



DREXEL UNIVERSITY

College of

Arts and Sciences

Mathematics Department

Annual Report

2021-22

Content Collected by:

Anatolii Grinshpan
Sobha Philip
Hugo Woerdeman

Designed by:

Momo Jawwad

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Tenure Stream Faculty



David Ambrose

Associate Department Head, Graduate Advisor and Professor
PhD (Duke University)



Jonah Blasiak

Associate Professor
PhD (University of California, Berkeley)



Patrick Clarke

Associate Professor
PhD (University of Miami)



Darij Grinberg

Assistant Professor
PhD (Massachusetts Institute of Technology)



Pavel Grinfeld

Associate Professor
PhD (Massachusetts Institute of Technology)



Yixin Guo

Associate Professor
PhD (University of Pittsburgh)



R. Andrew Hicks

Professor
PhD (University of Pennsylvania)



Pawel Hitczenko

Professor
PhD (Warsaw University)



Georgi Medvedev

Professor
PhD (Boston University)



Cecilia Mondaini

Assistant Professor

PhD (Federal University of Rio de Janeiro)



Shari Moskow

Professor

PhD (Rutgers University)



Ronald Perline

Undergraduate Advisor, Associate Professor

PhD (University of California, Berkeley)



Eric Schmutz

Professor

PhD (University of Pennsylvania)



Li Sheng

Associate Professor

PhD (Rutgers University)



Gideon Simpson

Associate Professor

PhD (Columbia University)



Xiaoming Song

Associate Professor

PhD (University of Kansas)



Hugo J. Woerdeman

Professor

PhD (Vrije University, Amsterdam)



J. Douglas Wright

Department Head, Professor

PhD (Boston University)



Thomas Pok-Yin Yu

Professor

PhD (Stanford University)

Teaching Faculty



Jason Aran

Associate Department Head and Associate Teaching Professor
MS (Drexel University)



Fernando Carreon

Teaching Professor
PhD (University of Texas, Austin)



Daryl Falco

Associate Teaching Professor
MS (Drexel University)



Raymond Favocci

Associate Teaching Professor
MS (Drexel University)



Anatolii Grinshpan

Associate Teaching Professor
PhD (University of California, Berkeley)



Jeffrey LaComb

Assistant Teaching Professor
PhD (Duke University)



Oksana Odintsova

Teaching Professor
PhD (Omsk State University)



Dimitrios Papadopoulos

Assistant Teaching Professor
EdD (Drexel University)



Joel Pereira

Assistant Teaching Professor
PhD (University of North Carolina)



Adam Rickert
Associate Teaching Professor
MS (Drexel University)



Jeanne Steuber
Associate Teaching Professor
MS (Boston University)



K. Shwetketu Virbhadra
Instructor
PhD (Physical Research Laboratory, India)



Richard White
Assistant Teaching Professor
MS (St. Joseph's University)



Dennis Yang
Associate Teaching Professor
PhD (Cornell University)



Matthew Ziemke
Assistant Teaching Professor
PhD (University of South Carolina)

Adjunct Faculty



Patricia Bobo
Adjunct Instructor
MA (Temple University)



John Coppola
Adjunct Instructor
MS (Widener University)



June Gordon
Adjunct Instructor
MS (Drexel University)



Benjamin Irwin
Adjunct Instructor
PhD (Drexel University)



Rolando Jimenez
Adjunct Instructor
PhD in Physics (Federal University of São Carlos)



Boris Kheyfets
Adjunct Instructor
PhD (Drexel University)



Susanne Kriete
Adjunct Instructor
MS (University of Stuttgart, Germany)



Brianna Pezzato
Adjunct Instructor
MEd (Millersville University)



Patricia Russell
Adjunct Instructor
MS (Drexel University)



Valerie Sarris
Adjunct Instructor
PhD in Economics (Yale University)



Patrick Shields
Adjunct Instructor
PhD (Drexel University)

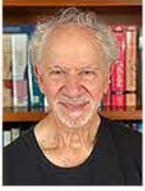


Olga Trubina
Adjunct Instructor
PhD (Moscow State Pedagogical University)



Sergio Zefelippo
Adjunct Instructor
MA (Villanova University)

Emeriti Faculty



Howard Anton
Professor Emeritus
PhD (Polytechnic Institute of Brooklyn)



Loren Argabright
Professor Emeritus
PhD (University of Washington)



Robert Boyer
Professor Emeritus
PhD (University of Pennsylvania)



Robert Busby
Professor Emeritus
PhD (University of Pennsylvania)



William Goh
Associate Professor Emeritus
PhD (Ohio State University)



Marci Perlstadt
Associate Professor Emerita
PhD (University of California, Berkeley)



Chris Rorres
Professor Emeritus
PhD (Courant Institute, New York University)



Patricia Russell
Teaching Professor Emerita
MS (Drexel University)



Justin Smith
Professor Emeritus
PhD (Courant Institute, New York University)



Jet Wimp
Professor Emeritus
PhD (University of Edinburgh)

Staff



Paige Chmielewski
Academic Advisor



Kenneth Hemphill
Department Administrator



Sobha Philip
Graduate Program Manager

Teaching & Research Assistants



Roselyn
Adkisson



Sultan
Aitzhan



Udoh
Akpan



Adam
Baurkot



Patrick
Bray



Luke
Brown



Wonsang
Cho



Juliane
Dalben



Liam
Doherty



Alexander
Furia



Sarah
Gift



Ricardo
Guimaraes



Eammon
Hart



Amanda
Johnson



Aiza
Kabeer



Emily
Kay Kelting



Hyeju
Kim



Dominick
Macaluso



Joshua
McGinnis



Kayode
Oluwasegun



Hunter
Wages



Isaac
Woods



Yaqi
Zhang

Faculty Publications

Publications from the calendar year 2021. Names in bold are affiliated with the department

Hüseyin Acan, S. Chakraborty, S. Jo, S.R. Satti,

"Succinct encodings for families of interval graphs," Algorithmica 83 (3), pp. 776–794, 2021.

Hüseyin Acan, Charles Burnette, S. Eberhard, **Eric Schmutz**, and James Thomas,

"Permutations with equal orders," Combinatorics, Probability and Computing 30 (5), pp. 800–810, 2021.

B.F. Akers and **David M. Ambrose**,

"Efficient computation of coordinate-free models of flame fronts," ANZIAM Journal, 63 (1), pp. 58–69, 2021.

M. Akin and **Yixin Guo**,

"Emergence of Stable Functional Cliques in Developing Neural Networks,"

in Complex Networks and their Applications X, Proceedings of the Tenth International Conference on Complex Networks and Their Applications Complex Networks 2021, volume 2, Springer, pp. 629–640, 2021.

David M. Ambrose, Fazel Hadadifard, and **J. Douglas Wright**,

"Well-posedness and asymptotics of a coordinate-free model of flame fronts,"

SIAM Journal on Applied Dynamical Systems, 20, pp. 2261–2294, 2021.

David M. Ambrose and A.L. Mazzucato,

"Global solutions of the two-dimensional Kuramoto-Sivashinsky equation with a linearly growing mode in each direction," Journal of Nonlinear Science, 31, paper no. 96, 2021.

David M. Ambrose,

"Existence theory for a time-dependent mean field games model of household wealth,"

Applied Mathematics and Optimization Journal, 83, pp. 2051–2081, 2021.

Jingmin Chen, **Thomas Yu**, **Patrick Brogan**, R. Kusner, **Yilin Yang**, and **Andrew Zigerelli**,

"Numerical methods for biomembranes: conforming subdivision methods versus non-conforming PL methods,"

Mathematics of Computation, 90 (328), pp. 471–516, 2021.

