

CURRICULUM VITAE
Jorge Talamantes Rivera
— January 27, 2008 —

Contact Information :

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Education :

Ph. D. in physics, University of California, Riverside (June, 1989). Supervisor: Michael Pollak.
Dissertation: *Onset of Nonlinear Hopping Conduction in Semiconductors with Small Compensations*.
M.S. in physics, University of California, Riverside (December, 1985)
B.A. in physics, University of California, San Diego (June, 1984)

Positions held :

9. CSUB, Sept 1998-present, Professor of Physics. Conducted undergraduate courses at all levels, and research in computational/theoretical condensed matter physics, epidemiology, and atmospheric physics.
8. CSUB, Sept 2000-Jun 2003, Chair, Department of Physics and Geology. Administered an academic department composed of ten permanent members, and numerous part-time faculty.
7. Institute for Solid State and Condensed Matter, Dresden Dec 1996- Jan 1997, Visiting Scientist. Performed computational work on the Coulomb Glass.
6. CSUB, Sept 1994-Sept 1998, Associate Professor of Physics. Conducted undergraduate courses at all levels, and research in computational/theoretical condensed matter physics.
5. CSUB, Sept 1990-Sept 1994, Assistant Professor of Physics. Conducted undergraduate courses at all levels, and research in computational/theoretical condensed matter physics.
4. XonTech, Inc., Jul 1989-Sept 1990, Analyst. Computational and theoretical research on signal processing.
3. University of California, Riverside, 1986-1989, Research Fellow. Conducted research in the theory of nonlinear hopping transport. Performed Monte Carlo simulations.
2. TRW, Ballistic Missiles Division, 1987-1988, Member of the Technical Staff. Provided computer support for the department of Advanced Systems. Designed and performed computer simulations and programmed in Fortran.
1. University of California, Riverside, 1984-1989, Teaching Assistant for lower and upper division courses, including electricity and magnetism, general physics and beginning laboratories.

Refereed publications :

23. *Fluctuations in Climate and Incidence of Coccidioidomycosis in Kern County, California: a review*, **J. Talamantes**, S. Behseta and C. S. Zender, Ann. N.Y. Acad. Sci. **1111**, 73-82 (2007), doi: 10.1196/annals.1406.028.
22. *Statistical Modeling of Valley Fever Data in Kern County, California*, **J. Talamantes**, S. Behseta and C. S. Zender, Int. J. Biometeorol., **51**, 307-315 (2007), doi: 10.1007/s00484-006-0065-4.
21. *Climate Controls on Valley Fever Incidence in Kern County, California*, C. S. Zender and **J. Talamantes**, Int. J. Biometeorol., **50**, 174-182 (2006), doi: 10.1007/s00484-005-0007-6.
20. *Solar Absorption by Mie Resonances in Cloud Droplets*, C. S. Zender and **J. Talamantes**, J. Quant. Spectrosc. Radiat. Transfer., **98** 112-129 (2006), doi: 10.1016/j.jqsrt.2005.05.084.
19. *Phonon Localization in Quasiperiodic Systems*, F. Salazar, C. Wang, A. Gelover-Santiago, A. Zentella-Dehesa, G. G. Naumis, and **J. Talamantes**, J. Non-Cryst. Solids **329**, 167 (2003).
18. *Specific Heat of the Coulomb Glass*, A. Möbius, P. Thomas, **J. Talamantes**, and C. J. Adkins, Phil. Mag. B **81**, 1105 (2001).
17. *Coulomb Interactions in Anderson Insulators*, M. Ortuño, **J. Talamantes**, E. Cuevas, and A. Diaz-Sanchez, Phil. Mag. B **81**, 1049 (2001).
16. *Studies of localization in an interacting two-electron system*, **J. Talamantes**, M. Pollak, I. Varga, Springer Proceedings in Physics **87**, 863 (2001).
15. *Two electrons in a two-dimensional random potential: Exchange, interaction and localization*, **Jorge Talamantes**, and Michael Pollak, Phys. Rev. B **62**, 12785 (2000).
14. *The Delocalization Problem of Two Interacting Electrons in a Two- Dimensional Random Potential*, **J. Talamantes**, M. Pollak and I. Varga, phys. stat. sol. (b) **218**, 119 (2000).
13. *Phononless Hopping in the Coulomb Glass*, **J. Talamantes** and A. Möbius. phys. stat. sol. (b) **205**, 45 (1998).
12. *Collective Delocalization Induced by Coulomb Interaction*, **J. Talamantes**, M. Pollak and L. Elam. Czechoslovak Journal of Physics **46**, 2451 (1996), Suppl. S5.
11. *Level Spacing Distributions and Elastic Hopping in the Coulomb Glass*, **J. Talamantes**, M. Pollak and L. Elam. Europhys. Lett. **35**, 511 (1996).
10. *Quantum Effects in the Coulomb Glass*, **J. Talamantes** and M. Pollak. Hopping and Related Phenomena, O. Millo and Z. Ovadyahu, eds. Racah Institute of Physics, Jerusalem 1995.
9. *Quantum Effects in the Coulomb Glass*, **J. Talamantes** and M. Pollak. The Physics of Semiconductors. Ed. David J. Lockwood. World Scientific, (1995).
8. *Relaxation Effects in the Coulomb Gap*, J. Ruiz, E. Cuevas, M. Ortuño, **J. Talamantes**, M. Mochena, and M. Pollak. J. Non-cryst. Solids **172**, 445 (1994).
7. *Low Energy Excitations and Non-Ergodicity in the Coulomb Glass*, M. Ortuño, M. Pollak and **J. Talamantes**. Hopping and Related Phenomena 5. Eds. C. J. Adkins, A. R. Long and J. A. McInnes. World Scientific Publishing Company (Singapore, 1994) and International Journal of Modern Physics B **8**, 923 (1994).

