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Education

Harvard University	Boston, MA
Postdoctoral Research Fellow in Systems Biology, 2006- Massachusetts Institute of Technology (MIT)	Cambridge, MA
Ph.D. in Physics, Feb. 2006.	
University of the Andes	Bogotá, Colombia
B.Sc. in Mathematics (4 year program), 2000.	
B.Sc. in Physics (5 year program), 1999.	
Deutsche Schule Bogotá/ Colegio Andino	Bogotá, Colombia
High school diploma in Natural Sciences (Valedictorian), 1993.	

Publications

Effects of molecular memory and bursting on fluctuations in gene expression
J.M. Pedraza and J. Paulsson
Science, **319**, 339 (2008).

Stochastic gene expression out-of-steady-state in the cyanobacterial
circadian clock
J.R. Chabot, J.M. Pedraza, P. Luitel and A. van Oudenaarden
Nature, **450**, 1249 (2007).

Random timing in signaling cascades
J. M Pedraza and J. Paulsson
Molecular Systems Biology, **3**, 81 (2007) [Comment].

Predicting stochastic gene expression dynamics in single cells
J.T. Mettetal, D. Muzzey, J.M. Pedraza, E.M. Ozbudak and A. van Oudenaarden
PNAS USA, **103**, 7304 (2006).

Signal and noise propagation in genetic circuits
Ph.D. Thesis in Physics, Massachusetts Institute of Technology, 2006.

Noise in gene regulatory networks
J. M. Pedraza and A. van Oudenaarden

In *Complex Systems Science in BioMedicine* (Springer, New York, 2006).
Noise propagation in gene networks
J. M. Pedraza and A. van Oudenaarden
Science, **307**,1965 (2005).
Non regular languages in the kicked rotor
P.-M. Binder and J. M. Pedraza
Physical Review E, **62**, R5883 (2000).
Stochastic models for transport in hamiltonian systems
Undergraduate Thesis in Mathematics, University of the Andes, 2000.
An invertibility paradox
P.-M. Binder, J. M. Pedraza, and S. Garzon.
American Journal of Physics, **67**, 1091 (1999)
Diffusion in chaotic hamiltonian systems
Undergraduate Thesis in Physics, University of the Andes, 1999.
A measurement of the B^0 - B^0 mixing parameter using Feynman field charge
and single lepton tagging
Memoires of the 25th. Dr. Bessie F. Lawrence International Summer Science
Institute, Weizman Institute of Science, Israel, 1993.

Experience

Harvard University	Boston, MA
Research Fellow, Systems Biology department, 2006-	
Massachusetts Institute of Technology	Cambridge, MA
Research Assistant, Physics department, 2001-2005	
Marine Biology Laboratory	Woods Hole, MA
Teaching Assistant, Physiology course, 2004, 2005	
Massachusetts Institute of Technology	Cambridge, MA
Teaching Assistant, Physics department, 2000-2001, 2004	
University of the Andes	Bogotá, Colombia
Instructor, Mathematics department, 2000.	
Teaching Assistant, Physics and Mathematics departments, 1996-1999.	
Zahar Ltd.	Bogotá, Colombia
Founder and Commercial Manager, 1996-1998.	
Banco Central Hipotecario	Bogotá, Colombia
Sales representative, 1995.	

Schools and Workshops

Institute for Advanced Studies (Hebrew University) Biological Networks and Evolution, 2004.	Jerusalem, Israel
CSBi (MIT) Workshop on computational and systems biology, 2003	Ogunquit, MN
CIMPA - University of the Andes Geometric Methods in Quantum Field Theory, 1999.	Villa de Leyva, Colombia
Weizman Institute of Science Dr. Bessie F. Lawrence Summer Science Institute, 1993.	Rehovot, Israel

Awards and scholarships

Martin Deutsch Award for Excellence in Experimental Physics,
Massachusetts Institute of Technology, Cambridge, MA, 2005
Lester Wolfe Fellowship,
Massachusetts Institute of Technology, Cambridge, MA, 2001-2004.
Beca 40 años (full scholarship for the undergraduate Physics program),
University of the Andes. 1993-1999.
Third place, 1993 Colombian national school leaving exam, ICFES.

Conferences organized

Co-Chair, First Science, Technology and Innovation in Colombia Conference
Harvard & MIT, November 2005, Cambridge, MA.

Other academic activities

Referee: Biophysical Journal, Physical Review, American Journal of Physics,
Journal of Theoretical Biology
Graduate Thesis co-advisor and juror, Department of Physics, University of the
Andes, Bogotá, Colombia

Languages

Spanish (first), English (fluent), German (fluent), Italian (intermediate),
French (basic), C, Matlab.