

Dr. Priyanka Sangal

Assistant Professor

Department of Mathematics, Ram Chand Uniyal Govt P.G. College
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Research Interest

I am interested in using the techniques of positivity of trigonometric sums to study the geometric behaviour of certain hypergeometric type functions including generalizations of well known polynomials like Cesàro polynomials.

Research Experience.....

- **Doctor of Philosophy (Mathematics)**: Indian Institute of Technology Roorkee, India, January 1, 2013 to May 1, 2018.

Thesis Title.....

Generalized Positivity techniques applied to Hypergeometric type functions

Ph.D. Supervisor.....

- **Dr. A. Swaminathan**
Associate Professor
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Indian Institute of Technology Roorkee
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List of Publications

Published/Accepted.....

- P. Sangal and A. Swaminathan, On generalized Cesàro Stable functions, *Mathematical Inequalities and Applications*, **22** (1), (2019). 227–247.
doi: dx.doi.org/10.7153/mia-2019-22-18
- P. Sangal and A. Swaminathan, Starlikeness of Gaussian Hypergeometric Functions Using Positivity Techniques, *Bull. Malays. Math. Sci. Soc.* **41** (2018), no. 1, 507–521.
doi: 10.1007/s40840-016-0420-5.
- P. Sangal and A. Swaminathan, Geometric Properties of Cesàro Averaging Operators, *J. Complex Anal.* **2017**, Art. ID 6584584, 9 pp.
doi:10.1155/2017/6584584.
- P. Sangal and A. Swaminathan, Convexity of polynomials using positivity of trigonometric sums,

Advances in Algebra and Analysis, Trends in Mathematics, Springer, 161-168.
doi: https://doi.org/10.1007/978-3-030-01120-8_19

Under review/ communicated.....

- P. Sangal and A. Swaminathan, Extension of Vietoris inequalities for positivity of trigonometric polynomials, (Communicated)
arXiv: 1705.03759v1 dated May 6, 2017.
- P. Sangal and A. Swaminathan, On a conjecture for trigonometric sums by S. Koumandos and S. Ruscheweyh (To be Communicated).
- P. Sangal and A. Swaminathan, Applications of positivity of trigonometric sums for generalized Vietoris coefficients, (Communicated).

Workshops/Conferences

Conferences.....

- **ICAMS (2017):** '*International Conference on Advances in Mathematical Sciences*' organized by School of Applied Sciences, **Vellore Institute of Technology, Vellore, Tamil Nadu**, December 01-03, 2017. Presented a paper titled "Convexity of polynomials using positivity of trigonometric sums". I also got the **Best Paper Presentation Award** for the presentation.
- **CMFT (2017):** '*International Conference on Computational Methods and Function Theory*' organized by **Marie Curie Sklodowska University, Lublin, Poland**, July 10-15, 2017. Presented a paper titled "On a conjecture for trigonometric sums by S. Koumandos and S. Ruscheweyh".
- **ICMAA (2016):** '*International Conference on Mathematical Analysis and its Applications*' organized by Department of Mathematics, **IIT Roorkee**, November 28- December 02, 2016. Presented a paper titled "An Extension of Vietoris inequality for positivity of trigonometric Polynomials".
- **ICSFA (2015):** '*International Conference in Special Function and its Applications*' organized by Department of Applied Sciences, **Amity University, Noida**, September 10-12, 2015. Presented a paper titled "Convexity of polynomials using positivity techniques".
- **ICSFA (2014):** '*International Conference in Special Function and its Applications*' organized by School of Mathematics, **Thapar University, Patiala**, October 16-18, 2014. Presented a paper titled "Positivity of trigonometric Polynomials".

Workshops.....

- '*Poster Presentation*' in **Indian Women and Mathematics Regional Workshop on Research and Opportunities** organized by Department of Mathematics **Niser Bhubaneshwar**, October 27-28, 2018.
- '*TEQIP*' sponsored workshop on **Complex Analysis, Fourier Analysis and Special Functions** organized by Department of Mathematics **IIT Roorkee**, March 06-10, 2017.
- '*TEQIP*' sponsored workshop on **Mathematica as a Teaching Aid** organized by Department of Mathematics **IIT Roorkee**, March 10-12, 2016.

Conference Organized.....

- Work as a part of the Organizing committee for the conference **ICMAA-2016** organized by Department of Mathematics, **IIT Roorkee**.

Teaching Experience

- **Ram Chand Uniyal Govt P.G. College Uttarkashi** **Uttarkashi**
Assistant Professor *08 July 2019 – present*
- **Jaypee Institute of Information Technology Noida** **JIIT Noida**
Assistant Professor *01 January 2019 – 07 July 2019*
- **Visvesaravarya National Institute of Technology Nagpur** **VNIT**
Adjunct Assistant Professor of Practice *23 July 2018– 18 December 2018*
- **Department of Mathematics, IIT Roorkee** **Roorkee**
Teaching Assistant
Handled tutorials of B.Tech. Mathematics courses and Complex Analysis course of Integrated MSc. Mathematics.
- **D.A.V. Degree College Budhana, Muzaffarnagar** **Uttar Pradesh**
Lecturer *July 2011–May 2012*

Academic Qualifications

- **Maharishi Dayanand University** **Rohtak, Haryana**
Master of Science (Pure Mathematics), Percentage 82.85% *2011*
- **Maharishi Dayanand University** **Rohtak, Haryana**
Bachelor of Science, (Maths, Physics, Computer Sc.), Percentage 78.6% *2009*
- **U.P.Board of Intermediate Education** **Allahabad, U.P.**
Intermediate, Percentage 76.6% *2006*
- **U.P.Board of Secondary Education** **Allahabad, U.P.**
High School, Percentage 71.8% *2004*

Awards and Recognitions

- **JAM 2010:** Joint Admission Test for MSc, AIR:453
- **University rank holder:** Holding university position in each semester of Masters degree
- **GATE 2013:** Graduate Aptitude test in Engineering, AIR: 159
- **NET 2013:** National Eligibility Test (Lectureship), AIR:56
- **CSIR JRF 2012:** Junior Research Fellowship, AIR:63.
January 1, 2013 to December 31, 2014.
- **CSIR SRF** January 1, 2015 to December 31, 2017.
- **Best Paper presentation Award:** ICAMS-2017 for the paper "Convexity of polynomials using positivity of trigonometric sums".

Technical skills

- **Programming Languages:** C, LaTeX.
- **Software Skills:** M S Office, Maple, Mathematica.

Courses taught

- Mathematics I
- Mathematics II
- Probability and Random Processes
- Statistical Methods for Urban Planning
- Linear Algebra
- Complex Analysis
- Real Analysis

References

- **Dr. A. Swaminathan**

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- **Dr. V. Ravichandran**

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