JACOB W. MASHBURN

Department of Mathematics,
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EDUCATION	**Texas A&M University**, College Station, TX	**Aug 2016 - Aug 2022**

Ph.D., Mathematics (Advisor: Dr. Michael Anshelevich)
Dissertation: *Distributions and von Neumann Algebras over Fock Spaces with Depth-Two Action*

	Texas A&M University, College Station, TX	**Aug 2012 - May, 2016**

Bachelor of Arts, Mathematics

RESEARCH INTERESTS

Free Probability Theory, Operator Algebras, Stochastic Processes

TEACHING EXPERIENCE

TAMU Graduate Instructor of Record	**Jan 20 - Aug 22**

- **Explorations in Mathematics**, Summer 2022 (in-person), Spring 2022 (hybrid), Spring 2021 (remote), and Spring 2020 (see below).
  - Taught four classes of 40 students on average. Topics included graph theory, task scheduling, statistics, information science, cryptography, fair division, apportionment, and voting theory.
  - Tools used include Zoom, WebAssign, and Canvas.
  - Spring 2020 class started in-person, but switched to remote due to emergency lockdowns during the COVID-19 pandemic.

- **Business Calculus**, Summer 2021 (remote).
  - Taught a class of 26 students. Topics included limits, derivatives, integration, and applications to business and finance.
  - Tools used include Zoom, Edfinity, and Canvas.

TAMU Graduate Teaching Assistant	**Aug 16 - Aug 22**

- **Recitation/Coding Lab Teaching Assistant for Engineering Calculus II**
  - Fall 2021 (hybrid), Dr. Constantin Onica, Python instruction.
  - Spring 2019, Amy Austin, Python instruction.
  - Fall 2018, Dr. Tamas Erdélyi, MATLAB instruction.
  - Spring 2018, Joe Kahlig, MATLAB instruction.

- **Grader for Explorations in Mathematics**, Summer 2021, Amanda Hoisington.

- **Recitation/Coding Lab Teaching Assistant for Engineering Calculus I**
  - Fall 2020 (remote), Dr. Sang Rae Lee, Python instruction. Held office hours.
  - Fall 2019, Dr. Sinjini Sengupta, Python instruction. Held office hours.
  - Fall 2017, Arthur Belmonte, MATLAB instruction.

- **Help Session Assistant for Advanced Calculus I**, Summer 2020.

- **Coordinator for Explorations in Mathematics**, Summer 2020.
  - Supervised a first-time graduate instructor of record and provided feedback on all written assessments.
  - Communicated through regular Zoom meetings and email.

- **Help Session Assistant for Engineering Calculus II**, Summer 2019.

- **Grader for Mathematical Probability**, Summer 2018, Kamran Reihani.

- **Help Session Assistant for Business Calculus**, Summer 2017.

- **Grader for Mathematics of Contingent Claims**, Spring 2017, Dr. Gregory Berkolaiko.

- **Grader for Mathematical Probability**, Fall 2016, Drs. Mike Brannan and Grigoris Paouris.

EXTRA-CURRICULAR	**TAMU Mathematics Graduate Student Organization Aug 2019 - May 2022**

- Coordinated weekly seminar for graduate students to share their research interests through 50 minute talks and 10 minute Q&A sessions.
- Curated each semester's schedule by inviting faculty and graduate students alike.
- Managed change during the COVID-19 pandemic by moving the seminar to Zoom and scheduling around many conflicts caused by the pandemic.

PUBLICATIONS

- Forthcoming. Anshelevich, M.; and Mashburn, J. "Some Fock spaces with depth two action." Accepted to the *Canadian Journal of Mathematics*, pending revisions. arXiv:2103.13936.
- Forthcoming. Anshelevich, M.; and Mashburn, J. "Fock representation of free convolution powers." Accepted to the *Journal of Operator Theory*, pending revisions. arXiv:2207.12481

TALKS GIVEN

- April 2022: **Gathering In Graduate Expository Mathematics (GIG'EM) Conference**, *Texas A&M University (invited)*
- November 2021: **Pure Mathematics Seminar**, *Lancaster University (invited, remote)*
- October 2021: **Graduate Student Organization (GSO) Seminar**, *Texas A&M University*
- October 2021: **Probabilistic Operator Algebra Seminar (POAS)**, *University of California, Berkeley (invited, remote)*
- September 2021: **GSO Seminar**, *Texas A&M University*
- August 2021: **Young Mathematicians in C*-Algebras**, *Westfälische Wilhelms-Universität Münster (poster, remote)*
- May 2021: **Great Plains Operator Theory Symposium**, *Washington University in St. Louis (remote)*
- January 2020: **GSO Seminar**, *Texas A&M University*
- February 2019: **Gathering In Graduate Expository Mathematics (GIG'EM) Conference**, *Texas A&M University*

CONFERENCES ATTENDED

- April 2022: **Gathering In Graduate Expository Mathematics (GIG'EM) Conference**, *Texas A&M University*
- August 2021: **Young Mathematicians in C*-Algebras**, *Westfälische Wilhelms-Universität Münster (remote)*
- June 2021: **Online Workshop on Stochastic Analysis**, *University of New Mexico (remote)*
- May 2021: **Great Plains Operator Theory Symposium (GPOTS)**, *Washington University in St. Louis (remote)*
- March 2021: **Gathering In Graduate Expository Mathematics (GIG'EM) Conference**, *Texas A&M University*
- October 2019: **East Coast Operator Algebra Symposium (ECOAS)**, *The Ohio State University*
- May 2019: **Great Plains Operator Theory Symposium (GPOTS)**, *Texas A&M University*
- February 2019: **Gathering In Graduate Expository Mathematics (GIG'EM) Conference**, *Texas A&M University*
- May 2018: **IPAM Workshop on Random Matrices and Free Probability**, *University of California, Los Angeles*