

Curriculum Vitae

K. S. Senthil Raani

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Research Interests:

- Harmonic Analysis, Geometric Measure Theory.

Employment:

- Assistant Professor, Department of Mathematical Sciences, Indian Institute of Science Education and Research (IISER) Berhampur (since July 2018).
- NBHM Post doctoral fellow, Stat-Math Unit, Indian Statistical Institute, Bangalore (December 2017-June 2018).
- National Post Doctoral Fellow, Department of Mathematics, Indian Institute of Science Education and Research (IISER) Bhopal (August 2016 to November 2017).
Mentor : Prof. Saurabh Shrivastava
- Institute Post Doctoral Fellow, Department of Mathematics, Indian Institute of Science Education and Research (IISER) Bhopal (August 2015 to July 2016).
Mentor : Prof. Saurabh Shrivastava
- Teaching assistant - Instructor- Department of Mathematics, Kalasalingam University, Krishnankoil, Tamil Nadu, India (June 2008 to April 2009)

Teaching Experience:

- Instructor for Probability and Statistics for 2nd year BS-MS students at Indian Institute of Science Education and Research Berhampur during January-April 2019.
- Instructor for Calculus I for 1st year BS-MS students at Indian Institute of Science Education and Research Berhampur in August-November 2018 semester.
- Instructor for Advanced Linear Algebra for 3rd year BS-MS students and 1st year Int Phd Students at Indian Institute of Science Education and Research Bhopal in August-November 2017 semester.

- Instructor for Real Analysis -1 for 3rd year BS-MS students at Indian Institute of Science Education and Research Bhopal in August-November 2016 semester.
 - Teaching Assistant for Probability and Statistics for 2nd year undergraduate students at Indian Institute of Science education and Research Bhopal in Jan-April 2016 semester.
 - Instructor for Real Analysis -1 for 3rd year BS-MS students at Indian Institute of Science Education and Research Bhopal in August-November 2015 semester.
 - Instructor for *Self-similar sets and their Fourier transforms in Summer school on Fractals: Their Structure, Shadow and translates* at Shiv Nadar University, Greater Noida, India during 29 June-20 July 2014.
 - Teaching Assistant for Analysis and Linear algebra-II for 1st year undergraduate students at Indian Institute of Science in Jan-April 2014 semester.
 - Teaching Assistant for Analysis and Linear algebra-I for 1st year undergraduate students at Indian Institute of Science in Aug-Nov 2012 semester.
 - Instructor at Kalasalingam University in January-April 2009.
 - Engineering Mathematics -2- Sequences and series, Complex integration, Multiple integrals for 1st year Engineering undergraduate students,
 - Engineering Mathematics -4- Problems on Probability, Random variables and Graph theory for 2nd year Engineering undergraduate students.
- Instructor at Kalasalingam University in July-November 2008.
- Engineering Mathematics -1- Matrices, Differential Calculus, Problems on ODE for 1st year Engineering undergraduate students,
 - Engineering Mathematics -3- Problems on PDE, Laplace transform, Fourier Series, Fourier transform for 2nd year Engineering undergraduate students.

Academic:

- Ph.D. Mathematics (2016), Indian Institute of Science, Bangalore
- defended in February 2016 and awarded in March 2016.
Thesis Title : L^p -Asymptotics of Fourier transform of fractal measures.
Adviser : Prof. E. K. Narayanan
- M.Phil. Mathematics (2008), AJ College, Madurai Kamaraj University, Sivakasi.
Project: On Radial and Detour-radial Graphs
- M.Sc. Mathematics (2007), AJ College, Madurai Kamaraj University, Sivakasi.
Percentage of Marks: 83
- B.Sc. Mathematics (2005), SFR College, Madurai Kamaraj University, Sivakasi.
Percentage of Marks: 79 (excluding Minor in Physics and Computer science)

Awards/Fellowships/Honors:

- The National Board of Higher Mathematics (NBHM, under the Department of Atomic Energy (DAE), India) post doctoral fellowship (2016).
- National Post doctoral fellowship [NPDF- under SERB scheme, India], August 2016-July 2018.
- Junior and Senior Research Fellowship [CSIR-UGC], for the Graduate Study at Indian Institute of Science, Bangalore January 2010- July 2014.
- Indian Academies' Summer Research Fellowship to work as a Summer Research fellow during June-July 2007 under Prof V Kannan, Department of Mathematics, University of Hyderabad, Hyderabad

Publications:

- K. S. SENTHIL RAANI *L^p -Integrability, Dimensions of Supports of Fourier Transform and Application*, JOURNAL OF FOURIER ANALYSIS AND APPLICATIONS 20(4) (2014) , 801-815.
- K. S. SENTHIL RAANI *L^p -Fourier asymptotics, Hardy inequality and fractal measures* MONATSHEFTE FUR MATHEMATIK 184(3) 459-487.
- B. KUMAR B, S. BRAHADEESH and K. S. SENTHIL RAANI *Self-dual representations of $SL(2, F)$ -An approach using the Iwahori-Hecke algebra* (ACCEPTED - COMMUNICATIONS IN ALGEBRA)

Visits:

- Visited IISER-Thiruvananthapuram to discuss with Prof. Shrihari Shridharan during 8-12th of February 2016.
- Visited University of British Columbia, to discuss research with Prof. Malabika Pramanik during 10-27th of June 2015.

Talks:

- Poster entitled "Sharp weighted estimates for multi-frequency Calderón-Zygmund operators" presented in the Workshop on Recent developments in Harmonic analysis, MSRI, University of California, Berkeley, USA during May 15-19, 2017.
- Contributory talk in 10th International Conference on Harmonic Analysis and Partial Differential Equations, El Escorial, Madrid, Spain during June 12-16, 2016.
- Contributory talk in the conference on Harmonic analysis and approximation theory, Centre de Recerca Matemàtica, Bellaterra(Barcelona), Spain during June 6-10, 2016.

- Contributory talk titled Hardy type inequality and fractal measures in the 14th Discussion meeting on Harmonic Analysis, University of Delhi, Delhi during Dec 10-12, 2015.
- Invited talk titled Fourier asymptotics of fractal measures in the 10th International ISAAC congress at Macau, China SAR during 3rd-8th August 2015.
- Contributed Talk titled L_p -Asymptotics of Fourier transform of fractal measures in Western International workshop on Harmonic analysis and PDE at UBC, Vancouver, Canada during 10th-12th June, 2015.
- Talk titled Asymptotic properties of fractal measures and Wiener Tauberian type Theorems in Young Women and Mathematics Symposium at IISER-Pune, India during 25th-27th July, 2014.
- Young researchers talk titled L_p -Integrability of Fourier transforms of distributions supported in thin sets in Probabilistic Aspects of Harmonic Analysis at Stefan Banach International Mathematical Center at Bedlewo, Poland during 26th April-3rd May 2014.
- Talk titled L_p -Integrability of Fourier transforms of distributions supported in thin sets in DMHA XIII, Dec 2013-IMSc, Chennai. India
- Talk titled Support theorems on Lorentz Spaces in In-House Symposium in Mathematics (2012), Indian Institute of Science, Bangalore. India

Administration duties:

- Girls' hostel warden (since 26 July 2018)
- Convener of Departmental Post graduate Committee (since October 1 2018)