6. *A Comparison of Algorithms to Find the Low-Energy States of a Coulomb Glass*, D. Espericueta, M. Ortuño and **J. Talamantes**. Hopping and Related Phenomena 5. Eds. C. J. Adkins, A. R. Long and J. A. McInnes. World Scientific Publishing Company (Singapore, 1994).
5. *On the States of Localized Interacting Systems*, **J. Talamantes** and D. Espericueta. Modeling Simul. Mater. Sci. Eng. **1**, 761 (1993).
4. *Onset of Nonlinear Hopping Conduction in R-Percolation*, **J. Talamantes** and M. Pollak. Phil. Mag. B **68**, 639 (1993).
3. *R – ϵ Percolation in Moderate-Field Hopping Transport*, **J. Talamantes** and J. Floratos. Phil. Mag. B **65**, 627 (1992).
2. *Onset of Nonlinear Hopping Conduction in Semiconductors with Small Compensations*, **J. Talamantes** and M. Pollak. Hopping and Related Phenomena. Eds. H. Fritzsche and M. Pollak. World Publishing Company (1990).
1. *Moderate-Field Variable Range Hopping Transport*, **J. Talamantes** and M. Pollak. J. Non-Cryst. Solids **98** (1987).

Talks :

28. *An update on connections between Coccidioidomycosis incidence and climatic fluctuations*, 51st Annual Coccidioidomycosis Study Group Meeting, March 31, 2007. Biodesign Institute, Arizona State University, Mesa Arizona.
27. *Statistical modeling of valley fever data in Kern County, California*, Sixth International Symposium on Coccidioidomycosis, Stanford University, California, Aug 23-26, 2006.
26. *Online Weather Studies at California State University, Bakersfield*, Twelfth Symposium on Education, Eighty-third Meeting of the American Meteorological Society, Long Beach, California, 9-13 February, 2003.
25. *On the localization-delocalization transition of two electrons in a two-dimensional random potential*, Ninth International Conference on Hopping and Related Phenomena, Shefayim, Israel, 3-6 September 2001.
24. *Studies of Localization in an interacting two-electron system*, 25th International Conference on the Physics of Semiconductors, Osaka, Japan, 17-20 Sept 2000.
23. *Two Electrons in a Two-Dimensional Random Potential: The Roles of Randomness, Exchange, and Interaction in Electronic Localization*, 04 May 2000. Sacramento State University.
22. *The Delocalization Problem of Two Interacting Electrons in a Two-Dimensional Random Potential*, VIII International Conference on Hopping and Related Phenomena. Murcia, Spain 7-10 September 1999.
21. *Two Electrons in a Two-Dimensional Random Potential: The Roles of Randomness, Exchange, and Interaction in Electronic Localization*, 20 January 1999. California State University, Bakersfield.
20. *Quantum Correlations*, 29 January 1999. University of Northern Colorado, Greeley.
19. *Two Electrons in a Two-Dimensional Random Potential: The Roles of Randomness, Exchange, and Interaction in Electronic Localization*, 20 January 1999. California State University, Bakersfield.