Kennett L. Dela Rosa and **Hugo J. Woerdeman**,

"Location of Ritz values in the numerical range of normal matrices,"

Linear and Multilinear Algebra, 69 (15), pp. 2749–2778, 2021.

V. Druskin, **Shari Moskow**, and M. Zaslavsky,

"Lippmann-Schwinger-Lanczos algorithm for inverse scattering problems," Inverse Problems, 37 (7), 2021.

J. S. Geronimo, **Hugo J. Woerdeman**, and **Chung Y. Wong**,

"Spectral density functions of bivariable stable polynomials," Ramanujan Journal, 56 (1), pp. 265–295, 2021.

N.E. Glatt-Holtz and **Cecilia Mondaini**,

"Mixing Rates for Hamiltonian Monte Carlo Algorithms in Finite and Infinite Dimensions,"

Stochastics and Partial Differential Equations: Analysis and Computations, pp. 1–74, 2021.

P. Grimley, Z. Liu, K. Darcy, M. Hueman, H. Wang, **Li Sheng**, D. Henson, D. Chen,

"A prognostic system for epithelial ovarian carcinomas using machine learning,"

Acta Obstetrica et Gynecologica Scandinavica, 100 (8), pp. 1511–1519, 2021.

- Darij Grinberg,**
"The Pelletier–Ressayre hidden symmetry for Littlewood–Richardson coefficients,"
 Combinatorial Theory, 1 (16), 2021.
- Darij Grinberg,**
"The Elser nuclei sum revisited," Discrete Mathematics & Theoretical Computer Science, 23 (1), 2021.
- Darij Grinberg, E. A. Vassilieva,**
"Weighted posets and the enriched monomial basis of \mathcal{QSym} " (extended abstract),
 Séminaire Lotharingien de Combinatoire, 85B, article no 58, 2021.
- Darij Grinberg,**
"A double Sylvester determinant," Ars Mathematica Contemporanea, 20 (2), pp. 261–274, 2021.
- Darij Grinberg and F. Petrov,**
"A greedoid and a matroid inspired by Bhargava's p -orderings,"
 The Electronic Journal of Combinatorics, 28 (3), 2021.
- Ben Grossmann and Hugo J. Woerdeman,**
"Fractional minimal rank," Linear and Multilinear Algebra, 69 (1), pp. 19–39, 2021.
- Fazel Hadadifard and J. Douglas Wright,**
"Mass-in-mass lattices with small internal resonators,"
 Studies in Applied Mathematics, 146 (1), pp. 81–98, 2021.
- Fazel Hadadifard, S. Malhi, and Z. Xiao,**
"A class of finite difference methods for solving inhomogeneous damped wave equations,"
 Journal of Numerical Analysis, Industrial and Applied Mathematics, 15 (3–4), pp. 71–84, 2021–2022.
- Fazel Hadadifard,**
"Optimal decay rates and the global attractors of the 2D fully dissipative magnetohydrodynamics system,"
 Zeitschrift für angewandte Mathematik und Physik, 72 (4), 2021.
- Fazel Hadadifard and A. G. Stefanov,**
"On the forced surface quasi-geostrophic equation: existence of steady states and sharp relaxation rates,"
 Journal of Mathematical Fluid Mechanics, 23 (1), 2021.
- M. T. Hueman, H. Wang, Z. Liu, D. E. Henson, C. M. Nguyen, D. K. Park, Li Sheng, D. Chen,**
"Expanding TNM for Lung Cancer through Machine Learning," Thorac Cancer, 12 (9), pp. 1423–1430, 2021.
- Georgi S. Medvedev and M.S. Mizuhara,**
"Stability of clusters in the second-order Kuramoto model on random graphs,"
 Journal of Statistical Physics, 182 (2), 2021
- Joshua McGinnis and J. Douglas Wright,**
"Using random walks to establish wavelike behavior in a linear FPUT system with random coefficients,"
 Discrete and Continuous Dynamical Systems -Series S, 15(9), pp. 2581–2607, 2022.
- D. Nualart, Xiaoming Song, G. Zheng,**
"Spatial averages for the parabolic Anderson model driven by rough noise,"
 Latin American Journal of Probability and Mathematical Statistics, 18 (1), pp. 907–943, 2021.

Edward Poon and **Hugo J. Woerdeman**,

"Isospectrality and matrices with concentric circular higher rank numerical ranges,"

Linear Algebra and its Applications, 631, pp. 174–180, 2021.

Xiaoming Song,

"Large deviations for functionals of some self-similar Gaussian processes,"

Stochastics, 93 (3), pp. 311–336, 2021.

S. Sremac, **Hugo J. Woerdeman**, and H. Wolkowicz,

"Error bounds and singularity degree in semidefinite programming,"

SIAM Journal on Optimization, 31 (1), pp. 812–836, 2021.

Hugo J. Woerdeman, *"Linear Algebra: What you Need to Know,"* 259 + xxi pages, CRC Press, 2021.

C. Q. Yang, H. Wang, Z. Liu, M. T. Hueman, A. Bhaskaran, D. E. Henson, **Li Sheng**, and D. Chen,

"Integrating additional factors into the TNM staging for cutaneous melanoma by machine learning,"

PLOS ONE, September, 2021.

Faculty Presentations

David Ambrose,

"Traveling water waves with multi-valued height,"

Differential Equations Seminar, University of Maryland, Baltimore County, April 2022.

David Ambrose,

"Global existence results for the 2D Kuramoto-Sivashinsky equation,"

12th IMACS Nonlinear Evolution Equations Conference, Session on Nonlinear Waves, March 2022.

David Ambrose,

"Solutions of the master equation in mean field games with nonseparable Hamiltonians,"

SIAM Conference on Analysis of PDE, Minisymposium on Mean Field Games, March 2022.

David Ambrose,

"Traveling water waves with multi-valued height,"

Online Seminar on Water Waves and Related Topics, March 2022.

David Ambrose,

"Solutions of the master equation with non-separable Hamiltonian,"

High Dimensional Hamilton-Jacobi PDEs Reunion Program, IPAM, UCLA, January 2022.

David Ambrose,

"Global existence results for the 2D Kuramoto-Sivashinsky equation,"

5th Workshop on Fluids and PDEs, Campinas, Brazil, September 2021.

Jonah Blasiak,

"A raising operator formula for Macdonald polynomials,"

Spring Eastern AMS Sectional Meeting, Tufts University, March 2022.

Darij Grinberg,

“The one-sided cycle shuffles in the symmetric group algebra,”

Waterloo Algebraic Combinatorics Seminar, Waterloo, Canada, April 14, 2022.

Darij Grinberg,

“The one-sided cycle shuffles in the symmetric group algebra,”

Oberseminar Kombinatorik, Ruhr-Universität Bochum, Bochum, Germany, June 21, 2022.

Darij Grinberg,

“From the Vandermonde determinant to generalized factorials to greedoids and back,”

New York Number Theory Seminar, March 31, 2022, online.

Darij Grinberg,

“Noncommutative Birational Rowmotion on Rectangles,”

Combinatorics and Arithmetic for Physics, Institut des Hautes Études Scientifiques,
November 30, 2021, online.

Darij Grinberg,

“Noncommutative Birational Rowmotion on Rectangles,”

Dynamical Algebraic Combinatorics workshop, Banff International Research Station,
Kelowna, Canada, November 5, 2021.

Yixin Guo,

“Emergence of Stable Functional Cliques in Developing Neural Networks,”

Complex Networks 2021, 10th International Conference on Complex Networks & Their Applications.
Madrid, Spain, November 30 -December 2, 2021.

Pawel Hitczenko,

“Randomly Growing Surfaces, Exclusion Processes and Combinatorial Tableaux,”

Independence and Conditional Aspects of Probability, Bedlewo, Poland, July 17–23, 2022.

