CURRICULUM VITAE

Personal Information:

Name	Reimundo Heluani
Birth Date	October 15th 1977
Address	813 Evans Hall
	University of California
	Berkeley, CA 94720
e-mail	heluani@math.berkeley.edu
Phone	(510) 326-7862

Education:

- Ph.D. in Mathematics. Massachusetts Institute of Technology. "Supersymmetric vertex algebras and supercurves." Thesis advisor: Victor G. Kac. Cambridge, MA, 2002-2006.
- "Licenciado" in Mathematics, FaMAF-Universidad Nacional de Cordoba, Argentina, 1997-2002.
- "Licenciado" in Physics, FaMAF-Universidad Nacional de Cordoba, Argentina, 1997-2002.
- "Técnico mecánico electricista", Instituto Técnico, Universidad Nacional de Tucumán, Argentina 1991-1996

Current Position:

Miller Postdoctoral Research Fellow. University of California. Berkeley, CA, 2006-2009.

Fields of Interest:

Representation Theory, Algebraic Geometry, Mathematical Physics.

Current research interests: Super vertex algebras and its applications to conformal field theories and sigma models. Hidden symmetries of the Chiral de Rham complex and their geometric implications, in particular to Mirror Symmetry.

Fellowships:

- Miller Research Fellowship. Berkeley, CA, 2006-2009.
- MIT Research Assistantship, Cambridge, MA, 2003-2005
- MIT Teaching Assistantship, Cambridge, MA, 2002-2003
- CONICET, Ph.D. Fellowship, Physics department, Universidad Nacional de Cordoba, Argentina, 2002.

- FOMEC Undergraduate Fellowship, Mathematics department, Universidad Nacional de Cordoba, Argentina, 1998-2002.

Awards and Honors:

- "Premio Universidad" Physics, Universidad Nacional de Cordoba, Argentina, 2002.
- "Premio Universidad" Mathematics, Universidad Nacional de Cordoba, Argentina, 2002.
- XVI "Competencia Ernesto Paenza" 2nd place, Argentina, 2001
- III Iberoamerican Mathematical Olympiad for College Students, Bronce Medal, Colombia, 2000.
- "Premio Gobierno de Cordona", Universidad Nacional de Cordoba, Argentina, 2000.
- "Premio Lucas Cordoba", Universidad Nacional de Tucuman, Tucuman, Argentina.

Teaching Experience:

- Lecturer, Calculus 3,4 , Project Interphase, MIT, Summer 2005.
- Recitation Instructor, Multivariate Calculus, MIT, Spring 2005.
- Recitation Intructor, Calculus, MIT, Fall 2004.
- Lecturer, Calculus 3,4, Project Interphase, MIT, Summer 2004.
- Head of tutors, MIT, 2002-2004
- Lecturer, Calculus 1,2, Project Interphase, MIT, Summer 2003.
- Recitation Instructor, Algebra, Universidad Nacional de Cordoba, Argentina, 1998-2002
- Lecturer, "Geometry for High-School teachers", Argentinian Mathematical Olympiad, Argentina, 1995-1998.

Service:

- Referee for journals of Mathematics, including Communications in Mathematical Physics, Advances in Mathematics.
- Part of the organizing committee for the *Miller Interdisciplinary Symposium*. Tomales Bay, June 2008 and June 2009.
- Organizer *Hodge Theory*, Graduate student serminar, Berkeley, 2007.

- Organizer *D-modules*, Graduate student seminar, Berkeley, 2007.
- Organizer *Pure math. graduate students seminar*, MIT, 2004-2005.
- Organizer *Vertex algebras and algebraic curves*, Graduate student seminar, MIT, 2003.

