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Raanan Schul

- **Date of Birth:** August 2, 1977, Ann-Arbor, Michigan
- **Citizenship:** U.S.A., Israel
- **Education:**

Hebrew University	Jerusalem, Israel.	Math.	B.Sc. (Honors)	1996 - 1999.
Hebrew University	Jerusalem, Israel.	Math.		1999 - 2000.
Yale University	New Haven, CT	Math.	M.S.	2000 - 2002.
Yale University	New Haven, CT	Math.	Ph.D.	2000 - 2005.
- **Current position** (2009-) Assistant Professor, Mathematics department, SUNY Stony Brook.
- **Past position** (2005 - 2009) NSF Postdoc / Hedrick Assistant Professor at the mathematics department, UCLA
- **Area of Mathematics:** Harmonic analysis, geometric measure theory and in particular the theory of quantitative rectifiability. Connections of the above to applied mathematics.
- **Honors, Grants and Fellowships:**
 - NSF DMS 1100008 (PI). 20011-2014.
 - Alfred P. Sloan Research Fellow 2010-2012.
 - NSF DMS 0965766, 0800837 (PI). 2008-2011.
 - NSF DMS 0502747 Postdoctoral Research Fellowship (PI). 2005-2009.
 - Fellow at the Institute for Pure and Applied Mathematics (IPAM) for the fall 2007 program *Mathematics of Knowledge and Search Engines*.
 - Fellow at the Institute for Pure and Applied Mathematics (IPAM) for the fall 2004 program *Multiscale Geometry and Analysis in High Dimensions*.
 - One month stay at the Erwin Schrodinger International Institute for Mathematical Physics (ESI) for *Geometric Methods in Analysis and Probability* program. Vienna. June 2005.
 - $2\frac{1}{2}$ week stay at the Centre de Recerca Matemàtica for *Fourier analysis, geometric measure theory, and applications* program. Barcelona. June 2006.
- **Papers and Preprints:**

(all available at <http://www.math.sunysb.edu/~schul>)

 - J. Azzam and R. Schul. Hard Sard: Quantitative Implicit Function and Extension Theorems for Lipschitz Maps. Submitted. [arxiv:1105.4198](https://arxiv.org/abs/1105.4198).
 - J. Azzam and R. Schul. How to take shortcuts in Euclidean space: making a given set into a short quasi-convex set. Submitted. [arxiv:0912.1356](https://arxiv.org/abs/0912.1356).
 - J. Garnett, R. Killip and R. Schul. A doubling measure on R^d can charge a rectifiable curve. Proc. Amer. Math. Soc. vol. 138 (2010), pages 1673-1679 .

- C. Sormani and S. Wenger. Weak Convergence and Cancellation. Appendix by R. Schul and S. Wenger. *Calculus of Variations and Partial Differential Equations: Volume 38, Issue 1 (2010)*, Page 183..
- Peter W. Jones, Mauro Maggioni, and Raanan Schul. Universal local parametrizations via heat kernels and eigenfunctions of the Laplacian. *Ann. Acad. Sci. Fenn. Math.*, 35(1):131–174, 2010.
- Peter W. Jones, Mauro Maggioni, and Raanan Schul. Manifold parametrizations by eigenfunctions of the Laplacian and heat kernels. *Proc. Natl. Acad. Sci. USA*, 105(6):1803–1808, 2008.
- Raanan Schul. Big-Pieces-of-Lipschitz-Images implies a sufficient Carleson estimate in a metric space. [arXiv:0706.2517](https://arxiv.org/abs/0706.2517).
- Raanan Schul. Bi-Lipschitz decomposition of Lipschitz functions into a metric space. *Rev. Mat. Iberoam.*, 25(2):521–531, 2009.
- Raanan Schul. Ahlfors-regular curves in metric spaces. *Ann. Acad. Sci. Fenn. Math.*, 32 (2007), 437-460.
- Raanan Schul. Analyst’s traveling salesman theorems. A survey. *In the tradition of Ahlfors and Bers, IV*, volume 432 of *Contemp. Math.*, pages 209–220. Amer. Math. Soc., Providence, RI, 2007.
- Raanan Schul. Subsets of rectifiable curves in Hilbert space. *Journal d’Analyse Mathématique* 103 (2007), 331-375.. (This paper is essentially the same as my PhD thesis).
- **Teaching Experience:** (beyond TA level assignments)
 - Fall 2010, MAT 132 - Calculus II. Course head. Stony Brook.
 - Spring 2010, MAT 639 - *Topics in Real Analysis. Geometric measure theory*. Stony Brook. (Graduate course.)
 - Spring 2010, MAT 322 - *Analysis in Several Dimensions*. Stony Brook.
 - Fall 2009, MAT 131 - *Single Variable Calculus*. Stony Brook.
 - Spring 2009, Instructor for Math 133 - *Fourier Analysis*. UCLA.
 - Fall 2008, Instructor for Math 32a - *Calculus of Several Variables*. UCLA.
 - Fall 2007, Instructor for Math 254a - *Topics in Real Analysis: Geometry of Sets and Measures in Euclidean Spaces*. UCLA. (Graduate course.)
 - Winter 2007, Instructor for Math 31a - *Differential Calculus*. UCLA.
 - Fall 2006, Instructor for Math 32a - *Calculus of Several Variables*. UCLA.
 - Spring 2006, Instructor for Math 32b - *Calculus of Several Variables*. UCLA.
 - Winter 2006, Instructor for Math 115a - *Linear algebra*. UCLA.
 - Spring 2005, Instructor for Math 112 - *Calculus of a Single Variable*. Yale university.
 - Fall 2003, Instructor for Math 112 - *Calculus of a Single Variable*. Yale university.
 - Fall 2002, Instructor for Math 120 - *Calculus of Several Variables*. Yale university.
- **Talks:**
 - **Conference Talks:**

