Christopher Jankowski

Personal Information

School of Mathematics
Georgia Institute of Technology
686 Cherry St NW
Atlanta GA 30332

Email: cjankowski3@gatech.edu
Website: http://people.math.gatech.edu/~cjankowski3/

Research Interests

Operator algebras, E_0-semigroups, completely positive maps.

Education

University of Pennsylvania, Philadelphia, PA

Ph.D. in Mathematics, May 2009.
Thesis Advisor: Robert Powers.

University of Notre Dame, Notre Dame, IN

B.S. in Mathematics (honors concentration), *summa cum laude*, 2004.

Employment

Academic Professional, Georgia Institute of Technology	August 2016-present
Clinical Assistant Professor, New York University	September 2012-July 2016
Lecturer, University of Pennsylvania	September 2011-June 2012
Postdoctoral Fellow, Ben-Gurion University, Be'er Sheva, Israel	September 2009-July 2011

Honors and Awards

Moez Alimohamed Graduate Student Teaching Award, Department of Mathematics, University of Pennsylvania, Spring 2007.

KUDOS Penn TA Prize, University of Pennsylvania, Spring 2007.

Good Teaching Award, Department of Mathematics, University of Pennsylvania, Spring 2006.

General Electric Prize for Mathematics, University of Notre Dame, 2004.

Papers and Publications

Aligned CP-semigroups, with Daniel Markiewicz and Robert T. Powers, Int. Math. Res. Not. IMRN 2015, no. 15, 6639-6647.

Unital q-positive maps on $M_2(\mathbf{C})$ and cocycle conjugacy of E_0-semigroups, Houston J. Math., **39** (2013), 1233-1266.

A family of non-cocycle conjugate E_0-semigroups obtained from boundary weight doubles, J. Operator Theory **69** (2013), no. 1, 233-256.

E_0-semigroups and q-purity: boundary weight maps of range rank one and two, with Daniel Markiewicz and Robert T. Powers, J. Funct. Anal. **262** (2012), no. 7, 3006-3061.

Gauge groups of E_0-semigroups obtained from Powers weights, with Daniel Markiewicz, Int. Math. Res. Not. IMRN 2012, no. 14, 3278-3310.

On type II_0 E_0-semigroups induced by boundary weight doubles, J. Func. Anal. **258** (2010), no. 10, 3413-3451.

On K_*-ultrahomogeneous graphs, with Daniel Isaksen and Stephanie Proctor, Ars Combin. **82** (2007), 83-96.

Teaching Experience and Service

Georgia Institute of Technology

Director of Advising and Assessment for the Graduate Program Summer 2017-present

Process graduate course transfer requests. Participate in graduate student development and RCR training, assist in organizing and proctoring graduate comprehensive exams, keep graduate student records up to date.

Assistant Director of Teaching Effectiveness, School of Math Spring 2017-present

Observed postdocs and a graduate student instructor in the classroom. Organized the informal postdoc social and participated in the formal postdoc teaching seminar.

Lead organizer, Georgia Tech High School Math Competition Fall 2016-present

Organized graduate student participants, handled logistics and planning for the event.

Instructor Fall 2016-present

For each class, I list the interpolated median score for "Instructor: Overall Effectiveness."

- *Math 2550: Introduction to Multivariable Calculus*, Spring 2017. (4.74/5)
- *Math 2603: Introduction to Discrete Mathematics*, Fall 2016. (4.8/5)
- *Math 1113: Precalculus*, Fall 2016. (4.5/5)

New York University

Calculus I online and lecture hybrid course, development Fall 2014-Spring 2015

Professors Selin Kalaycioglu, Drew Youngren, and I created an interactive Calculus I course at NYU with the help of a video team led by Paula Torres. Students watch videos and participate in assessment for immediate feedback, access course readings online, and view other material at their class's website. The course launched in Fall 2015 and has been offered every semester since.

Course Credit Transferer Summer 2014-Fall 2015

For those transfer students wishing to receive credits at NYU for their previous math courses, I use the guidelines of the department to determine who receives credit.

Faculty Mentor, GSTEM program at NYU Summers 2013 and 2014

Mentored a high school student in college-level math as part of a program for young women in math, covering some basics of number theory and guiding her through a summer research project.
2013: Eshka-Ne Kumar, *The nature of odd primes and perfect squares in the triangular numbers.*
2014: Alisa Chang, *RSA cryptography from scratch and improving it through the use of cyphers.*

Course Coordinator Spring 2013-Fall 2015

I taught the class, created the parent website for the course, set up the WebAssign sites for other instructors in many cases, met with the other instructors of the course to clarify the syllabus and expectations, and stayed in contact with the other instructors throughout the semester to keep the pace and material consistent.
For Math 9, Math 211, and Math 212, I also coordinated the writing of the final exam for all sections of the course. Class sizes ranged from 35 to about 250 students. I list the average for the online student evaluation question "How would you rate the instructor overall" (out of 5).

