

Education

University of South Florida

- **Ph.D., Mathematics**, June 2016
- Thesis Topic: “On Spectral Properties of Single Layer Potentials”
- Advisor: Dmitry Khavinson
- **M.A., Mathematics**, May 2012

Research Interests

Spectral theory of integral and differential operators, isoperimetric inequalities, potential theory

Employment

Virginia Tech

- Instructor, January 2025 - Present

University of Chicago

- Assistant Instructional Professor September, September 2019 -2024
- Lecturer 3, September 2018 - September 2019

Eastern Oregon University, La Grande, OR

- Instructor September 2017 - June 2018

University of South Florida, Tampa, FL

- Teaching Assistant, January 2010 - June 2016

Hillsborough Community College, Tampa, FL

- Adjunct Instructor, January 2013 - May 2013

Publications

1. On a conjecture of Szego and Polya, under review
2. Zoalroshd, Seyed Upper and lower bounds for the Hilbert-Schmidt norm of a potential operator, *Archiv der Mathematik*, 112 (2019), 645-648
3. Zoalroshd, Seyed M. On isoperimetric inequalities for single layer potentials, *Proc. Amer. Math. Soc.* 145 (2017), 323–326.
4. Zoalroshd, Seyed M. A short note on universal inequalities for certain potential operators, *Complex Analysis & Operator Theory* . 11 (6), 1–4 (2017)
5. Zoalroshd, Seyed M. A characterization of circles by single layer potentials, *Zeitschrift für Analysis und ihre Anwendungen*. 36, 477–480, (2017)
6. Zoalroshd, Seyed M. A universal inequality for Riesz potentials on domains on n-spheres, *Le Matematiche*.72 (2), 33–36 (2017).
7. Zoalroshd, Seyed M. A note on isoperimetric inequalities for logarithmic potentials. *J. Math. Anal. Appl.* 437, No. 2, 1152–1158 (2016).
8. Zoalroshd, Seyed M. On Hilbert-Schmidt norm of single layer potentials on Segments. *J. Appl. Anal.* 22, No. 1, 91–94 (2016).

9. Zoalroshd, Seyed M. On injectivity of the single layer logarithmic potential. Ann. Univ. Ferrara, Sez. VII, Sci. Mat. 62, No. 1, 165–171 (2016).
10. Zoalroshd, Seyed M. , On Spectral Problems of Single Layer Potentials, Ph.D. dissertation, University of South Florida, 2016, Published by: ProQuest LLC, Ann Arbor, MI, p. 73.

■ Taught Courses

- University of Chicago
 - MATH 15250 (Mathematical Methods for Economic Analysis: Linear & Non-Linear Optimization)
 - Math 130s Calculus sequence - Course Coordinator
 - Math 18300 (Mathematical Methods in the Physical Sciences I)
 - Math 18400 (Mathematical Methods in the Physical Sciences II)
 - Math 15200 (Calculus II)
 - Math 15300 (Calculus III)
 - Math 19520 (Mathematical Methods for Social Sciences)
 - Math 19620 (Linear Algebra)
 - Math 20000 (Math Methods For Physical Sciences)
- Other Institutions
 - Calculus 1-3
 - Elementary Statistics
 - Multivariable Calculus
 - Linear Algebra
 - Differential Equations
 - Pre-Calculus
 - Calculus of Business
 - Life Sciences Calculus
 - Finite Mathematics

■ Outreach

- Organizer for High School Math Contest– Eastern Oregon University– April 17th, 2018
- Proctor for Putman Competition, University of Chicago, 2019, 2022

■ Professional Membership

American Mathematical Society

■ Talks Given

- On a conjecture of Polya-Szego, AMS Sectional Meeting–University of St. Thomas–St. Paul, MN, 10-28-2016
- Remarks on a class of potential operators, University of South Florida–Tampa, 08-20-2015.
- On Schatten class membership of single layer potentials, AMS Sectional Meeting– Rutgers University, 08-15-2015

■ Conferences & Seminars

- Research School Spectral Theory, Control, and Inverse problems, CIRM, Marseille, France, 21- 25 November 2022 (could not attend to a family emergency)

- Workshop Spectral Geometry Analysis Differential, University of Padova, Italy, June 2019
- IAS Undergraduate Faculty Program, Summer 2019
- Results in Mathematical Physics, Pontificia Universidad Catolica, Santiago, Chile, December 2018
- 2018 Northeast Analysis Network Conference University at Albany SUNY, Albany, NY. September 14– 15, 2018.
- AMS Fall Central Sectional Meeting University of Michigan, Ann Arbor, MI, October 20–21, 2018.
- Analysis and Beyond: Celebrating Jean Bourgain’s Work, Institute for Advanced Study, Princeton. May 21-24, 2016.
- 15th New Mexico Analysis Seminar, University of New Mexico Albuquerque, NM. Feb 19-21, 2016.
- AMS-MAA Joint Mathematics Meetings, Seattle, WA. Jan 6–9, 2016.
- AMS Fall Eastern Sectional Meeting, Rutgers University. Nov 14–15, 2015. Conference on
- Complex Analysis and Geometry, University of Wisconsin-Madison, March 2015.
- AMS Western Spring Sectional Meeting, University of New Mexico, Albuquerque, NM. April 3–4, 2014.
- Analysis, Complex Geometry & Mathematical Physics, Columbia University, New York, NY. May 2013.
- A mini-course in Configuration Spaces, Tulane University, New Orleans, LA. Spring 2012.
- Workshop on Holomorphic Curves, Stanford University, CA. July 30–August 11, 2012.
- Workshop in Dirichlet Space, MSRI–University of California, Berkeley, CA. Summer 2011.

■ Honors & Awards

- Thorpe Endowed Scholarship, College of Arts & Sciences–USF, 2013-2014.
- Thorpe Endowed Scholarship, College of Arts & Sciences–USF, 2011-2012.
- Thorpe Endowed Scholarship, College of Arts & Sciences–USF, 2010-2011.

■ Editorial Services

- Referee for Journal of Analysis and Mathematical Physics
- Reviewer for Mathematical Reviews
- Reviewer for Zentralblatt MATH

■ Languages & Computer Skills

English, French (reading), LATEX, Python

■ References

Shmuel Weinberger, University of Chicago
 John Boller, University of Chicago
 Robert Fefferman, University of Chicago