College Teaching, University of Iowa — 2015

M.S., Mathematics, University of Iowa — 2013

B.A., Mathematics, Spanish, Bowdoin College — 2010
magna cum laude, Phi Beta Kappa

IFSA Butler Study Abroad Program, Mendoza, Argentina — 2008

TEACHING EXPERIENCE

Instructor, Fitchburg State University

Precalculus	Fall 2019
Calculus I	Fall 2019

Instructor, Northwestern University

MENU Linear Algebra and Multivariable Calculus - 3	Spring 2019 [1]
MENU Linear Algebra and Multivariable Calculus - 2	Winter 2019 [1]
MENU Linear Algebra and Multivariable Calculus - 1	Fall 2018 [1]
Linear Algebra	Winter 2018
Differential Calculus of Multivariable Functions	Winter 2018, Spring 2018 [1]
Differential Calculus of One Variable Functions	Winter 2019, Fall 2017

[1] Course Coordinator. Responsible for overseeing all course sections, instructors, and teaching assistants.

Instructor, University of Iowa

Qualifying Exam Preparation Seminar in Analysis	Summers 2016, 2014
Trigonometry	Fall 2016
College Algebra	Fall 2014

Teaching Assistant, University of Iowa

Graduate Introduction to Analysis II	Spring 2016
Graduate Introduction to Analysis I	Fall 2015
Fundamental Properties of Spaces and Functions I	Spring 2015
Engineering Math II: Multivariable Calculus	Spring 2014
Engineering Math I: Single Variable Calculus	Fall 2013
Calculus and Matrix Algebra for Business	Spring 2013
Calculus I	Fall 2012
Mathematics for the Biological Sciences	Fall 2011, Spring 2012

North American Language and Culture Assistant, 2010 – 11
Valle-Inclán High School, Pontevedra, Spain

RESEARCH INTERESTS

operator theory, noncommutative function theory, W^*-correspondences, Nevanlinna-Pick interpolation, operator algebras, groupoids

PUBLICATIONS

R. M. Norton. Comparing Two Generalized Noncommutative Nevanlinna-Pick Theorems. *Complex Analysis and Operator Theory* **11(4)** (2017), 875 – 894.

R. Angeles-Canul, R. Norton, M. Opperman, C. Paribello, M. Russell, and C. Tamon. Perfect State Transfer, Integral Circulants, and Join of Graphs. *Quantum Info. Comput.* **10** (2010), 325 – 342.

PRESENTATIONS

Invited Talks

A guide to generalized Nevanlinna-Pick theorems

Midwest Women in Mathematics Symposium, University of Iowa	April 2019

Interpolation: real world applications and the Nevanlinna-Pick theorem

Undergraduate Seminar, Fitchburg State University	February 2019
Undergraduate Math Society Seminar, Northwestern University	October 2018

A Mathematician's Guide to Designing a Roller Coaster

Colloquium, Southern New Hampshire University	September 2018
Undergraduate Seminar, Washington College	February 2018
Colloquium, Hampden-Sydney College	February 2017
Undergraduate Seminar, Lawrence University	February 2017
Colloquium, Santa Clara University	January 2017
Undergraduate Lunch Seminar, Bowdoin College	November 2016

Investigating Pick interpolation in the setting of free noncommutative function theory
AMS Special Session on Free Convexity and Free Analysis, January 2018
Joint Mathematics Meetings (JMM), San Diego, CA
Pick interpolation and the displacement equation
Multivariable Operator Theory Conference, Technion, Haifa, Israel June 2017
Comparing Nevanlinna-Pick Theorems
Faculty Seminar, Salisbury University February 2017
Faculty Seminar, Bowdoin College November 2016
Operator Algebras Seminar, Purdue University September 2016
A Comparison of Nevanlinna-Pick Theorems
AMS Special Session on Advances in Operator Algebras, JMM, Atlanta, GA January 2017
Comparing Two Generalized Nevanlinna-Pick Theorems
Iowa-Nebraska Functional Analysis Seminar, Des Moines, IA April 2016
Displacement Theory and W^*-correspondences
AMS Special Session on Advances in Free Analysis, JMM, Seattle, WA January 2016

Contributed Talks
Pick interpolation in the context of W^*-correspondences
Great Plains Operator Theory Symposium (GPOTS), Texas Christian University May 2017
Comparing Nevanlinna-Pick Theorems
Operator Theory Seminar, University of Iowa August 2016
A Comparison of Generalized Nevanlinna-Pick Theorems
GPOTS, University of Illinois Urbana-Champaign May 2016
A New Nevanlinna-Pick Type Theorem
Operator Theory Seminar, University of Iowa April 2016
Displacement Theory in the Context of W^*-correspondences
GPOTS, Purdue University May 2015

SERVICE

Professional Service
Co-founder and Co-organizer, Northwestern Emerging Scholars Program 2018–19
Co-organizer, Women in Math Lunch, Northwestern University 2017–19
Math Graduate Board, University of Iowa
Chair 2016
Social Co-chair 2013
Sonia Kovalevsky High School Mathematics Day, University of Iowa
Co-organizer 2013
Fundraising Co-chair 2012–16

Community Outreach
Teacher, Math Circles of Chicago, Chicago, IL 2017 – 19
Spanish Interpreter, University of Iowa Mobile Clinic, Iowa City, IA 2013–17

PROFESSIONAL DEVELOPMENT AND WORKSHOPS

Summer Research for Women in Mathematics, Mathematical Sciences Research Institute July 2019
Women in Operator Algebras, Banff International Research Station November 2018
Project NExT Fellow, Mathematical Association of America 2017–18
Math Circles of Chicago, Chicago, IL August 2017, July 2018

GRANTS AND HONORS

Award for Excellence in Teaching by a Postdoctoral or Visiting Faculty Member, 2019
Northwestern University Department of Mathematics
Linzer Grant for Faculty Innovation in Diversity and Equity, Northwestern University 2019
($3800 to fund the Northwestern Emerging Scholars Program in AY 2019–20)
Ballard and Seashore Dissertation Fellowship, University of Iowa 2016
"Thank-A-Teacher" letter, University of Iowa 2011, 2014, 2016
Outstanding Teaching Assistant Award, University of Iowa 2013

SKILLS

C++
Fluent in Spanish

MEMBERSHIPS

American Mathematical Society
Mathematical Association of America