

Monica Vişan

PERSONAL INFORMATION:

Born: August 5, 1979, in Drobeta-Tr-Severin, Romania
Citizenship: Romanian with U.S. permanent residency
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EDUCATION AND EMPLOYMENT:

2002 B.A. (with highest honors) in Mathematics,
University of Bucharest, Romania.
2004 Advanced to Candidacy.
University of California, Los Angeles.
2006 Ph.D. in Mathematics,
University of California, Los Angeles.
Thesis title: The defocusing energy-critical nonlinear Schrödinger
equation in dimensions five and higher.
Advisor: Terence Tao.

2006–2008 Member of the Institute for Advanced Study, Princeton, NJ.

2008–2009 Assistant Professor at the University of Chicago.
2009– Assistant Professor at UCLA.

RESEARCH INTERESTS:

Nonlinear Partial Differential Equations, Harmonic Analysis.

PUBLICATIONS:

- R. Killip, S. Kwon, S. Shao, and M. Visan, *On the mass-critical generalized KdV equation*. Preprint [arXiv:0907.5412](https://arxiv.org/abs/0907.5412).
- R. Killip and M. Visan, *Energy-supercritical NLS: critical H^s -bounds imply scattering*. Preprint [arXiv:0812.2084](https://arxiv.org/abs/0812.2084).
- R. Killip, D. Li, M. Visan, and X. Zhang, *Characterization of minimal-mass blowup solutions to the focusing mass-critical NLS*. SIAM J. Math. Anal. **41** (2009), 219–236. MR2505858
- R. Killip and M. Visan, *The focusing energy-critical nonlinear Schrödinger equation in dimensions five and higher*. To appear in Amer. J. Math. Preprint [arXiv:0804.1018](https://arxiv.org/abs/0804.1018).
- R. Killip, M. Visan, and X. Zhang, *The mass-critical nonlinear Schrödinger equation with radial data in dimensions three and higher*. Analysis and PDE **1** (2008), 229–266. MR2472890
- R. Killip, M. Visan, and T. Tao, *The cubic nonlinear Schrödinger equation in two dimensions with radial data*. To appear in JEMS. Preprint [arXiv:0707.3188](https://arxiv.org/abs/0707.3188).
- J. Colliander, J. Holmer, M. Visan, and X. Zhang, *Global existence and scattering for rough solutions to generalized nonlinear Schrödinger equations on \mathbb{R}* . CPAA **7** (2008), 467–489. MR2379437

- R. Killip, M. Visan, and X. Zhang, *Energy-critical NLS with quadratic potentials*. To appear in Comm. PDE. Preprint [arXiv:math/0611394](https://arxiv.org/abs/math/0611394).
- T. Tao, M. Visan, and X. Zhang, *Global well-posedness and scattering for the mass-critical nonlinear Schrödinger equation for radial data in higher dimensions*. Duke Math. J. **140** (2007), 165–202. MR2355070
- T. Tao, M. Visan, and X. Zhang, *Minimal-mass blowup solutions of the mass-critical NLS*. Forum Math. **20** (2008), 881–919. MR2445122
- M. Visan and X. Zhang, *On the blowup for the L^2 -critical focusing nonlinear Schrödinger equation in higher dimensions below the energy class*. SIAM J. Math. Anal. **39** (2007), 34–56. MR2318374
- M. Visan and X. Zhang, *Global well-posedness and scattering for a class of nonlinear Schrödinger equations below the energy space*. Differential and Integral Equations **22** (2009), 99–124. MR2483014
- T. Tao, M. Visan, and X. Zhang, *The Schrödinger equation with combined power-type nonlinearities*. Comm. PDE **32** (2007), 1281–1343. MR2354495
- M. Visan, *The defocusing energy-critical nonlinear Schrödinger equation in higher dimensions*. Duke Math. J. **138** (2007), 281–374. MR2318286
- E. Ryckman and M. Visan, *Global well-posedness and scattering for the defocusing energy-critical nonlinear Schrödinger equation in \mathbb{R}^{1+4}* . Amer. J. Math. **129** (2007), 1–60. MR2288737
- M. Goldberg and M. Visan, *A counterexample to dispersive estimates for Schrödinger operators in higher dimensions*. Comm. Math. Phys. **266** (2006), 211–238. MR2231971
- T. Tao and M. Visan, *Stability of energy-critical nonlinear Schrödinger equations in high dimensions*. Electron. J. Diff. Eqns. **118** (2005), 1–28. MR2174550

LECTURE NOTES:

- *Nonlinear Schrödinger equations at critical regularity*. R. Killip and M. Visan, 112pp. Prepared for Clay Mathematics Institute Summer School, Zürich, Switzerland, 2008.