Pawel Hitczenko,

“Asymptotics of the overflow in urn models,”

20th International Conference: Random Structures and Algorithms,
Gniezno, Poland, July 31–August 5, 2022.

Georgi Medvedev,

“Graphon Dynamical Systems: a Law of Large Numbers, Large Deviations, and Metastability,”

27th International Conference on Difference Equations and Applications,
Paris-Saclay, France, July 2022.

Georgi Medvedev,

“Graphon Dynamical Systems: a Law of Large Numbers, Large Deviations, and Metastability,”

Workshop on Applications of Geometric Methods of Functional Analysis,
University of Texas at Dallas, May 2022.

Georgi Medvedev,

“Graphon Dynamical Systems: a Law of Large Numbers, Large Deviations, and Metastability,”

Applied Mathematics Colloquium, Penn State University, April 2022.

Georgi Medvedev,

“Graphon Dynamical Systems: a Law of Large Numbers, Large Deviations, and Metastability,”
Mathematical Biology Seminar, University of Pennsylvania, March 2022.

Cecilia Mondaini,

“Mixing and weak convergence of numerical approximations of SPDEs,”
AWM Research Symposium, Deterministic and Probabilistic Approaches for Nonlinear PDEs session,
University of Minnesota, June 16-19, 2022.

Cecilia Mondaini,

“Long-term accuracy of numerical approximations of SPDEs,”
12th IMACS International Conference, Nonlinear Waves in Parabolic Evolution Problems session,
University of Georgia, March 30-April 1, 2022.

Cecilia Mondaini,

“Long-term accuracy of numerical approximations of SPDEs,”
Thematic Session in Analysis, XI Mathematics Summer School, UFS, Brazil, March 7-9, 2022, online.

Cecilia Mondaini,

“Long-term accuracy of numerical approximations of SPDEs,”
ICMC Summer Meeting on Differential Equations, Fluid Dynamics session,
USP, São Carlos, Brazil, January 31 –February 2, 2022, online.

Cecilia Mondaini,

“Long-term accuracy of numerical approximations of SPDEs,”
Applied/PDE/Data Science seminar, UC Santa Barbara, October 15, 2021, online.

Cecilia Mondaini,

“Long-term accuracy of numerical approximations of SPDEs,”
Analysis seminar, Oregon State University, October 4, 2021, online.

Cecilia Mondaini,

“Long-term accuracy of numerical approximations of SPDEs,”
V Workshop on Fluids and PDEs, Unicamp, Brazil, September 20 -October 1, 2021, online.

Shari Moskow,

“The Lippman-Schwinger-Lanczos algorithm for inverse scattering,”
Analysis Seminar, University of Arizona, February 2022, online.

Shari Moskow,

“Scattering by a bounded high oscillating medium and the effect of boundary correctors,”
SIAM PDE minisymposium Homogenization of Wave Metamaterials, March 2022, online.

Shari Moskow,

“The Lippman-Schwinger-Lanczos algorithm for inverse scattering,”
Seminar, University of Limerick, March 2022, online.

Shari Moskow,

“The Lippman-Schwinger-Lanczos algorithm for inverse scattering,”
AMS Spring Central Sectional Meeting, special session on Mathematical Methods for Inverse Problems,
March 2022, online.

Shari Moskow,

"The Lippman-Schwinger-Lanczos algorithm for inverse scattering,"

Applied Mathematics Seminar, Kansas State University, October 2021, online.

Gideon Simpson,

"Nonlocal Diffusions with Additive Noise,"

Probability, Analysis, and Data Science Seminar, Iowa State University, December 2021.

Gideon Simpson,

"A Framework for Uncertainty Quantification in Damage Mechanics,"

Applied Mathematics and Computation Seminar, Oregon State University, October 2021.

Xiaoming Song,

"Spatial averages for the Parabolic Anderson model driven by rough noise,"

Union College Mathematics Conference: Stochastic Analysis and Applications,

June 3-June 5, 2022.

Xiaoming Song,

"Spatial averages for the Parabolic Anderson model driven by rough noise,"

Colloquium at the Department of Mathematics,

New Mexico Institute of Mining and Technology, May 29, 2022.

Hugo Woerdeman,

"Completing an Operator Matrix and the Free Joint Numerical Radius,"

minisymposium lecture, International Linear Algebra Society Meeting, Galway, Ireland, June 2022.

Douglas Wright,

"A Fermi-Pasta-Ulam-Tsingou lattice with randomly varying coefficients,"

Lorentz Center Workshop on Coherent Structures: Current Developments and Future Challenges,

Leiden University, July 6, 2022.

Douglas Wright,

"A KdV approximation for random FPUT lattices,"

Workshop on Nonlinear Waves in Discrete and Continuum Systems,

University of Pittsburgh, June 18, 2022.

Douglas Wright,

"A KdV approximation for random FPUT lattices,"

The 12th IMACS Conference on Nonlinear Evolution Equations,

University of Georgia, Athens, GA, March 30, 2022.

Thomas Yu,

"Symmetry and Saddle Points in the Numerical Solutions of Geometric Variational Problems,"

Curves and Surfaces 2022, Arcachon, France, June 20 -24, 2022.

Faculty Grants

David Ambrose, PI, National Science Foundation, DMS 1907684,
Partial Differential Equation Methods for Mean Field Games, 2019-2022,
\$316,981

Jonah Blasiak, PI, National Science Foundation, DMS 2154282,
Collaborative Research: Special Functions for Diagonal Harmonics and Schubert Calculus, 2022-2025,
\$170,236

Jonah Blasiak, PI, National Science Foundation, DMS 1855784,
Collaborative Research: Catalan Function and Schubert Calculus, 2019-2022,
\$179,816

Georgi Medvedev, PI, National Science Foundation, DMS 2009233,
Large Deviations and Metastability in Dynamical Networks, 2020-2023,
\$226,397

Cecilia Mondaini, PI, National Science Foundation, DMS 2009859,
Determining Degrees of Freedom in Nonlinear Complex Systems: Deterministic and Stochastic Applications,
2020-2023, \$206,895

Shari Moskow, PI, National Science Foundation, DMS 2008441,
Novel Image Reconstruction Methods in the Frequency Domain, 2020-2023,
\$324,988

Shari Moskow, Co-PI, National Science Foundation, DUE 1758345,
Preparing Mathematics and Science Teachers for Middle School, 2018-2023,
\$1,199,374

Gideon Simpson, PI, National Science Foundation, DMS 2111278,
Collaborative Research: Particles and Proxies for Sampling, 2021-2024,
\$149,687

Hugo J. Woerdeman, PI, National Science Foundation, DMS 2000037,
Modern Aspects of Multivariable Operator Theory and Matrix Analysis, 2020-2023,
\$249,000

Hugo J. Woerdeman, PI, Simons Foundation Collaboration Grant 355645,
The multivariable Schur class and determinantal representations, 2015-2022,
\$35,000

J. Douglas Wright, PI, National Science Foundation, DMS 2006172,
Singular and Spatially Heterogeneous Perturbations of Solitary Waves, 2020-2023,
\$165,000

Thomas Yu, PI, National Science Foundation, DMS 1913038,
Geometric Approximation and Variational Problems, 2019-2022,
\$299,999

Faculty Appointments

David Ambrose, Organizer of the session:

"Progress in nonlinear waves" at the AMS Virtual Fall Central Sectional Meeting, October 2021.

David Ambrose, Organizer of the session:

"Nonlinear waves in parabolic evolution problems" at the Twelfth IMACS International Conference on Nonlinear Evolution Equations and Wave Phenomena: Computation and Theory, Athens, GA, March 2022.

