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## Arundhathi Krishnan

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### CONTACT INFORMATION

arundhathi.krishnan@uwaterloo.ca  
Department of Mathematics  
Munster Technological University  
Cork, Ireland.

### RESEARCH EXPERIENCE

<b>University of Waterloo</b> , Canada Postdoctoral Fellow	<b>January 2021– December 2022</b>
<b>University College Cork</b> , Ireland Postdoctoral Fellow	<b>October 2018– December 2020</b>
<b>Indian Statistical Institute</b> , Bangalore Visiting Postdoctoral Scientist	<b>November 2017– September 2018</b>

### RESEARCH INTERESTS

Operator algebras, noncommutative probability.

### EDUCATION

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

### 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](https://doi.org/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](https://doi.org/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.

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## RECENT TALKS

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

## CONFERENCE TALKS

- “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

- Weekly Learning Seminar on Monoids, University of Waterloo, February – April 2021.
- Noncommutative Probability Seminar, University College Cork, January 2020.
- Analysis Seminar, University College Dublin, November 2019.
- Mathematics Seminar, University College Cork, January 2019.

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## SCHOLARSHIPS

- Awarded Government of Ireland Postdoctoral Fellowship for two years **(2018–2020)**
- Awarded CSIR research fellowship to pursue 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

- 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

- 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, January 2021.
- Successfully completed the online EPIGEUM course on Research Integrity- Natural and Physical Sciences.

## LINKS

- [Research Gate](#)
- [Google Scholar](#)

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## REFERENCES

S. H. Kulkarni	Department of Mathematics, IIT Palakkad
<a href="mailto:shk@iitpkd.ac.in">shk@iitpkd.ac.in</a>	Palakkad, India
Claus Köstler	School of Mathematical Sciences, University College Cork
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Alexandru Nica	Department of Pure Mathematics, University of Waterloo
<a href="mailto:anica@uwaterloo.ca">anica@uwaterloo.ca</a>	Ontario, Canada
( <b>Teaching</b> ) Blake Madill	Department of Pure Mathematics, University of Waterloo
<a href="mailto:bmadill@uwaterloo.ca">bmadill@uwaterloo.ca</a>	Ontario, Canada

## SERVICE

### Reviewer Duties

- Journal of the Australian Mathematical Society
- The Journal of Analysis

### 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 and 2019-2020.
- 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.

*Last updated: January 2023.*