Bibliography:

Publications:

- *Supersymmetry of the chiral de Rham complex II. Commuting sectors.* In press, IMRN. Available online `math.qa/0806.1021`.
- *SUSY lattice vertex algebras.* Joint with V. G. Kac. Proceedings of the International Workshop "Lie Theory and its applications in Physics VII". H.-D. Doebner and V. K. Dobrev editors. Heron Press, Sofia, 2008, 3–24.
- *Supersymmetry of the chiral de Rham complex.* Joint with D. Ben-Zvi and M. Szczesny. Compos. Math. 144 (2008) no. 2, 503–521.
- *SUSY vertex algebras and supercurves.* Comm. Math. Phys. 275 (2007), no. 3, 607–658.
- *Supersymmetric vertex algebras.* Joint with V. G. Kac. Comm. Math. Phys. 271 (2007), no. 1, 103–178.
- Appendix to *Finite vs. affine W-algebras.* Joint with A. D'Andrea, C. de Concini, A. De Sole and V. G. Kac. Jpn. J. Math. 1 (2006), no. 1, 254–261.

Preprints and articles in preparation:

- *Chiral de Rham complex on Generalized complex manifolds.* Joint with M. Zabzine. In preparation.

Talks

Conferences by invitation:

- Supersymmetry of the chiral de Rham complex: the Calabi-Yau case. Workshop on Geometric Langlands and Physics. KITP Santa Barbara, July 2008.
- Supersymmetry of the chiral de Rham complex. Workshop on the Chiral de Rham Complex and Geometry. Max Planck Institute Bonn, Germany, June 2008.
- Supersymmetry of the chiral de Rham complex. Conference "Symmetries in Mathematics and Physics" in honor of V. Kac. Palazzone della Scuola Normale Superiore, Cortona, Italy, June 2008.

- Supersymmetry of the chiral de Rham complex: Calabi-Yau case. Workshop on Representation Theory, Geometry and Combinatorics. Berkeley, June 2008.
- "Los Salieris de Witten". Conference in celebration of the 50-th aniversary of FaMAF. Córdoba, Argentina, December 2006.

Seminars by invitation:

- Generalized complex manifolds and the chiral de Rham complex. Infinite-Dimensional Algebra Seminar, MIT, October 2008.
- Generalized complex manifolds and conformal supersymmetry. RTGC seminar, Berkeley, September 2008.
- Simetría especular, geometrías generalizadas complejas y álgebras de vértices. Lie Theory Seminar, Famaf, Córdoba, Argentina, September 2008.
- Supersymmetry of the chiral de Rham complex. Lie Theory Seminar. UC Riverside, March 2008.
- Supersymmetry of the chiral de Rham complex. Lie Theory seminar, UC San Diego, May 2007.
- Supersymmetry of the chiral de Rham complex. RTGC seminar, Berkeley, April 2007.
- Super vertex algebras and supercurves. Infinite-Dimensional Algebra Seminar, MIT, December 2005.
- Super vertex algebras and super curves. Geometry seminar, Boston University, October 2005

Misc. Talks:

- Simetría especular, o como robarle artículos a los físicos. Master students seminar, Tucumán, Argentina, September 2008.
- Twistings. Talbot conference. Massachusetts, April 2008.
- Period map and domain. Hodge Theory graduate student seminar. Berkeley, April 2008.
- The Weil conjecture for morphisms. Perverse Sheaves learning seminar. Berkeley, October 2007.
- Baby Introduction to Chiral and Factorization Algebras. Student RTGC seminar. Berkeley, April 2007.
- Categories of Hecke eigensheaves on the affine Grassmannian. Topics in the Geometric Langlands Program student seminar. Berkeley, April 2007.

- Vertex Algebras. Talbot Conference. New Hamphsire, March 2005.
- Hitchin's Integrable system. Pre-Talbot seminar. MIT, February 2005.
- Slodowy slices. BAGS seminar, MIT, May 2004.
- Octonionic Projective plane. Pure Math. Grad. Students seminar. MIT, April 2004.
- Representations of the Canonical Commutation Relations. Pure Math. Grad. Students seminar. MIT, March 2003.

Other academic experience:

- Workshop *The Geometric Langlands Program.* Lorentz Center, Leiden, Netherlands, June 2008.
- Conference on *Algebro Geometric derived categories and applications.* Princeton, New Jersey, March 2008.
- Summer School *Affine Hecke Algebras, the Langlands Program, Conformal Field Theories and Matrix Models*, CIRM, Luminy, France, June 2006.
- Summer School *Vertex algebras and applications* Erwin Shrödinger Institute, Wien, Austria. June 2005.
- Workshop *"Algebra"*, Córdoba, Argentina, June 2002.