Sivaram Ambikasaran

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ACADEMIC APPOINTMENT	**Assistant Professor,** **Department of Mathematics,** **Indian Institute of Technology Madras,** **Chennai - 600 036**	**August 2017 – Present**

PREVIOUS APPOINTMENTS	**Indian Institute of Science** Assistant Professor, Department of Computational & Data Sciences	**April 2016 – August 2017**
	ICTS, Tata Institute of Fundamental Research Faculty, Interdisciplinary and Applied Mathematics	**Jul 2015 – Mar 2016**
	Courant Institute of Mathematical Sciences, New York University Assistant Professor, Department of Mathematics	**Aug 2013 – May 2015**

EDUCATION

Stanford University   **Sep 2007 – Jun 2013**
- Doctor of Philosophy, Institute for Computational and Mathematical Engineering
  Thesis Title: Fast Algorithms for Dense Numerical Linear Algebra and Applications.
  Advisor: Prof. Eric Darve.
- Master of Science, Statistics
- Master of Science, Institute for Computational and Mathematical Engineering

Indian Institute of Technology Madras   **Jul 2002 – Jun 2007**
- Master of Technology, Aerospace Engineering
- Bachelor of Technology, Aerospace Engineering

RESEARCH

Numerical Analysis, Numerical linear algebra, Fast algorithms, Approximation theory with applications to Inverse problems, Scattering, Computational statistics, Material Homogenization, Data assimilation, Filtering.

HONORS & AWARDS

- "Young Scientist Award" by The Academy of Sciences, Chennai
- "Young Faculty Recognition Award" by Indian Institute of Technology, Madras, 2019.
- "Young Scientist Research Award" by the Department of Atomic Energy, India, 2017.
- Simons Foundation fellowship under "Science without Boundaries" of ICTS-TIFR, 2015.
- "INSPIRE Faculty Award" to young achievers for independent research and emerge as a leader in future science & technology by the Department of Science & Technology, India, 2015.
- Research Internship in Science and Engineering by Indo-US Science & Technology Forum at Tata Institute of Fundamental Research, Centre for Applicable Mathematics, Bangalore, 2011.
- Stanford Interdisciplinary Graduate Fellowship - Honorable mention, 2010.
- Centennial Teaching Assistant Award by Stanford in honor of outstanding teaching, 2009
- Stanford University departmental fellowship to pursue graduate studies, 2007.
- Cornell University departmental fellowship to pursue graduate studies, 2007 (declined).
- Dr. V. Mohan Raman Prize, for best academic record in Bachelors and Masters in Aerospace Engineering, Indian Institute of Technology Madras, India, 2007.
- Institute Medal for highest GPA in Aerospace Engineering for three consecutive years, Indian Institute of Technology Madras, India, $2004 - 07$.
- 99.81 percentile (out of 200,000 students) in the Common Aptitude Test, an all-India test conducted by the Indian Institute of Management, India, 2007.
- General Electric Scholar-Leader scholarship for academic achievements and leadership qualities, 2006.

- One among 30 students from all over India, to get selected for the International Mathematical Olympiad Training Camp held at Homi Bhabha Center for Science and Education, Mumbai, India, 2002.

- First in Mathematics Olympiad held by Association of Mathematics Teachers of India, 2001 & 2002.

- Fellowship by Nanyang Technological University, to pursue undergraduate education in Engineering, 2002 (declined).

- One among 750 students from a pool of about 350,000 students to be awarded National Talent Search Examination Scholarship by the Central Government of India, 2000.

TEACHING EXPERIENCE	**Go here for the list of all courses taught by me at Courant Institute, ICTS-TIFR, IISc and IIT Madras**

Stanford University, CA

- Discrete Mathematics
Summer program by "Army High Performance Computing Research Center" **Jul 2013**

- Numerical Linear Algebra
Summer program by "Army High Performance Computing Research Center" **Jul 2012**

- Applied Analysis
Math refresher course for incoming engineering graduate students. **Sep 2011**

- Numerical Linear Algebra
Summer program by "Army High Performance Computing Research Center" **Jul 2011**

- Teaching Assistant, Institute for Computational and Mathematical Engineering **2008 − 2009**
Undergrad courses in Vector Calculus, Linear Algebra and PDE's, Probability and Statistics

MENTORING	**Go here for the list of all people mentored by me**

PUBLICATIONS Google Scholar (as of Feb 14th, 2023): Number of citations: 2138, h-index: 16, i10-index: 22, Erdos number: 4

- **Journal Publications**:
Google Scholar

- **Mathematical packages**:

  - BBFMM2D - Black Box Fast Multipole Method in two dimensions.
    Available at: `https://github.com/sivaramambikasaran/BBFMM2D`

  - FLIPACK - Fast Linear Inversion PACKage.
    Available at: `https://github.com/sivaramambikasaran/FLIPACK`

  - HODLR - Fast Direct Solver Package.
    Available at: `https://github.com/sivaramambikasaran/HODLR`

  - ESS - Extended SemiSeparable Solver.
    Available at: `https://github.com/sivaramambikasaran/ESS`

  - Celerite - Scalable 1D Gaussian Processes in C++, Python, and Julia
    Available at: `https://github.com/dfm/celerite`

  - George - Fast and flexible Gaussian Process regression in Python Available at: `https://github.com/dfm/george`