Jonah Blasiak, Member:

The Scientific Committee for the Mid-Atlantic Algebraic Geometry and Combinatorics Workshop.

Darij Grinberg, Co-organizer (jointly with Tom Roby), a virtual miniconference:

"Birational Combinatorics," June 8, 2022.

Pawel Hitczenko, Member:

The Scientific Committee of "Independence and Conditional Aspects of Probability,"
Bedlewo, Poland July 17–23, 2022.

Cecilia Mondaini, Co-organizer (jointly with N. Glatt-Holtz) of the online reading/working seminar:

MCMC/Statistical Sampling

Cecilia Mondaini, Co-organizer (jointly with N. Glatt-Holtz and J. Krometis) of the special session:

"Mathematical Advances in Bayesian Statistical Inversion and Markov Chain Monte Carlo Sampling Algorithms" at the AMS Spring Western Sectional Meeting, May 14–15, 2022 (online).

Shari Moskow, Working on the federally funded travel awards program:

The Association for Women in Mathematics (AWM)

Shari Moskow, Invited Participant:

Women in Inverse Problems, workshop at Banff International Research Station,
Canada, December 2021, online.

Shari Moskow, Co-Organizer (jointly with F. Cakoni, D. Mitrea and I. Mitrea):

MSRI summer school, Integral Equations and Applications, Summer 2022.

Shari Moskow, Co-organizer of the ICERM semester program reunion workshop:

"Model and dimension reduction in uncertain and dynamic systems," Spring 2022.

Shari Moskow, Co-organizer (jointly with I. Mitrea), of the special session:

"Integral Equations and Applications," Joint Mathematics Meeting, Boston, 2023.

Shari Moskow, Co-organizer (jointly with Irina Mitrea and Nsoki Mamie Mavinga), Invited Paper Session:

"Recent Advances in Harmonic Analysis and Partial Differential Equations,"
MAA MathFest, Philadelphia, August 3–6, 2002.

Gideon Simpson, Co-organizer (jointly with Enrique Martinez, David Aristoff, Jutta Rogal), Symposium:

"Advanced Atomistic Algorithms in Materials Science," Material Research Society (MRS) Meeting,
Boston, November 29–December 2, 2021.

Hugo J. Woerdeman, Vice President/Past Vice President and Executive Board Member:
International Linear Algebra Society (ILAS).

Hugo J. Woerdeman, Board Member:
International Research Center for Tensor and Matrix Theory of Shanghai University.

Hugo J. Woerdeman, Vice President of the Steering Committee:
International Workshop on Operator Theory and its Applications (IWOTA)

Hugo J. Woerdeman, Co-organizer (jointly with Kelly Bickel, Ryan Tully-Doyle and Meredith Sargent):
"The Interplay of Matrix Analysis and Operator Theory," Joint Mathematics Meetings, April 2022, virtual.

Hugo J. Woerdeman, Co-organizer (jointly with Edward Poon), of the special session:
"Matrix Analysis and Applications," Joint Mathematics Meeting, Boston, 2023.

Several faculty members also serve on review panels, primarily for the National Science Foundation.
However, we do not provide specifics as these assignments are confidential.

Faculty Editorial Positions

David Ambrose, Division Editor,
Journal of Mathematical Analysis and Applications

Pawel Hitczenko, Editorial Board Member,
Open Journal of Discrete Mathematics

Georgi S. Medvedev, Associate Editor,
Discrete and Continuous Dynamical Systems -B

Georgi S. Medvedev, Associate Editor,
Networks and Heterogeneous Media

Shari Moskow, Associate Editor,
SIAM Journal on Applied Mathematics

Hugo J. Woerdeman, Associate Editor,
Annals of Functional Analysis

Hugo J. Woerdeman, Editor-in-Chief,
Operators and Matrices

Special Topic Courses



Fall Term



Winter Term



Spring Term

MATH T480 Numerical Linear Algebra
Shari L Moskow

MATH T680 Dynamical Systems
Yixin Guo

MATH T880 Stochastic Financial Models
David M Ambrose

MATH T880 Uncertainty Quantification
Gideon R Simpson

MATH T880 Applied Functional Analysis
Shari L Moskow

Undergraduate Research Projects

Jonah Blasiak, Holden Eriksson, and Isaiah Siegl,
Chromatic symmetric functions.

Jonah Blasiak, Darij Grinberg, and Omesh Dwivedi,
Evaluations of Jacobi-Trudi matrices over finite fields.

Shari Moskow and Nicholas DeFilippis,
research co-op: *Inverse born series for Kerr nonlinearities.*

Independent Studies



Fall Term



Winter Term



Spring Term



Summer Term

Math I399
Calculus on Manifolds
K. Shwetketu Virbhadra

Math I399
Introduction to Topology
Joel Pereira

Math I599
Introduction to Geophysics Fluid Dynamics
Shari Moskow

Math I499
Cryptography and Information Theory
R. Andrew Hicks

Math I699
Continuous-Time Stochastic Finance Models
David Ambrose

Math I399
Measure Theory and Lebesgue Integration
Matthew Ziemke

Departmental Service Assignments 2021-22

Graduate Program Committee

Chair: Yixin Guo David Ambrose
Hugo Woerdeman Jonah Blasiak

Graduate Admissions Committee

Chair: Jonah Blasiak Cecilia Mondaini
Eric Schmutz Pawel Hitezenko

Qualifying Exam Committee

Chair: Darij Grinberg
Hugo Woerdeman
David Ambrose

Major Grants Committee

Chair: Gideon Simpson Jonah Blasiak
Yixin Guo Cecilia Mondaini

Undergraduate Program Committee

Chair: David Ambrose Jeffrey LaComb
Deputy Chair: Ronald Perline Shari Moskow
Fernando Carreon Jason Aran

Undergraduate Recruitment Committee

Chair: Ronald Perline Dimitrios Papadopoulos
Jeffrey LaComb Pavel Grinfeld

Teaching Faculty Promotion Committee

Chair: Fernando Carreon
All teaching faculty Associate or higher

Tenure & Promotion Committee

Chair: Eric J Schmutz
All tenured faculty

Tenure Track Search Committee

Chair: Hugo Woerdeman Jonah Blasiak
Gideon Simpson Xiaoming Song

Diversity, Equity, & Inclusion Committee

Chair: Pawel Hitezenko Patrick Clarke
Jeffrey LaComb K. S. Virbhadrha

Assessment Coordinator

Patrick Clarke

Transfer Credits Coordinator

Li Sheng

Colloquium Coordinator

Georgi Medvedev

Analysis Seminar Coordinators

Hugo Woerdeman Anatoli Grinshpan

CAGE Seminar Coordinators

Jonah Blasiak Darij Grinberg

PDE | Applied Math Seminar Coordinator

Cecilia Mondaini

Distinguished Speaker Coordinator

Thomas Pok-Yin Yu

Library Liason

Fall/Winter: K. S. Virbhadrha
Spring: Andrew Hicks

Math Competition Coordinator

Darij Grinberg

MSO Faculty Advisor

Pavel Grinfeld

Actuarial Society Faculty Advisor

Jason Aran

Pi Day Coordinators

Raymond Favocci
Daryl Falco
K. S. Virbhadrha

Placement Exam Coordinator

Raymond Favocci

Course Coordination

Fall:

MATH100: Raymond Favocci
MATH101: Daryl Falco,
Fernando Carreon
MATH102: Dennis Yang
MATH105: Jeanne Steuber
MATH116: Anatolii Grinshpan
MATH121: Dimitrios Papadopoulos,
Matthew Ziemke

Winter:

MATH101: Daryl Falco
MATH102: Adam Rickert,
Jeanne Steuber
MATH117: Raymond Favocci,
Valerie Sarris
MATH121: Raymond Favocci
MATH122: Dennis Yang
MATH200: Dimitrios Papadopoulos

Spring:

MATH101: Oksana Odintsova
MATH102: Raymond Favocci
MATH122: Daryl Falco
MATH200: Dimitrios Papadopoulos

University Service Assignments 2021-22

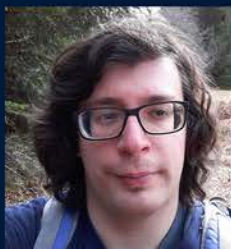
Jason Aran, Senator,
Faculty Senate

Pawel Hitzzenko, Member,
Provost Advisory Committee for Promotion & Tenure

Oksana Odintsova, Member,
TA Excellence Committee

Faculty Awards & Recognition

2022 Antelo Devereux Award for Young Faculty: Darij Grinberg



Given for his project '*The greedoid combinatorics of Noah's Ark problems*.' The project aims to understand the combinatorial structure of 'maximally diverse' subsets of finite ultrametric spaces. As such, it bridges *number theory* (where ultrametric spaces consist of numbers with respect to p-adic distance) and *mathematical biology* (where an ultrametric space is formed by the leaves of the phylogenetic tree).

2022 Scholarly Materials & Research Equipment Award: Xiaoming Song



Xiaoming Song is a co-investigator on the project '*Enhancing Big Data Analytics in Disease Risk Prediction and Biomarker Discovery*.' Associate Professor of Psychology Fengqing (Zoe) Zhang is the principal investigator on the project, and Evangelia Chrysikou (Psychology) and Lucy Robinson (Biostatistics) are also co-investigators.

The funds will be used to obtain access to the UK Biobank data. The UK Biobank project collects Big Data on approximately 500,000 individuals aged between 40 and 69, including biological measurements, lifestyle factors, biomarkers in blood and urine, medical records, brain and body imaging data, as well as genomewide genotype data. This data set will be used to support ongoing studies by several faculty in Psychology, Mathematics, Epidemiology and Biostatistics.

Elected Individual Member of the International Astronomical Union:

K.S. Virbhadra



Given to "Professional scientists whose research is directly relevant to some branch of astronomy [...]. Individual Members are, normally, admitted by the Executive Committee on the proposal of a National Member"

Service Recognition

15 Years



Daryl Falco



Anatolii Grinshpan



Yixin Guo



Richard White

5 Years



Joel Pereira



Matthew Ziemke

Graduate Student Accomplishments

Publications

Sarah K. Gift,

"Mathematical Lies You Once Believed," Blue River Writers Publications, 2021.

Sarah J. Hamilton, David Isaacson, Ville Kolehmainen, Peter A. Muller, Jussi Toivainen, **Patrick F. Bray,**
"3D electrical impedance tomography reconstructions from simulated electrode data using direct inversion text and Calderón methods," Inverse Problems and Imaging, 15 (5), pp. 1135-1169, 2021.

Leslie Hogben, Mark Hunnell, Kevin Liu, Houston Schuerger, Ben Small, **Yaqi Zhang,**
"Upper bounds for positive semidefinite propagation time," Discrete Mathematics, 345 (9), 2022.

Presentations

Alexander J. Furia,

"Singular Integral Operators Associated with Second Order Elliptic Systems in Two Dimensions,"
Mathfest, Philadelphia, PA, August 2-6, 2022.

Sarah Gift,

"Combinatorial Interpretations of Lucasnomials,"
Distressing Math Collective Seminar, Bryn Mawr College, March 23, 2022.

Ricardo Guimaraes,

"On the self-similar blowup for the dissipative SQG equation,"
ICMC -Summer Meeting on Differential Equations, USP, Brazil, February 2022, online.

Ricardo Guimaraes,

"Non-existence of self-similar blowup for the supercritical SQG equation,"
poster presentation, V Workshop on Fluids and PDE, Unicamp Brazil, September 2021, online.

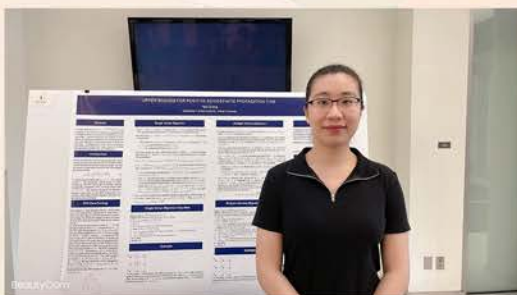
Yaqi Zhang,

Upper bounds for positive semidefinite propagation time,
CoAS Research Day, Drexel University, May 24, 2022.

Conference Participation

Yaqi Zhang,

"Finding Needles in Haystacks: Approaches to Inverse Problems using Combinatorics and Linear Algebra,"
AMS Mathematics Research Communities workshop, online, June 2022.



Yaqi Zhang presenting her poster
on COAS Research Day

Student Awards: Graduates

2021 - 2022 Al Herr Award for Teaching Assistant Excellence

The Albert Herr Teaching Assistant Award is presented to a Teaching Assistant of the Department of Mathematics who has excelled in teaching. This award was established in honor of Albert Herr (1935-1995) for the unsurpassed standards he set in the teaching of mathematics and for his lasting and distinguished service to the department from 1957 to 1993.

Recipients denoted below



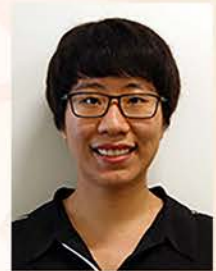
Roselyn Adkisson



Emily Kelting



Joshua McGinnis



Yaqi Zhang

Continuing Excellence in Teaching Assistance Award: *Dominick Macaluso*

Teaching Assistant Excellence Awards are presented to graduate and professional students (master's and/or doctoral level) who serve as Teaching Assistants or Teaching Fellows (TAs/TFs) and who exhibit exemplary commitment to student learning through reflective teaching practices, creative and innovative teaching methods, academic support, leadership and a commitment to their own professional growth and development as an educator.

This year, **Dominick Macaluso** received the award, and **Sarah Gift & Amanda Johnson** were nominated



Dominick Macaluso



Sarah Gift



Amanda Johnson

Student Awards: Honors Day

The Robert J. Bickel Endowed Scholarship

Presented in honor of Robert J. Bickel, who was a member of the Mathematics Department from 1946 to 1987.

Recipients denoted below



Daniel Carvente
Mathematics



Ken Zhuxin Deng
Mathematics



Lily Dunbar
Mathematics



Mark Fazzolari
Mathematics



Trent Huber
Mathematics



Abigail Jordan
Mathematics



Nicholas Livolsi
Mathematics



Annie Nguyen
*Mathematics &
Economics*



Bronwyn Sayre
Mathematics



Daniel Sin
*Mathematics &
Computer Science*



Mikaela Spaventa
Mathematics



Aaryaman Vyas
*Mathematics &
Economics*



Yonatan Weise-Namir
*Mathematics &
Computer Science*



Dr. Robert C. Busby Endowed Award: *Pedro Frazao*

Presented to a high achieving Mathematics student who volunteers as a mentor or tutor.



