

Lorena Zogaib

Professor of Mathematics

Address:

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Fields:

Statistical Physics, Complex Systems, Mathematical Economics.

Education:

Ph.D. in Physics, Universidad Nacional Autonoma de Mexico, 1990.

Exchange Scholar (doctoral research), University of Florida, 1987-1989.

M.Sc. in Physics, Universidad Nacional Autonoma de Mexico, 1986.

B.Sc. in Physics, Universidad Nacional Autonoma de Mexico, 1984.

Academic Experience:

Professor of Mathematics, ITAM, since 1994.

Adjoint Faculty, Department of Physics, University of Florida, 2002-2003.

Research Associate, Instituto de Investigaciones en Materiales, UNAM, 1990-1993.

Assistant Adjoint in Physics, Department of Physics, University of Florida, 1989.

Professor of Physics, Facultad de Ciencias, UNAM, 1981-1994.

Professor of Mathematics, Centro Universitario Mexico, 1980-1981.

Courses Taught:

Undergraduate:

General Physics
Classical Physics I-IV
Theoretical Physics I-II
Statistical Mechanics
Seminar on Statistical Physics
Introduction to Mathematics
Mathematics I-III
Mathematics for Law
Algebra for Engineering I-II
Mathematics for Engineering III
Analytical Geometry I
Superior Algebra II
Calculus I-III
Mathematics Applied to Economics

Graduate:

Classical Mechanics I
Thermodynamics and Statistical Mechanics I
Introduction to Mathematics, Master in Economics
Introduction to Mathematics, Master in Public Policies
Dynamical Systems, Master in Economic Theory
Optimization, Master in Economic Theory

Publications:

1. James W. Dufty, Aparna Baskaran, Lorena Zogaib, *Gaussian Kinetic Model for Granular Gases*. Physical Review E **69**, 51301 Part 1 (2004).
2. Lorena Zogaib, Javier E. Vitela, *Stochastically Stable Fluctuations in a Model of Electrical Discharge with External Illumination*. Physical Review E **56**, 5847-5857 (1997).
3. Lorena Zogaib, *Electric Microfields in Plasmas*. "Lectures on Thermodynamics and Statistical Mechanics", World Scientific, 182-199, 1994.
4. Javier E. Vitela, Lorena Zogaib, *Characteristic-Functional Approach to the Study of Stochastic Fluctuations in a Model of Ionization Growth in a Discharge Gap*. Physical Review E **47**, 3900-3914 (1993).
5. James W. Dufty, Lorena Zogaib, *Short-Time Electric-Field Dynamics at a Neutral Point in Strongly Coupled Plasmas*. Physical Review E **47**, 2958-2961 (1993).
6. James W. Dufty, Lorena Zogaib, *Electric-Field Dynamics in Plasmas: Theory*. Physical Review A **44**, 2612-2624 (1991).

7. James W. Dufty, Lorena Zogaib, *Electric Field Dynamics in Strongly Coupled Plasmas: Neutral Point*. "Physics of Nonideal Plasmas", 1991.
8. James W. Dufty, Lorena Zogaib, *Dynamics of Electric Fields in Strongly Coupled Plasmas*. "Strongly Coupled Plasma Physics", Elsevier Science Publishers, New York, 533-544, 1990.
9. Lorena Zogaib and J.W. Dufty, *Joint Probability Density for Electric Fields at Short Times*. "Spectral Line Shapes", Vol. 5, Ossolineum Publishing House, Warsaw, 1988.

Working Papers:

1. Lorena Zogaib, *Calculo II, Notas de Clase*. Departamento de Matematicas, ITAM, 269 pages, 2012.
2. Lorena Zogaib, *Calculo III, Notas de Clase*. Departamento de Matematicas, ITAM, 208 pages, 2012.
3. Lorena Zogaib, Juan Alberto Espinosa, *La Integral con Limites Variables y sus Aplicaciones en Economia*. Departamento de Matematicas, ITAM, 32 pages, 2010.
4. Lorena Zogaib, Francisco Contreras Marroquin, *Condiciones de Kuhn-Tucker*. Departamento de Matematicas, ITAM, 88 pages, 2010.
5. Lorena Zogaib, Maria Jose Hernandez Medina-Mora, *El Teorema de la Envolvente y sus Aplicaciones en Economia*. Departamento de Matematicas, ITAM, 48 pages, 2010.

Invited Speaker:

1. James W. Dufty, Aparna Baskaran, Lorena Zogaib, *A Gaussian Kinetic Model for Granular Gases*. Annual American Physical Society March Meeting 2004. Montreal, Canada, Mar. 22-26, 2004.
2. Lorena Zogaib, *Electric Microfield in Plasmas*. XII Winter Meeting on Statistical Physics. Cuernavaca, Mexico, Jan. 10-13, 1993.
3. James W. Dufty, Lorena Zogaib, *Electric Field Dynamics in Strongly Coupled Plasmas: neutral point*. VI International Workshop on Physics of Nonideal Plasmas. Berlin, Germany, November, 1991.
4. James W. Dufty, Lorena Zogaib, *Dynamics of Electric Fields in Strongly Coupled Plasmas*. XXIV Yamada Conference on Strongly Coupled Plasma Physics. Lake Yamanaka, Japan, Aug. 29 to Sep. 2, 1989.

Honors:

Teacher of the Year, Department of Mathematics, ITAM (2000, 2001, 2006, 2007, 2011).

Fellowship, Sabbatical Year, CONACYT (2002-2003).

Fellowship, Research National System, SEP (1992-1996).

Fellowship, Productivity and Performance of Faculty, DGAPA-UNAM (1992–1993).

Fellowship, Research Initiation, DGAPA-UNAM (1991-1992).

First Place, Academic Contest of Graduate Thesis CPA-IIM, UNAM, 1991.

Fellowship, Graduate Studies, DGAPA-UNAM (1983–1990).