Arundhathi Krishnan | Assistant Professor

CONTACT
INFORMATION

Department of Mathematics and Computer Studies
Mary Immaculate College
Thurles, Ireland.
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RESEARCH
EXPERIENCE

Munster Technological University, Ireland	**January 2023–**
Assistant Lecturer	**August 2023**
University of Waterloo, Canada	**January 2021–**
Postdoctoral Fellow	**December 2022**
University College Cork, Ireland	**October 2018–**
Postdoctoral Fellow	**December 2020**
Indian Statistical Institute, Bangalore	**November 2017–**
Visiting Postdoctoral Scientist	**September 2018**

RESEARCH
INTERESTS

Operator algebras, noncommutative probability.

EDUCATION

Indian Institute of Technology Madras, Chennai	**February 2018**
Ph.D., Mathematics	
Thesis: Pseudospectrum of an element of a Banach algebra	
Indian Institute of Technology Madras, Chennai	**2012**
M.Sc., Mathematics	
CGPA : 9.5/10	
Madras Christian College, Chennai	**2010**
B.Sc., Mathematics	
Aggregate : 89.21	
Aggregate in Mathematics : 96.57	

PUBLICATIONS

- Claus Köstler, Arundhathi Krishnan and Stephen J. Wills, *Markovianity and the Thompson monoid F^+*, Journal of Functional Analysis **284** (2023), no. 6 109818, ISSN 0022-1236, doi:https://doi.org/10.1016/j.jfa.2022.109818.

- Claus Köstler and Arundhathi Krishnan, *Markovianity and the Thompson Group F*, SIGMA 18 (2022), 083, 27 pages, doi:https://doi.org/10.3842/SIGMA.2022.083.

- Arundhathi Krishnan and S. H. Kulkarni, *Pseudospectra of elements of reduced Banach algebras II*, Funct. Anal. Approx. Comput. **10** (2018), no. 2, 33-45.

- Arundhathi Krishnan and S. H. Kulkarni, *Pseudospectra of elements of reduced Banach algebras*, Adv. Oper. Theory **2** (2017), no. 4, 475–493, doi:10.22034/aot.1702-1112.

- Arundhathi Krishnan and S. H. Kulkarni, *Pseudospectrum of an element of a Banach algebra*, Oper. Matrices **11** (2017), no. 1, 263–287, doi:10.7153/oam-11-18.

PREPRINTS

- Rolf Gohm, Claus Köstler, and Arundhathi Krishnan, *The Thompson group F from the viewpoint of noncommutative probability*, Preprint in preparation.

- Arundhathi Krishnan, *A central limit theorem for the Thompson group F*, Preprint in preparation.

RECENT TALKS

- Women in Operator Algebra 3, Banff International Research Station, June 2023.

- Invited talk, Facets of Operator Algebras, Canadian Mathematical Society Winter Meeting, December 2022.

- Invited talk, East Coast Operator Algebra Symposium, Michigan State University, October 2022.

- BCRI Mini-Symposium Noncommutative Probability and Quantum Information, University College Cork, October 2022.

CONFERENCE
TALKS

- Contributed talk (online), Noncommutative probability, noncommutative harmonic analysis and related topics with applications, Będlewo, August 2022.

- Invited talk, Mathematical Analysis and its Applications, Central University of Kerala, October 2021.

- Invited talk, Irish Mathematical Society Annual Scientific Meeting (virtual), Dublin City University, January 2021.

- "Markovianity and the Thompson Monoid F^+", participant talk at Autumn School on Multipliers in Noncommutative analysis and their applications, Laboratoire des mathématiques de Besançon, Besançon, France, November 2019.

- "Markovianity and the Thompson Monoid F^+", participant talk at *Young Mathematicians in C^*-algebras (YMC*A) 2019*, University of Copenhagen, August 2019.

- "Markovianity and the Thompson Monoid F^+", contributed talk at *International Workshop on Operator Theory and Applications (IWOTA) 2019*, University of Lisbon, July 2019.

- "Pseudospectra of elements of reduced Banach algebras", invited talk at *SHK Fest*, IIT Madras, Chennai, June 2018.

- "Pseudospectra of elements of reduced Banach algebras", poster presentation at *Indian Women and Mathematics Annual Conference 2017*, IISc Bangalore, July 2017.

- "Determining elements of a Banach algebra through pseudospectra", contributed talk at *Preservers Everywhere 2017*, Bolyai Institute, University of Szeged, Szeged, June 2017.

- "Pseudospectra of elements of reduced Banach algebras", contributed talk at *International Workshop on Operator Theory and Applications (IWOTA) 2016*, Washington University, St. Louis, July 2016.

SEMINAR TALKS

- Analysis Seminar, University of Waterloo, July 2023.