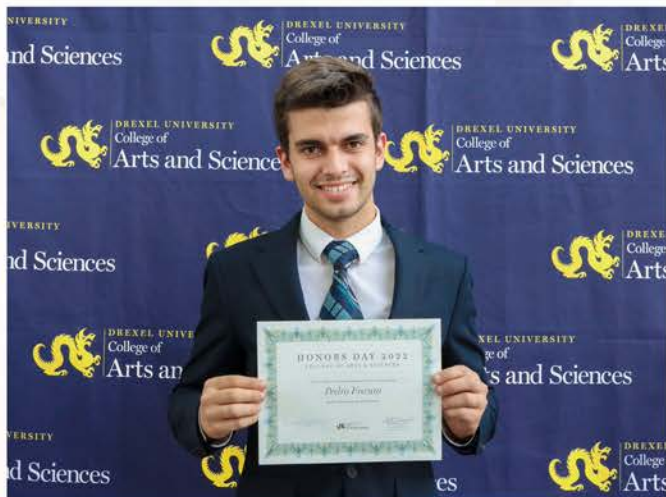
Frank H. M. Williams Endowed Prize: *Justin Gliksman*

Presented annually in recognition of academic achievement in mathematics.

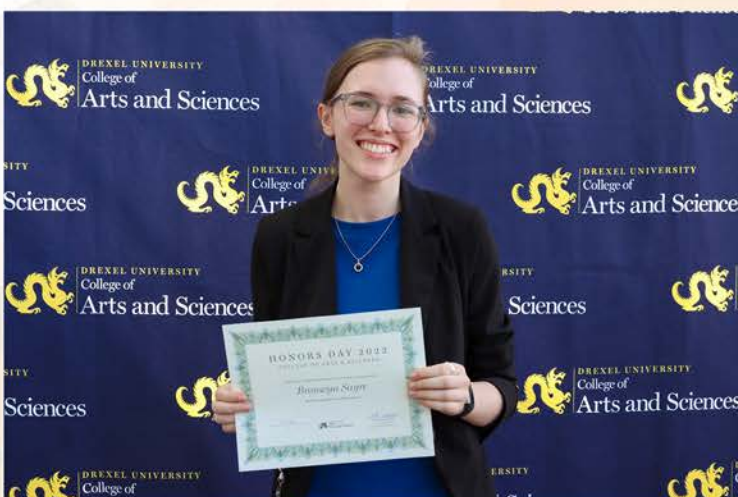


Yilin Yang Outstanding Undergraduate Research Award: *Isaiah Siegl*

Presented to an undergraduate Mathematics major who has conducted outstanding research in the field.



Pedro Frazao with award



Bronwyn Sayre with award

Graduating Class of 2021-22

Mathematics Undergraduate Majors

Bachelor of Art

Brian James Proferes, *Summa Cum Laude*
Austin Pierce Puia, *Magna Cum Laude*
Yiyang Wang, *Summa Cum Laude*
Le K. Trinh
Jonah P. Musto
Yu Gyeom Jung
Patrick Martin Thomas Langelo
Omesh Dhar Dwivedi, *Cum Laude*
Jackson Robert Harding *Cum Laude*
Colin Milewski, *Magna Cum Laude*
Othon Theodorus Tzamtzis, *Summa Cum Laude*
Mohammad Asim Iqbal, *Magna Cum Laude*
Claire Elizabeth Ussai, *Magna Cum Laude*
Maxwell Vincent Gallagher, *Magna Cum Laude*
Aseni Amadara Ariyaratne, *Summa Cum Laude*
Ryan Nguyen Dao, *Magna Cum Laude*

Bachelor of Science

Grishma Parajuli, *Magna Cum Laude*
Isaiah Nicholas Siegl, *Summa Cum Laude*
Michael Lawrence Becht
Lucie Elaine Doran, *Magna Cum Laude*
Nicholas Ascenzio DeFilippis, *Summa Cum Laude*
Kshitij Kayastha, *Cum Laude*
Dennis Ratunde, *Cum Laude*
Kyle Qi Chen, *Magna Cum Laude*
Holden Alec Eriksson, *Summa Cum Laude*
Pedro Antonio Ferreira Frazao, *Magna Cum Laude*
Mikaela M. Spaventa, *Magna Cum Laude*
Zachary Lee, *Magna Cum Laude*

Minor in Mathematics

Sameh Abedin
Fiza Akram
Declan Micahel Beaudoin
Gavin Edward Bittenbender
Michael Isaac Bogert
Christopher R. Clifford
Linh M. Do
Emma Elizabeth Dryden
Anthony Michael Goncharenko
Brandon James Hall
Stephen P. Hansen
Dylan W. Hogeland
Haris Jalal
Amarnath K. Kandallu
Kevin Karnani
William J. Kraft
Vinay Maheshwari

Zachary Alexander Matuson
Austin Jacob Mislevy
Kartik Mohan
Anoushka Mohnot
Christopher Thomas Morris
Pavlo Mrdjenovic
Duy Duc Nguyen
Huyen Thanh Nguyen
Nhi Phuong Nguyen
Jackie Ni
Manjinder M Oueslati
Sampriti Panda
Palash Pandey
Blake C. Parker
Dhwanil J. Patel
Thomas Joseh Reese
Wayne Wonseok Rodgers

Jonathan William Ross
Megan Nichole Rubino
Devang Rungta
Mohammad Sahal
Thomas Michael Santangelo
Spencer Alan Schade
Ryan Matthew Schrier
Rohan Parkash Shardha
Han Shen
Joshua Robert Shoder
Khanh An Tran
Long H. Tran
Lin Thi-My Truong
Ariel S. Vaknin
Kimberly C. Ventura-Martinez
Lucia Vina Lopez
Michael John Visco
Joshua M. Weisberg

Minor in Actuarial Science

Dennis Ratunde



Dean Kelly Joyce & Mikaela Spaventa



Dean Kelly Joyce & Omesh Dwivedi



Dean Kelly Joyce & Isaiah Siegl

Master of Science

Roselyn Elizabeth Adkisson
Liam F. Doherty
Sarah K. Gift

Amanda Gale Johnson
Aiza H. Kabeer

PHD in Mathematics

On June 21, 2022, Alexander Joseph Furia (left) successfully defended their thesis -
Asymptotic Analysis of Resonances of Periodic Scatterers
- under supervision of Dr. Shari Moskow (right)



On June 7, 2022, Dominick J. Macaluso (left) successfully defended their thesis -
Traveling Front Solution Stability in a Lateral Inhibition Network in the Neural Field Model
- under supervision of Dr. Yixin Guo (right)



On June 3, 2022, Eammon J. Hart successfully defended their thesis -
 *L_p Estimates for solutions to BSDEs and BDSDEs
and Zero-Knowledge Proofs for Flow Free and Related Graph Problems*
- under supervision of Dr. Xiaoming Song

Co-Op Employers 2021-22

American Vegan Society
Comcast Corporation
Drexel University
Econsult Solutions, Inc.
Estee Lauder/Northtec
Flagship Pioneering
Glenmede
Hamilton Lane Advisors, Inc.
Health Union LLC
Incyte Corporation
Independence Blue Cross
Lockheed Martin
Moberg Analytics
National Board of Medical Examiners
Odin Properties LLC
PearlX
Penn State University
QuotaPath
SAP America
SimpleTire
Spectra (formerly under Comcast Spectacor)
Vanguard Group
Venerable
Visma

Colloquium and Seminars

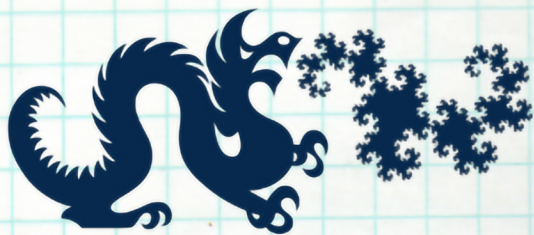
 Colloquium  Analysis Seminar  CAGE Seminar  PDE Seminar