18. *Two Electrons in a Two-Dimensional Random Potential: the Role of Interactions on Electronic Localization*, the 210 WE-Heraeus-Seminar on Percolation, Interaction Localization: Simulations of Transport in Disordered Systems. Berlin, Germany October 1998.
17. *Phononless Hopping in the Coulomb Glass*, Seventh International Conference on Hopping and Related Phenomena, Ráckeve, Hungary August 1997.
16. *Resonant Tunneling in the Coulomb Glass*. Institute for Solid State and Condensed Matter Dresden, Germany, 30 January 1997.
15. *Elastic Hopping in Disordered Systems*. Colloquium of the Department of Mathematics. California State University, Bakersfield, 24 September 1996.
14. *Collective Delocalization Induced by Coulomb Interaction*, XXI International Conference on Low Temperature Physics. Prague, Czech Republic, 8-14 August 1996.
13. *Collective Elastic Hopping and Suppression of Delocalization by Coulomb Interactions in Anderson Insulators*, Conference on Quantum Coherence in Strongly Correlated Fermion Systems. Pisa, Italy, 22-26 July 1996.
12. *Quantum Effects in the Coulomb Glass*, Sixth International Conference on Hopping and Related Phenomena. Jerusalem, Israel, 27-30 August 1995.
11. *Quantum Effects in the Coulomb Glass*, 22nd International Conference on the Physics of Semiconductors. Vancouver, Canada, 15-19 June 1994.
10. *Quantum Effects in the Coulomb Glass*, Fifth National Conference on Undergraduate Research, Lewiston, Maine, June 1994.
9. *Quantum Effects in the Coulomb Glass*, Sixth University of California Conference on Statistical Mechanics, Riverside, California, May 1994.
8. *Low Energy Excitations and Non-Ergodicity in the Coulomb Glass*, Fifth International Conference on Hopping and Related Phenomena, Glasgow, Scotland, July 1993.
7. *A Comparison of Algorithms to Find the Low-Energy States of a Coulomb Glass*. Fifth International Conference on Hopping and Related Phenomena, Glasgow, Scotland, July 1993.
6. *Correlations in the Low Energy Excitations and Relaxation in the Coulomb Glass* 23 Annual International Gaussig Symposium on the Theory of Electronic Structure and Electronic Correlations, Schellerhau, Germany, June 1993.
5. *$R - \epsilon$ Percolation in Moderate-Field Hopping Transport*. Fourth International Conference on Hopping and Related Phenomena, Marburg, Germany, July 1991.
4. *Onset of Nonlinear Hopping Conduction in Semiconductors with Small Compensations*. California State University, Bakersfield. Spring, 1990.
3. *Onset of Nonlinear Hopping Conduction in Semiconductors with Small Compensations*. 1990 March Meeting of the American Physical Society, Irvine, CA.
2. *Onset of Nonlinear Hopping Conduction in Semiconductors with Small Compensations*. Third International Conference on Hopping and Related Phenomena, Chapel Hill, NC, August 1989.
1. *Moderate-Field Variable Range Hopping Transport*. Nineteenth International Conference on Amorphous and Liquid Semiconductors, Prague, Czechoslovakia, August 1987.

Externally-funded grants :

- *Electron-electron Interaction and Delocalization in Disordered Systems*, National Science Foundation - Division of Materials Research (1998-2000).
- *An Investigation of the Effect of Coulomb Interactions on Electron Localization in Disordered Systems*, San Diego Supercomputer Center (1996-1997).
- *A Numerical Approach to Quantum Correlations in Disordered Systems*, San Diego Supercomputer Center (1994-1995).
- *Investigation of the Effects of Coulomb Interactions on the Properties of Anderson Insulators*, San Diego Supercomputer Center (1992).
- *A Theoretical/ Computational Study of Coulomb-Induced Delocalization in Anderson Insulators*, Research Corporation (1992).

Referee for :

- New York Academy of Sciences (USA)
- International Journal of Biometeorology (Springer, Berlin Heidelberg, Germany)
- National Science Foundation (USA)
- Agencia Nacional de Promocin Cientfica y Tecnolgica de Argentina (Argentina)
- *physica status solidi* (Wiley-VCH, Berlin, Germany)
- Europhysics Letters (a journal of the European Physical Society)

Courses Taught :

1. Introduction to Astronomy
2. Introduction to Physics
3. Introduction to Computer Simulation with Applications to Biology
4. Introduction to Weather Dynamics
5. Engineering Orientation
6. Electric Circuits
7. Basic Principles of Newtonian Physics
8. Basic Principles of Maxwellian Physics
9. Basic Principles of Contemporary Physics
10. Classical Physics I
11. Classical Physics II
12. Optics and Modern Physics
13. Circuit Theory and Electronics
14. Condensed-Matter Physics I
15. Condensed-Matter Physics II
16. Electricity and Magnetism I

17. Electricity and Magnetism II
18. Thermal Physics
19. Statistical Mechanics
20. Quantum Mechanics I
21. Quantum Mechanics II
22. Special Topics in Physics
23. Research Participation
24. Senior Seminar

Honors and Awards :

- Faculty Research Award, CSUB (2000)
- One-year early promotion to Professor, CSUB (1998)
- One-year early tenure, CSUB (1995)
- Two-year early promotion to Associate Professor, CSUB (1994)
- Dissertation Year Fellow, University of California, Riverside (1988-1989)
- Research Fellow, University of California, Riverside (1986-1988)
- Outstanding Teaching Assistant of the Year Award, University of California, Riverside (1986)