

RESUME

Name and present position:

Ms. Arati Shashi
Research Scholar(Ph.D)
Department of Mathematics
Indian Institute of Technology Madras
Chennai- 600036
India

Area of research work:

Harmonic Analysis

Research papers:

1. S. Arati and R. Radha. Orthonormality of wavelet system on the Heisenberg group, *Journal de Mathematiques Pures et Appliquees* (Elsevier) (2019), Accepted for Publication.
2. S. Arati and R. Radha. Wavelet system and Muckenhoupt \mathcal{A}_2 condition on the Heisenberg group, *Colloquium Mathematicum* (2019), Accepted for Publication.
3. S. Arati and R. Radha. Frames, biorthogonal dual and other properties associated with wavelet system on \mathbb{R} , *International Journal of Wavelets, Multiresolution and Information Processing* (World Scientific), Vol. 17, No. 1 (2019) 1950008, DOI:10.1142/S0219691319500085.
4. S. Arati and R. Radha. Frames and Riesz bases for shift invariant spaces on the abstract Heisenberg group, *Indagationes Mathematicae* (Elsevier), Vol. 30 (2019) 106-127, <https://doi.org/10.1016/j.indag.2018.09.001>.

Conferences/Workshops attended:

- Participated in the GIAN course - Mathematical Foundations of Signal Analysis (A Fresh Look at Harmonic Analysis) organised by Prof. R. Radha and Prof. S.H. Kulkarni with the foreign expert Prof. H.G. Feichtinger at Indian Institute of Technology Madras during January 8-20, 2018.

- Participated in the National Conference in Analysis held at Chennai Mathematical Institute on Dec 23, 2017.
- Participated in the 15th Discussion Meeting in Harmonic Analysis - International Conference held at the Department of Mathematics, Indian Institute of Science, Bangalore from Dec 18 to 21, 2017.
- Gave a poster presentation titled “Frames, biorthogonal dual and other properties associated with wavelet system on \mathbb{R} ” in the symposium on ‘Function Spaces and Inequalities’ in the 83rd Annual Conference of Indian Mathematical Society - An International Meet held at S V University, Tirupati from Dec 12 to 15, 2017.
- Participated in the International Conference on Fourier Analysis and Wavelets held during March 21-25, 2017 at Ramanujan Institute for Advanced Study in Mathematics, University of Madras, Chennai.
- Participated in the 11th Discussion Meeting on Harmonic Analysis - International Conference and Workshop held at National Institute of Science Education and Research (NISER), Bhubaneswar from Dec 28, 2009 to Jan 9, 2010.
- Participated in the Workshop on Elliptic Curves and Cryptology held at the Institute of Mathematical Sciences, Chennai from July 21 to Aug 2, 2008.

Teaching experience:

- Served as tutorial assistant for the courses Fourier analysis, Functions of several variables, Series and matrices, Differential equations and Probability, stochastic process and statistics at IIT Madras during the current Ph.D programme.
- Served as part-time Assistant Professor in Stella Maris College, Chennai for 6 months.
- Coached students for the National Eligibility Test (NET).
- Coached IX and X standard CBSE students for 2 years.

Educational qualification:

Degree	Specialization	Marks/CGPA	University	Year of passing
B.Sc	Mathematics	98%	University of Madras	2006
M.Sc	Mathematics	CGPA:10/10	Anna University, Chennai	2008
M.Phil	Mathematics	CGPA:5.86/6	University of Madras	2009

- Dissertations
 - Studied Lenstra's method of factoring integers using elliptic curves and implemented the algorithm using Maple software. (M.Sc)
 - Studied wavelets, their construction and MSF wavelets. (M.Phil)
- Cleared GATE 2014(Mathematics) with all India rank 10.
- Cleared the Joint CSIR-UGC Test for JRF and NET(Mathematical Sciences) in December 2013 with rank 41.
- Secured first rank, gold medal and best outgoing student award in M.Sc.
- Secured first rank, gold medal and yearly proficiency in B.Sc.
- Secured the best outgoing student in school(Standard X).

Other activities:

- Organized and compered events for State level Inter-Collegiate Students meet held by Anna University (2006-2008).
- Held administrative posts in student council and music club of Stella Maris College (2003-2006).
- On-stage music recitals.