- 01/13/22: Jingni Xiao (Rutgers University):**
Scattering, Nonscattering, and Inverse Scattering
- 01/24/22 James Pascoe (University of Florida):**
Geometric dilation and the quantum annulus
- 01/31/22: Jurij Volčič (University of Copenhagen):**
Real algebraic geometry in noncommuting variables
- 02/23/22: Tyrus Berry (Goerge Mason University):**
Towards a mathematical foundation for machine learning
- 03/30/22: Anna Vainchtien (University of Pittsburgh):**
Transition fronts and their universality classes
- 04/20/22: Michael Dritschel (University of Newcastle):**
Products of psotive operators
- 04/27/22: Nils Berglund (University of Orleans):**
Metasability of SPDEs and Fredholm determinants
- 06/08/22: Victor Vinnikov (Ben-Gurion University of the Negev):**
Hyperbolic and stable polynomials and their determinantal representations

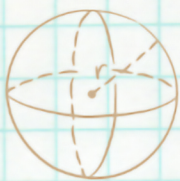
- 04/01/22: Hugo Woerdeman (Drexel University):**
Factorization of singular matrix polynomials and matrices with circular higher rank numerical ranges
- 04/22/22: Alejandra Maestripieri (Universidad de Buenos Aires):**
Indefinite least squares with a quadratic constraint
- 04/29/22: Yaqi Zhang (Drexel University):**
Upper bounds for positive semidefinite zero forcing propagation time
- 05/13/22: Hugo Woerdeman (Drexel University):**
Isospectrality and matrices with concetric circular higher rank numerical ranges
- 05/20/22: Hugo Woerdeman (Drexel University):**
Three proofs of the Benedetto-Fickus theorem (after Mixon, et al)

- 11/11/21: GaYee Park (University of Massachusetts Amherst):**
Naruse hook-length formula for linear extensions of mobile posets
- 11/18/21: Nadia Lafrenière (Dartmouth College):**
The spectrum of the random-to-below Markov Chain
- 12/02/21: Jiayuan Wang (George Washington University):**
The Hurwitz action in complex reflection groups
- 12/09/21: Sarah Brauner (University of Minnesota):**
A Type B analog of the Whitehouse representation
- 12/16/21: Theo Douvropoulos (University of Massachusetts Amherst):**
Recursions and proofs in Coxeter-Catalan combinatorics
- 02/24/22: Mark Skandera (Lehigh University):**
Symmetric generating functions and permanents of totally nonnegative matrices
- 03/03/22: Marino Romero (University of Pennsylvania):**
Polynomial rings, harmonics, and principal evaluations
- 03/31/22: Alessandro Irachi (Université du Québec à Montréal):**
Tiered trees, Theta operators, Delta conjectures
- 04/07/22: Jesse Selover (University of Massachusetts Amherst):**
Convexity Properties for Chromatic Symmetric Functions
- 04/14/22: Travis Scrimshaw (Osaka Metropolitan University):**
Geometric Crystal Invariant Theory
- 04/19/22: Isaiah Siegl (Drexel University):**
A noncommutative algebra for studying chromatic symmetric functions
- 04/21/22: Nantel Bergeron (York University):**
What more can we say about quasisymmetric functions?
- 04/28/22: Mike Zabrocki (York University):**
Plethysm and the algebra of uniform block permutations
- 05/03/22: Andy Wilson (Kennesaw State University):**
The combinatorics, algebra, and geometry of torus links

- 10/22/21: Matthew Novack (Institute for Advanced Study):**
Non-conservative $H^{1/2}$ -weak solutions of the incompressible 3D Euler equations
- 11/19/21: Mihaela Ignatova (Temple University):**
Electroconvection in fluids
- 04/14/22: Paul Atzberger (University of California Santa Barbara):**
Surface Fluctuating Hydrodynamics Methods for Fluid-Structure Interactions within Curved Fluid Surfaces
- 04/28/22: Giacomo Fiorin (National Institute of Health):**
Potentials of mean force of biomembrane deformation
- 05/12/22: Laurel Ohm (Princeton University):**
On the effects of swimming in an active suspension
- 05/26/22: Wesley Perkins (Lehigh University):**
Uniform Stability to Subharmonic Perturbations



SIAM



$$V = \frac{4}{3}\pi r^3$$

PRESIDENT: ISAAC WOODS

VICE PRESIDENT: EMILY KELTING

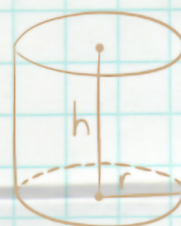
TREASURER: EAMMON HART

SECRETARY: LIAM DOHERTY

25 OCT 2021

Spot the Difference: An introduction to morphogenesis – Emily Kelting

$$y - y_1 = m(x - x_1)$$



$$V = \pi r^2 h$$

08 NOV 2021

Bounding the random fluctuations of the solution to a discrete Poisson equation – Josh McGinnis



21 FEB 2022

Physical Zero-knowledge Proofs for Flow Free, Hamiltonian Cycles, and Many-to-many k-disjoint Covering Paths
– Eammon Hart & Josh McGinnis



$$ax^2 + bx + c = 0$$

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

28 FEB 2021

12th Annual Epsilon Talks

- **Inverse Mean Curvature Flow and The Riemannian Penrose Inequality -**
Hunter Wages
- **From Brazil to conservation laws, the Navier-Stokes equations and beyond -**
Juliane Baiochi Dalben

$$d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$$

07 MAR 2021

Proof Theory and Linguistics -
Eben Blaisdell (Univ. Pennsylvania)

20 APR 2022

Distinguishing and Integrating Aleatoric and Epistemic Variation in Uncertainty Quantification -
Liam Doherty

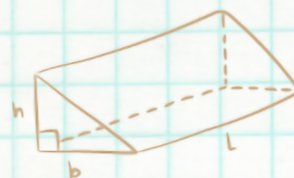
04 MAY 2022

Traveling Front Solution Stability in a Lateral Inhibition Network of the Neural Field Model - Dom Macaluso

Certificate of Recognition

for outstanding service and contribution

LIAM DOHERTY



$$V = \frac{1}{2} bhl$$

Math Student Organization

Board Members



Omesh Dhar Dwivedi
President



Alisha Augustin
Vice President



Siddhanth Agrawal
Treasurer



Kayne Galie
Event Coordinator

Events Hosted

MSO had a very successful 2021-22 academic year where we brought back old events and hosted some new events spanning from mathematics guidance and networking to fun activities like Poker and Rubiks Cube. We were also happy to finally return in person and play a major part in the department's hosting of the *2022 Pi Day*.

MSO facilitated the formation of **GRE Math Subject Study groups and Putnam Study Groups** for students who were interested in finding and sharing resources for the two tests.

MSO started its **flagship mentorship program** where we connected members of MSO with math seniors and math alumnus to help provide them with a resource to resolve their queries related to course planning, career and graduate school applications and miscellaneous.

MSO hosted its **2nd Graduate School Panel** comprising of Dr. R. Andrew Hicks, Emily Kelting and Isaac Woods, to answer common questions on graduate school admissions and providing perspectives and advice to students interested in pursuing a career in academia.

MSO brought back the recurring **Poker nights and Rubik's cube nights** where members gather up for a fun event, have food and discuss the math of some common fun everyday games.

MSO, along with SIAM and the help of Math Department helped organize the **2022 Pi-Day** (the first Pi-Day in 3 years). The event comprised of a Pi-eating contest hosted by Omesh Dhar Dwivedi, Dr. Gideon Simpson and Dr. Virbhadrha, an Integration Bee hosted by Omesh, and a Math Jeopardy hosted by Emily.

2ND GRADUATE SCHOOL PANEL

Should I apply to graduate school or job search in the industry? What is studying in graduate school like? What careers can i pursue after graduate school? Does academia pay well? Find answers to these and many more questions at our Graduate School Panel from Drexel faculty and Math Graduate Students!