AWARDS, HONORS:

- 2009 NSF grant DMS-0901166.
- 2006 Clay Liftoff Fellowship.
- 2003 Horn-Moez Prize for Excellence in First-Year Graduate Studies (UCLA).
- 2002–06 Pauly Fellowship (UCLA).
- 2002 Honoric Member of Henri Coanda Foundation.
- 2002 Dean’s Award for Excellence (Univ. Bucharest).
- 1999–00 Erasmus Fellowship awarded by the University Tor Vergata, Rome.
- 1998–02 Honors Fellowship (Univ. Bucharest).
- 1998 Third prize at the international Physics contest ‘Schwartz’.
- 1998 Award for Excellence (Trajan College).
- 1994–98 Honors Fellowship (Trajan College).

1992–98 First, second and third prizes at national and international contests of Mathematics and Physics.

TEACHING EXPERIENCE:

University of Chicago:

- 2009 Instructor, Math 199 (Introduction to Analysis and Linear Algebra). {Winter}
 Instructor, Math 201 (Math. Methods for Physical Sciences, II). {Spring}
 Instructor, Math 203 (Analysis in R^n , I). {Spring}

UCLA:

- 2004 T.A., Math 131BH (Real Analysis, Honors). {Winter}
 T.A., Math 133 (Fourier Analysis). {Winter}
 T.A., Math 131C (Topics in Real Analysis). {Spring}
 T.A., Math 32B (Multi-variable Calculus). {Spring}
 T.A., Math 132 (Complex Analysis). {Fall}
 T.A., Math 31B (Calculus). {Fall}
- 2003 T.A., Math 131AH (Real Analysis, Honors). {Fall}
 T.A., Math 32A (Multi-variable Calculus). {Fall}

RESEARCH TALKS:

- Conférence: Ondes non-linéaires et dispersion, Institut Henri Poincaré, Paris, France, 2009.
- CAMP/Nonlinear PDEs Seminar, University of Chicago, IL, 2009.
- Fourth Chicago Area PDE Workshop, UIC, Chicago, IL, 2009.
- Analysis/PDE seminar, UNC, Chapel Hill, NC, 2009.
- Colloquium, UCLA, Los Angeles, CA, 2008.
- Colloquium, Northwestern University, IL, 2008.
- Colloquium, Caltech, CA, 2008.
- Differential Equations Seminar, University of Michigan, Ann Arbor, MI, 2008.
- PDE/Analysis Seminar, UC Berkeley, CA, 2008.
- Peking University, Beijing, China, 2008.
- Riviere-Fabes Symposium, University of Minnesota, MN, 2008.
- Analysis Seminar, University of Rochester, NY, 2007.
- Nonlinear Waves and Dispersive Equations, Workshop, Oberwolfach, Germany, 2007.
- Analyse des Equations aux Dérivées Partielles, Evian, France, 2007.
- Academy of Mathematics and Systems Science, Beijing, China, 2007.
- Colloquium, Kansas State University, KS, 2007.
- Midwest Partial Differential Equations Seminar, University of Kentucky, KY, 2007.
- Kyoto University, Japan, 2007.
- Special Session on Nonlinear Schrödinger Equations, Winter Meeting of the Canadian Mathematical Society, Toronto, Canada, 2006.
- Global Harmonic Analysis and its Applications, Workshop, Johns Hopkins University, Baltimore, MD, 2006.
- Calderon-Zygmund Analysis Seminar, University of Chicago, IL, 2006.
- Analysis Seminar, Princeton University, NJ, 2006.
- Mathematical Physics Seminar, Caltech, CA, 2006.
- Schrödinger Evolution Equations, BIRS, Banff, Canada, 2006.

- Mathematical Physics Seminar, Caltech, CA, 2006.
- PDE Seminar, Northwestern University, IL, 2006.
- Calderon-Zygmund Analysis Seminar, University of Chicago, IL, 2006.
- Special Session on Harmonic Analysis and PDEs, AMS Meeting, Eugene, OR, 2005.
- Biweekly Seminar, MSRI, Berkeley, CA, 2005.
- Analysis/PDE Seminar, MIT, Cambridge, MA, 2005.
- Analysis Seminar, UCLA, Los Angeles, CA, 2005.

SUMMER SCHOOLS:

- *Nonlinear Schrödinger equations at critical regularity*. Minicourse. Clay Mathematics Institute Summer School, Zürich, Switzerland, 2008.
- On *Approximations of solutions of the cubic nonlinear Schrödinger equations by finite-dimensional equations and nonsqueezing properties*, *J. Bourgain, IMRN (1994)*, 79–88. Summer School on Hamiltonian Dynamics and Integrable Systems, Lake Arrowhead, CA, 2004.
- On *Discrete analogues in harmonic analysis. Spherical averages*, *A. Magyar, E. Stein, S. Wainger, Ann. of Math. 155 (2002)*, 189–208. Summer School on Harmonic Analysis and Number Theory, Catalina, CA, 2003.