

# Nathan R.T. Lesnevich

## PERSONAL INFORMATION

---

MAILING ADDRESS: Department of Mathematics  
MSC 1146-11-100  
One Brookings Dr.  
St. Louis, MO 63130-4899

PHONE: [Upon Request]  
EMAIL: nlesnevich@wustl.edu  
nlesnevich@gmail.com  
WEBSITE: www.math.wustl.edu/~nlesnevich

## EDUCATION

---

*Current*  
MAY 2024 (EST.) Ph.D in Mathematics, **Washington University in St. Louis** (WUSTL), St. Louis MO  
Fifth-year graduate student with research interests in Algebra and Combinatorics.  
| Advisors: Asst Prof. Martha Precup  
| Prof. John Shreshian

May 2021 A.M. in Mathematics, **Washington University in St. Louis** (WUSTL), St. Louis MO

MAY 2019 B.S. In Mathematics (*magna cum laude*), **Bucknell University**, Lewisburg PA  
Completed a concentration in Pure Mathematics, and additional fulfillment  
of a Bachelor of Arts in Computer Science. GPA: 3.89/4  
Thesis: Positivity Among  $P$ -Partition Generating Functions  
| Advisor: Prof. Peter McNamara

## PUBLICATIONS

---

3. Lesnevich, N.R.T, *Splines on Cayley Graphs of the Symmetric Group*. 2024.  
[arxiv:2401.14380]
2. Lesnevich, N.R.T, *Hook-Shape Immanant Characters from Stanley-Stembridge Characters*. Algebraic Combinatorics. Forthcoming. [arxiv:2304.05285]
1. Lesnevich, N.R.T., McNamara, P.R.W., *Positivity Among  $P$ -partition Generating Functions*.  
Annals of Combinatorics. 26, 171-204 (2022). [arxiv:2006.10087]

## GRANTS

---

2022-3 | Prepared and received NSF conference grant DMS-2245927 (PI: Martha Precup)  
*Graduate Student Combinatorics Conference 2023*  
Co-written with small group of other graduate students

## CONFERENCES AND SEMINARS

---

### Organization

*Spring 2023* | Co-Organizer Graduate Student Combinatorics Conference 2023  
*Grant Proposal Writing, Administrative Duties, etc.*  
Co-wrote and received NSF conference grant DMS-2245927.

2022-2023 | Co-Organizer, WUSTL Combinatorics Seminar  
*Bi-weekly seminar.*

### Speaking

*Summer 2023* | Short Talk, Schubert Conference (at UIUC)  
*Splines on Cayley Graphs of the Symmetric Group*, June 20

*Spring 2023* | Poster, AlGeCom-XXIII  
*Splines on Cayley Graphs of the Symmetric Group*, Apr 15

*Spring 2023* | Graduate Online Combinatorics Colloquium  
*Splines on Cayley Graphs of the Symmetric Group*, Mar 8

*Spring 2023* | Dartmouth Combinatorics Seminar  
*Splines on Cayley Graphs of the Symmetric Group*, Feb 21

*Spring 2023* | WUSTL Combinatorics Seminar

- | *Splines on Cayley Graphs of the Symmetric Group*, Feb 20
- Fall 2022 | AMS Fall Eastern Sectional, Special Session on Geometric Aspects of Algebraic Combinatorics.  
*A Proof of an Immanant Conjecture for Hook Partitions*
- Spring 2022 | Short Talk, Graduate Student Combinatorics Conference 2022  
*Hook-Partition Immanant Characters from Stanley-Stembridge Characters*

## Recent Conference Attendance

- Summer 2023 | FPSAC 2023, at UC Davis
- Summer 2023 | Schubert Calculus Summer School, at UIUC
- Spring 2023 | 8th Lake Michigan Workshop on Combinatorics and Graph Theory, at the University of Notre Dame
- Fall 2022 | ALGeCom-XXII, at UIUC.
- Fall 2022 | BIRS: Interactions between Hessenberg Varieties, Chromatic Functions, and LLT Polynomials (Virtual Participant)
- Spring 2022 | ISM Discovery School: Geometry and Combinatorics of Hessenberg Varieties, at UQAM.
- Summer 2022 | OPAC: Open Problems in Algebraic Combinatorics, at UMN.

## TEACHING

---

- Current  
FALL 2021 | Instructor, Graduate Reading Program, WUSTL Dept. of Mathematics  
*Representation Theory*
- 2020-2023 | Graduate Teaching Assistant, WUSTL Dept. of Mathematics  
*Discussion Section Leading, Grading*  
Calculus III (FL20,SP23) and II (SP21), and Differential Equations (FL21-FL22).
- SUMMER 2022 | Finite Math (Math 220), WUSTL Dept. of Mathematics  
*Sole instructor of record.*
- SPRING 2022 | Co-Instructor, Graduate Reading Program, WUSTL Dept. of Mathematics  
*Lie Algebras*
- FALL 2021 | Co-Instructor, Graduate Reading Program, WUSTL Dept. of Mathematics  
*The Art of Counting Lattice Points: Introduction to Ehrhart Theory*
- SPRING 2021 | Co-Instructor, Graduate Reading Program, WUSTL Dept. of Mathematics  
*Young Tableaux*
- AUG-MAY 2016-19 | Help Session Leader, Bucknell Dept. of Mathematics  
*Group Tutoring, Calculus 1-3*
- JAN-MAY 2016-18 | Student Grader, Bucknell Dept. of Mathematics  
*Differential Equations, Linear Algebra, and Calculus 3*

## OUTREACH

---

- Current  
AUG 2021 | Organizer, Graduate Reading Program, WUSTL Dept. of Mathematics  
*Recruitment, Organizational, and Administrative Duties*
- SEPT 24 2023 | Washington University Math Circle  
Speaker, "Cryptography: The math of making and breaking codes"

## SCHOLARSHIPS AND CERTIFICATES

---

AC. YEAR 2022-2023	Robert H. McDowell Teaching Award. <i>Department graduate teaching award, 1 annual awardee.</i>
AC. YEAR 2021-2022	Brian Blank Teaching Award for 3rd Year Graduate Student. <i>Department graduate award, 1-2 annual awardees.</i>
FALL-SPRING 2020-21	David B. Emmes Endowed Scholarship.
FALL-SPRING 2015-19	John C. Hoover Scholarship for Students in Mathematics
FALL-SPRING 2015-19	Bucknell Presidential Fellowship <i>4 year half-tuition merit scholarship with research mentorship.</i>
FALL-SPRING 2015-19	Bucknell University's Deans List
SUMMER 2018	John C. Hoover Summer Research Funding Recipient
SPRING 2017	Pi Mu Epsilon Mathematics Honors Society Member
SUMMER 2017	Bucknell Program for Undergraduate Research Award Recipient