CURRICULUM VITAE FOR MALABIKA PRAMANIK

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EDUCATION

Institution	Major	Degree and Year
Indian Statistical Institute	Statistics	Bachelor of Statistics, 1993
Indian Statistical Institute	Statistics	Master of Statistics, 1995
University of California at Berkeley	Mathematics	Ph.D., 2001

APPOINTMENTS

- **Fairchild Senior Research Fellow** at the California Institute of Technology, 2005–.
- **Assistant Professor** at the University of Rochester, Fall 2004.
- **Van Vleck Visiting Assistant Professor** at the University of Wisconsin, Madison. 2001-2004.
- **Graduate Student Researcher** at the University of California, Berkeley during Spring 1998, Spring 1999, Spring 2000, Fall 2000.
- **Full-Time Summer Session Instructor** at the University of California, Berkeley during Summer 1998 and Summer 1999.
- **Instructor for the Professional Development Program** at the University of California, Berkeley during Fall 1998, Fall 1999.
- **Graduate Student Instructor** at the University of California, Berkeley during academic year 1996-1997, Fall 1997.
- **Teaching Assistant** at the University of Wisconsin, Madison during academic year 1995-1996.

RESEARCH INTERESTS

- Euclidean harmonic analysis :
  - Cone multipliers and local smoothing,
  - Multi-parameter maximal functions,
  - Hilbert transform along polynomial surfaces,
  - Scalar oscillatory integrals, oscillatory integral operators with degenerate phases,
  - Almost everywhere convergence of Fourier series,
  - Multilinear operators with singular multipliers.
- Several complex variables: Estimates for the Bergman kernel.
- Partial differential equations.
- Scattering theory, applications to mathematical physics.

PUBLICATIONS

1. ***Averages over curves in*** $\mathbb{R}^3$ ***and associated maximal functions***, joint with Andreas Seeger, submitted.
2. L^p***-Sobolev regularity of a restricted X-ray transform***, joint with Andreas Seeger, to appear in *Harmonic Analysis and its applications at Osaka, Conference Proceedings 2004.*
3. ***Double Hilbert transform along real-analytic surfaces in*** $\mathbb{R}^{d+2}$, joint with Chan Woo Yang, submitted.
4. ***Wolff's inequality for hypersurfaces***, joint with Izabella Łaba, to appear in the *Proceedings of El Escorial, 2004.*
5. L^p ***decay estimates for weighted oscillatory integral operator on*** $\mathbb{R}$, joint with Chan Woo Yang, to appear in *Revista Matematica Iberoamericana.*
6. ***Decay estimates for weighted scalar oscillatory integrals on*** $\mathbb{R}^2$, joint with Chan Woo Yang, *Indiana University Mathematical Journal (2004, volume 53, number 2, 613–645).*
7. ***A weak*** L^2 ***estimate for a maximal dyadic sum operator on*** $\mathbb{R}^n$, joint with Erin Terwilleger, *Illinois Journal of Mathematics (2003, volume 47, number 3, 775–813).*
8. ***Convergence of two-dimensional weighted integrals***, *Transactions of the American Mathematical Society (2002, volume 354, number 4, 1651–1665).*
9. ***Weighted inequalities for real-analytic functions in*** $\mathbb{R}^2$, *Journal of Geometric Analysis (2002, volume 12, number 2, 265–288).*

PREPRINTS

1. ***Maximal averages over linear and monomial polyhedra***, joint with Alexander Nagel.
2. ***Diagonal estimates for the Bergman kernel on certain domains in*** $\mathbb{C}^n$, joint with Alexander Nagel.
3. ***Measures on monomial polyhedra***, joint with Alexander Nagel.
4. ***Oscillatory integral operators with homogeneous polynomial phases in several variables***, joint with Allan Greenleaf and Wan Tang.

TALKS AND CONFERENCES

- **Summer Graduate School on Inverse Problems (Seattle, August 2005).** Invitation to visit University of Washington, Seattle.
- **Workshop on Real and Harmonic Analysis (Oberwolfach, Germany, July 2005).** Awarded a US Junior-Oberwolfach Fellowship to attend a weeklong workshop.
- **Joint AMS-India Mathematics Meeting (Bangalore, India, December 2003).** 30 minute invited talk.
- **Workshop on Resolution of Singularities (CRM Montreal, Canada, August 2003).** 50 minute invited lecture.
- **Summer Session on Harmonic Analysis and Partial Differential Equations (IAS/Park City, July 2003.)** Attended a two-week conference at Park City, Utah.

- **AMS-RSME Joint Meeting (Seville, Spain, 2003).** Invited talk at Special Session on Harmonic Analysis.
- **University of Washington, Seattle.** 50 minute invited lecture.
- **Combinatorial and Number-Theoretic Methods in Harmonic Analysis, Erwin Schrödinger Institute (Vienna, Austria, April 2003).** Invited lecture.
- **Pan-American Advanced Studies Institute on PDE, Inverse Problems and Nonlinear Analysis. (Santiago, Chile, December 2003)** 30 minute contributed talk.
- **Partial Differential Equations and Spectral Theory, Institut Mittag-Leffler, Sweden (August – September 2002)**: One month stay under NSF funded Sweden-US program organized by Prof. Peter Hislop, University of Kentucky.
- **University of Arkansas 27th Spring Lecture Series in the Mathematical Sciences, Fayetteville, Arkansas (April, 2002)** : 20 minute talk.
- **University of Missouri, Columbia (December 2001)**: 1 hour invited lecture.
- **AMS-IMS-SIAM Joint Summer Research Conference on Harmonic Analysis, Mount Holyoke College, Massachusetts (June 24 - July 5, 2001)** : 30 minute talk.
- **Summer School on Spectral Theory of Schrödinger Operators, Lake Arrowhead, UCLA (Summer 2000)** : Presented a paper on Lieb-Thirring inequalities in two one-hour talks at conference at Lake Arrowhead organized by Prof. Christoph Thiele of the Department of Mathematics, UCLA.

GRANTS AND HONORS

- **NSF grant DMS0530279 : 2003-2006.**
- **Fairchild Research Grant : 2005-.**
- **US Junior-Oberwolfach Fellow : 2005.**
- **Nikki Kose Memorial Teaching Prize (1999)**, awarded annually by the Department of Mathematics at University of California, Berkeley to the best graduate student instructor.
- **Outstanding Graduate Student Instructor Award (1998)**, awarded annually by the University of California, Berkeley to the top 5% of graduate student instructors campuswide.
- **Invited Speaker at the International Graduate Student Instructorship forum, 1998**.
- **P.C. Mahalanobis Gold Medal (1995)**, awarded to a graduating senior at Indian Statistical Institute based on a presentation in some area of mathematics and/or statistics.

TEACHING EXPERIENCE

- **Topics in real and harmonic analysis**
- **Techniques in Ordinary Differential Equations**
- **Calculus and analytic geometry**
- **Pre-calculus**
- **Matrix and linear algebra**
- **Euclidean geometry**
- **Advanced Calculus**

- **Trigonometry**
- **Linear algebra and differential equations**
- **Finite Mathematics**

SYNERGISTIC ACTIVITIES

- **Member of the Mathematics Opportunity Committee** at the University of California at Berkeley. This committee is dedicated to helping women and under-represented minority students successfully complete graduate mathematics study at Berkeley.
- **Instructor for the Professional Development Program** at the University of California at Berkeley. The PDP program is designed to help women and minority undergraduate students in mathematics and also those with learning disabilities and insufficient mathematical background.