- *Math for Economics II*, Spring 2014 (4.3/5 in both lectures)
- *Coordinator or Co-coordinator, Math for Economics I*, Fall 2013, 2014, and 2015 (4.1/5, 4.3/5)
- *Coordinator of 2nd Summer Session*, Summer 2013.
- *Algebra and Calculus*, Fall 2013 (4.3/5)
- *Linear Algebra*, Spring 2013 (4.8/5)

Instructor Fall 2012-Spring 2016

- *Algebra and Calculus (Math 9)*, Fall 2012. (4.1/5, 4.2/5)
- *Math Patterns in Nature (MAP 101)*, Fall 2012 and Spring 2016. (4.2/5 in Fall 2012)
- *Discrete Mathematics (Math 120)*, Fall 2015 and Spring 2016
- *Math for Economics III*, Fall 2015
- *Calculus I (Math 121)*, Spring 2013, Summer 2013, Spring 2014, Spring 2016. (4.3, 4.5, 4.8, 4.2)

Math Major Advisor Fall 2012-Spring 2016
Each semester, math majors looking for guidance regarding their course load and trajectory may seek my advice.

Curriculum Development Summer 2012
Along with Prof. Selin Kalaycioglu, I designed the syllabus for Math for Economics III.

University of Pennsylvania, Philadelphia, PA

Faculty Organizer, TA Training Program Fall 2011
Participated in the TA Training Program. Observed trainees and later observed an instructor during the semester in order to give feedback.

Mentoring Spring 2009
Met individually over the course of the semester with two students in the Penn Undergraduate Mathematics Society, guiding them through introductory analysis material. Each student gave a talk in the society's Undergraduate Seminar. The titles were "Understanding the Cantor Set: Cardinality and Lebesgue Measure" and "A Study of Convergence In Functional Analysis."

Master Teaching Assistant Fall 2007-Spring 2009
Took part in organizing and conducting the Teaching Assistant Training Program. Observed recitations of other teaching assistants and gave advice and constructive criticism. Met individually with teaching assistants to view videotapes of recitations, discussing their teaching style and giving input.

Instructor Summer 2007, Summer 2008, Summer 2012

- *Calculus I (Math 104)*, Spring 2012.
- *Calculus III (Math 240)*, Summer 2007, Fall 2011.
- *Calculus IV (Math 241)*, Summer 2008, Summer 2012.
- *Computer Methods in Mathematical Science (Math 320)*, Fall 2011.

Teaching Assistant Summer 2005 - Spring 2007, Spring 2009 - Summer 2009
Responsible for conducting recitation, grading homework and (at times) quizzes, helping to grade exams, holding office hours and occasional review sessions, and, as a teaching assistant for Math 360, typing solutions to selected homework problems.

- *Calculus I (Math 103, Math 104)*, Fall 2005-Fall 2006, Spring 2009.
- *Calculus II (Math 114), Online TA,* Summer 2009.
- *Calculus IV (Math 241), part-time TA,* Summer 2009.
- *Advanced Calculus (Math 360)*, Spring 2007.
- *Prefreshman Program Math 103*, Summer 2005.

Selected Talks

Invited Talks

Prime E_0-semigroups
Mathematics Colloqium, Georgia Southern University — Spring 2017

To infinity and beyond: what they didn't teach us in linear algebra
Mathematics Colloqium, Manhattan College — Spring 2012

Gauge groups of E_0-semigroups
Function Theory and Operator Theory: Infinite Dimensional and Free Settings, Ben-Gurion University — Spring 2011

The realm of positivity in linear algebra
Mathematics Colloquium, Bryn Mawr College — Spring 2011

Completely positive maps and noncommutative dynamics
Analysis Seminar, Drexel University — Spring 2011

E_0-semigroups and boundary weight doubles
Mathematics Colloquium, United States Naval Academy. — Fall 2010

Other Talks

Prime E_0-semigroups
Great Plains Operator Theory Symposium, Kansas Sate University — Summer 2014

Boundary weight maps and E_0-semigroups
Great Plains Operator Theory Symposium, University of California, Berkeley. — Summer 2013

A family of non-cocycle conjugate E_0-semigroups obtained from boundary weight doubles
AMS Special Session on Noncommutative Harmonic Analysis and Dynamic Systems, Joint AMS / MAA Meetings, New Orleans, LA. — Spring 2011

Local cocycles of certain E_0-semigroups of type II_0, after Alevras, Powers and Price (parts 1 and 2)
Operator Algebras Seminar, Ben-Gurion University. — Fall 2009

E_0-semigroups induced by q-pure maps on $M_n(\mathbf{C})$
Great Plains Operator Theory Symposium, University of Colorado at Boulder. — Summer 2009

The Mathematical Formulation of Quantum Mechanics
Graduate Student Pizza Seminar, University of Pennsylvania. — Fall 2007

The Cut Locus of the Torus of Revolution
Graduate Student Geometry-Topology Seminar, University of Pennsylvania. — Spring 2006

Rooted Lower Subtractivity and Frobenius Graphs
Indiana Research Experience for Undergraduates Conference, University of Indiana. — Summer 2003

Professional Memberships

Mathematical Association of America — 2008

American Mathematical Society — 2004-2008, 2010-present

Phi Beta Kappa, University of Notre Dame — 2004

References

Robert Powers — Research Reference
University of Pennsylvania, Philadelphia, PA.

Geoffrey Price — Research Reference
United States Naval Academy, Annapolis, MD.

Daniel Markiewicz — Research Reference
Ben-Gurion University, Be'er Sheva, Israel.

Matthew Leingang — Teaching Reference
New York University, New York, NY.

Robin Pemantle — Teaching Reference
University of Pennsylvania, Philadelphia, PA.