MONDAY, NOVEMBER 1, 2021

5:00 PM- 6:00 PM, KORMAN 245

**(NEAR FACULTY OFFICES, TAKE THE DOOR LEFT TO
THE MATH RESOURCE CENTER)**

INDIVIDUALLY PACKED LUNCHES WILL BE PROVIDED



Dr. Robert Hicks
Professor,
Dept. of Mathematics,
Drexel University



Emily Kay Kelting
PhD Student,
Dept. of Mathematics,
Drexel University



MSO Graduate Panel

Math Bytes

Board Members



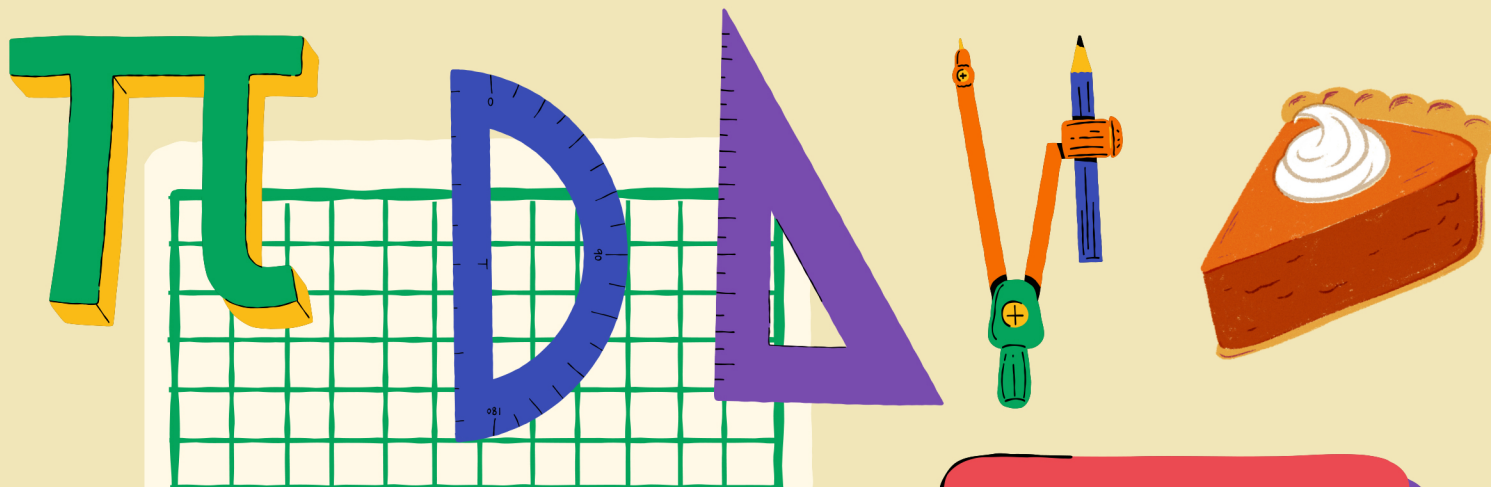
Emily Kelting
President



Isaac Woods
Vice President

Information

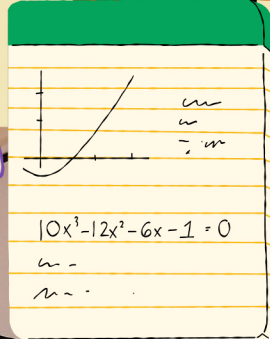
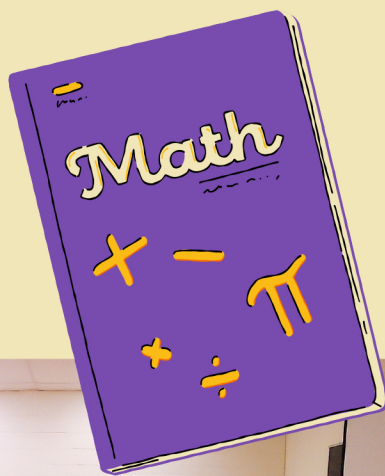
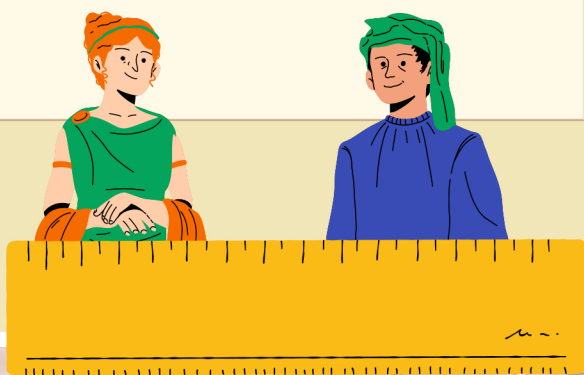
Math Bytes paired up with the SIAM Chapter to host game days and they raised funds to purchase a new card game. In addition, they are working with the SIAM Chapter to create Math t-shirts.



PIE EATING CONTEST

INTEGRATION BEE

JEOPARDY!



3.14159265...

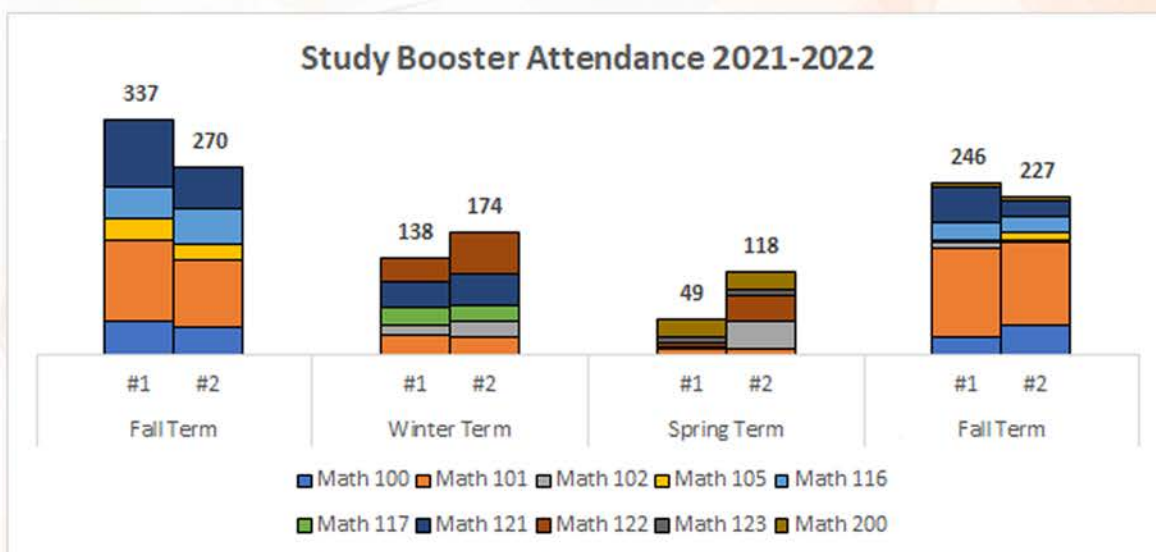
Math Resource Center

Mission

The mission of the Math Resource Center (MRC) is to aid and assist undergraduate students who are currently enrolled in courses offered by the Department of Mathematics. The MRC was available to students in person at Korman Center 207 and remotely via Zoom. Due to university-applied restrictions to physical capacity, students were sent online to receive assistance.

Visits and Outreach

The MRC held a total of eight study booster sessions for Math 101, 102, 122, 123, & 200 students. An average of 400 student visits were reported per quarter for these.



There were 7,593 student visits in the fall, winter, and spring quarters. In the summer, 153 students visited due to MRC remodeling, remote access, and shorter times.