- Analysis Seminar, University of Glasgow, May 2023.

- Weekly Learning Seminar on Monoids, University of Waterloo, February – April 2021.

- Analysis Seminar (virtual), University of Glasgow, October 2020.

- Noncommutative Probability Seminar, University College Cork, January 2020.

- Analysis Seminar, University College Dublin, November 2019.

- Mathematics Seminar, University College Cork, January 2019.

SCHOLARSHIPS

- Awarded Government of Ireland Postdoctoral Fellowship for two years **(2018–2020)**
- Awarded CSIR research fellowship to pursure the Ph.D. programme in Mathematics **(2012–2017)**
- Awarded Half Time Research Assistantship by IIT Madras to pursue the Ph.D. programme in Mathematics **(July 2012–October 2012)**
- Awarded National Board for Higher Mathematics M.Sc. Scholarship **(2011–2012)**
- Awarded Institute Merit Scholarship by IIT Madras **(2010–2011)**
- Awarded NCERT National Talent Search Examination (NTSE) Scholarship **(2005–2010)**

GRANTS AND TRAVEL AWARDS

- Travel Grant to 'Women in Operator Algebras 3', Clay Mathematics Institute **(June 2023)**.
- Irish Research Council Postdoctoral Direct Research Expenses (EUR 10,000) **(2018-2020)**
- Per diem Conference Grant (USD 725), Quantum Symmetries Program at MSRI **(January 2020)**
- International Conference Grant (INR 150,000), IIT Madras **(2017)**
- Travel Grant (USD 2080), International Workshop on Operator Theory and Applications **(2016)**
- Travel Grant (INR 20,839), IIT Madras Alumni Association **(2016)**

PRIZES

- Received prizes of merit for highest CGPA in M.Sc. Mathematics, IIT Madras **(2012)**
- Secured an All India Rank of 12 (out of about 2500 candidates) in the Joint Admission Test for M.Sc. conducted by the IITs **(2010)**
- Received prizes of merit for best performance in B.Sc. Mathematics, Madras Christian College **(2009, 2010)**

Teaching

- Discrete Mathematics at Munster Technological University, Spring 2023.

- Technological Mathematics 2 at Munster Technological University, Spring 2023.

- Quantitative Techniques at Munster Technological University, Spring 2023.

- Advanced Calculus 1 for Electrical and Computer Engineers at University of Waterloo, Fall 2022.

- Introduction to Group Theory with Applications at University of Waterloo, Spring 2022.

- Applied Linear Algebra at University of Waterloo, Winter 2022.

- Introduction to Group Theory with Applications at University of Waterloo, Spring 2021.

- Functional Analysis at University College Cork, Autumn 2020.

- Introduction to Analysis at University College Cork, Spring 2020.

Other qualifications

- Postgraduate Certificate in Teaching and Learning in Higher Education at University College Cork, October 2020.
- Successfully completed the online EPIGEUM course on Research Integrity- Natural and Physical Sciences.

Links

- Research Gate
- Google Scholar

References

S. H. Kulkarni	Department of Mathematics, IIT Palakkad
(PhD Advisor)	Palakkad, India
shk@iitpkd.ac.in	
Claus Köstler	School of Mathematical Sciences, University College Cork
claus@ucc.ie	Cork, Ireland
Stephen Wills	School of Mathematical Sciences, University College Cork
s.wills@ucc.ie	Cork, Ireland
Alexandru Nica	Department of Pure Mathematics, University of Waterloo
anica@uwaterloo.ca	Ontario, Canada
Blake Madill	Department of Pure Mathematics, University of Waterloo
(Teaching)	Ontario, Canada
bmadill@uwaterloo.ca	

SERVICE

Reviewer Duties

- Journal of the Australian Mathematical Society

- The Journal of Analysis

- Mathematical Reviews

Mentorship

Junior Mentor in the Operator Algebras Mentor Network

Outreach

- Tutor for online Teacher's Enrichment Workshop on Real Analysis, Multivariable Calculus and Linear Algebra, St. Joseph's College, Bangalore, 2022.

- Staff for UCC Mathematics Enrichment Programme (for school students), 2018-2019, 2019-2020, 2022-2023.

- Lecture in online international workshop "Initiation into Linear Algebra", Mar Thoma College, Thiruvalla, October 2020.

- Talk titled "The Spectral Theorem" in the SAMOSE seminar Series, NCBS, Bangalore, September 2018.

- Talk titled "The Drunkard's Walk" for undergraduates at St. Joseph's College, Bangalore, July 2018.

PROFESSIONAL
AFFILIATIONS

- European Women in Mathematics

- Irish Mathematical Society

Last updated: September 2023.