- * October 2010, *Nonlinear Analysis and Geometry* special session at AMS Fall meeting, Eastern Sectional Meeting.
 - * March 2009, *Geometric Function Theory and Analysis on Metric Spaces* special session at AMS Spring meeting, Central Sectional Meeting.
 - * November 2008, *New Mathematical Frontiers in Network Multi-Resolution Analysis* workshop, Institute for Pure and Applied Mathematics (IPAM).
 - * June 2008, *8th International Conference on Harmonic Analysis and Partial Differential Equations*. El Escorial, (Spain).
 - * May 2008, *Operators, Functions and Linear Spaces* special session at AMS Spring meeting, Western section. Claremont McKenna College.
 - * September 2007, *Mathematics of Knowledge and Search Engines* tutorials. IPAM.
 - * June 2007, *Multiscale Geometry and Analysis in High Dimensions*, Reunion - II. IPAM.
 - * June 2006, *Fourier analysis, geometric measure theory, and applications*. CRM-UAM Research Thematic Trimester, Barcelona.
 - * June 2006 *Multiscale Geometry and Analysis in High Dimensions*, Reunion - I. IPAM.
 - * June 2005, *Geometric Methods in Analysis and Probability*. Erwin Schroedinger Institute (ESI), Vienna.
 - * May 2005, *Ahlfors Bers Colloquium* workshop on Conformal and Geometric Analysis.
 - * December 2004, *Multiscale Geometry and Analysis in High Dimensions*. Lake Arrowhead Conference of IPAM
 - * November 2004, *Multiscale Geometry and Analysis in High Dimensions* workshop. IPAM.
- **Seminar and Colloquium Talks:**
- * April 2011, Analysis seminar, Brown University.
 - * November 2010, ‘Some research experiences’, talk for graduate students. SUNY Stony Brook.
 - * February 2009, Colloquium, SUNY Stony Brook.
 - * February 2009, Analysis seminar, UC San Diego.
 - * January 2009, Analysis seminar, Michigan State University.
 - * January 2009, Geometric Analysis seminar, University of Michigan.
 - * January 2009, Analysis seminar, Brown University.
 - * November 2008, Calderon-Zygmund seminar, University of Chicago.
 - * October 2008, Analysis seminar, Indiana University, Bloomington.
 - * October 2008, Colloquium, Claremont McKenna Colleges.
 - * September 2008, Analysis seminar, University of Wisconsin, Madison.
 - * December 2007, Mathematical Physics Seminar, Caltech.
 - * June 2007, Analysis seminar, Hebrew University, Jerusalem.
 - * March 2007, Applied Math And Analysis seminar, Duke University.
 - * February 2007, Analysis seminar, UCLA.
 - * September 2006, Geometric analysis seminar, University of Helsinki.
 - * September 2006, Geometric analysis seminar, University of Jyvaskila.
 - * Winter 2006, Analysis seminar, UCLA.
 - * March 2006, Analysis seminar, UC Irvine.
 - * November 2005. Caltech CMI.

- * October 2005, Real Analysis Seminar, University of Minnesota.
 - * April 2005, Analysis Seminar, Yale University.
 - * March 2005, Analysis Seminar, Cornell University.
 - * January 2005, Talk presented to the Microsoft Research Theory Group.
 - * October 2004, Analysis Seminar, UCLA.
 - * Spring 2004, Analysis Seminar, Yale University.
- **Ph.D. Advisor:** Peter Jones (Yale)
 - **Postdoctoral Advisors:** John Garnett, Terence Tao (UCLA).
 - **Advisor for:** Jonas Azzam (UCLA). Ph.D Spring 2011. Co-advised together with John Garnett.