

Harry L. Swinney

Ph.D. Students:

- T. K. Lim, Johns Hopkins University, 1973
“The Rayleigh Linewidth of Simple Fluids near the Critical Point”
- Jay Newman, New York University, 1975
“Dynamic Light Scattering and Birefringence Studies of fd Virus and Its DNA”
- Dennis Wonica, City College of CUNY, 1979
“Brillouin Scattering in Xenon Near the Critical Point”
- Randy Fenstermacher, City College of CUNY, 1979
“Laser Doppler Velocimetry Study of the Onset of Chaos in Taylor Vortex Flow”
- Leslie Reith, The University of Texas, 1981
“Transition to Turbulence in a Circular Couette System”
- Gregory P. King, The University of Texas, 1983
“Limits of Stability and Irregular Flow Patterns in Wavy Vortex Flow”
- Anke Brandstater, Christian Albrechts Universität (Kiel), 1984
“Low Dimensional Chaos in a Hydrodynamic System”
- Donald Allen Hirst, The University of Texas at Austin, 1987
“Aspect Ratio Dependence of the Attractor Dimension in Taylor-Couette Flow”
- Andrew McLeod Fraser, The University of Texas at Austin, 1988
“Information and Entropy in Strange Attractors”
- John Vastano, The University of Texas at Austin, 1988
“Bifurcations in Spatiotemporal Systems”
- Steven D. Meyers, The University of Texas at Austin, 1990
“Laboratory Experiments on Coherent Structures in Quasi-geostrophic Flows”
- W. Stuart Edwards, The University of Texas at Austin, 1991
“New Stability Analyses for the Couette-Taylor Problem”
- Michael F. Schatz, The University of Texas at Austin, 1991
“Transition in Plane Channel Flow with Spatially Periodic Perturbations”
- Daniel P. Lathrop, The University of Texas at Austin, 1992
“Turbulent Drag and Transport in High Reynolds Number Couette-Taylor Flow”
- Kyoung J. Lee, The University of Texas at Austin, 1994
“Nonequilibrium Chemical Patterns and their Bifurcations”
- Steven P. Gross, The University of Texas at Austin, 1995
(Co-advisors: Michael Marder and Harry Swinney)
“Dynamics of Fast Fracture”
- John M. Huth, The University of Texas at Austin, 1995
“Dynamics and Convective Transport in Electrochemical Deposition”
- Gregory S. Lewis, The University of Texas at Austin, 1996
“Velocity Fluctuations, Wall Shear Stress and the Transition in Torque Scaling at $R=13,000$ in Turbulent Couette-Taylor Flow”
- Paul B. Umbanhowar, The University of Texas at Austin, 1996
“Pattern Formation in Vertically Vibrated Granular Materials”
- Stephen Van Hook, The University of Texas at Austin, 1996
“Long-Wavelength Instability in Surface-Tension-Driven Bénard Convection”
- Eric R. Weeks, The University of Texas at Austin, 1997
“Experimental Studies of Anomalous Diffusion, Blocking Phenomena, and Two-Dimensional Turbulence”
- John Burgess, The University of Texas at Austin, 1999 (Co-advisor, W. D. McCormick)
“Thin Film Instabilities: Rayleigh-Taylor with Thermocapillarities and Kolmogorov Flow in a Soap Film”

Charles Baroud, The University of Texas at Austin, 2001
 “Transitions from three-to two-dimensional turbulence in a rotating system”

Daniel I. Goldman, The University of Texas at Austin, 2002
 “Pattern formation and fluidization in vibrated granular layers, and grain dynamics and jamming in a water fluidized bed”

Mitchell G. Moore, The University of Texas at Austin, 2003
 “Unsteady Growth and Relaxation of Viscous Fingers”

Erin C. Rericha, The University of Texas at Austin, 2004
 “Shocks in Rapid Granular Flows”

Sunghwan Jung, The University of Texas at Austin, 2005
 “Statistics of Turbulence in a Rapidly Rotating System”

Jori Elan Ruppert-Felsot, The University of Texas at Austin, 2005
 “Coherent Structures and Two-Dimensionalization in Rotating Turbulent Flow”

Andrew T. Lee, The University of Texas at Austin, 2005
 “Dynamics of a Single Sphere Sedimenting in a Fluid”

Matthew Thrasher, The University of Texas at Austin, 2007
 “Geometry and Dynamics of Fluid-Fluid Interfaces”

Benjamin King, The University of Texas at Austin, 2010
 “Laboratory and Numerical Studies of Internal Wave Generation and Propagation in the Ocean”

Bruce E. Rodenborn, The University of Texas at Austin, 2011
 “The Fluid Dynamics of Flagellar Swimming by Microorganisms and Harmonic Generation by Reflecting Internal, Ocean-like Waves”

Masters Degree Students:

Gordon Skinner, The University of Texas at Austin, 1989
 “Studies of Spiral Wave Dynamics in the Belousov-Zhabotinskii Reagent”

William Holloway, The University of Texas at Austin, 1991
 “Experimental Studies of Steady-State and Rossby Wave Flow in Planetary Jets”

Fred Hamill, The University of Texas at Austin, 1995
 “Turbulent Bursting in the Couette-Taylor System”

Ade Lee, The University of Texas at Austin, 1995
 “Pattern Formation in a Parametrically Forced Chemical System”

Andreas Breu, The University of Texas at Austin, 1997
 “Onset of Fluidization in a Water Fluidized Bed”

Richard Metzler, The University of Texas at Austin, 1997
 “Diffusing-Wave Spectroscopy in a Liquid-Fluidized Bed”

Matthias Bertram, The University of Texas at Austin, 1999
 “A Numerical Study of Resonant Pattern Formation in the Brusselator Reaction-Diffusion Model”

Reza Kharrazian, The University of Texas at Austin, 2000
 “Resonant patterns in the FitzHugh-Nagumo model with oscillatory and excitable dynamics”

Thomas Weber, The University of Texas at Austin, 2000
 “2D and 3D turbulence in a rotating tank with a vertically oscillating grid”

Bernward Mann, The University of Texas at Austin, 2001
 “Spatial Phase-Transitions in Bacterial Growth”

Xaver Sailer, The University of Texas at Austin, 2001
 “Simulation of Resonant Pattern Formation with the FitzHugh-Nagumo Model”

Karl Martinez, The University of Texas at Austin, 2001
 “Resonant pattern formation in excitable chemical media”

Beth Christine Lewis, The University of Texas at Austin, 2001
 “Spirals and oscillons in vertically oscillated granular material”

Florian Merkt, The University of Texas at Austin, 2003

“Localized structures in a vertically vibrated aqueous solution of cornstarch”
 Patrick Heil, The University of Texas at Austin, 2003
 “Surface shock waves on fluidized granular material”
 Sabrina Nagel, The University of Texas at Austin, 2004
 “Height fluctuations in a two-dimensional air fluidized bed”
 Stephan Ulrich, The University of Texas at Austin, 2004
 “Collective Behavior in Size Segregation of Granular Materials”
 Matthew Thrasher, The University of Texas at Austin, 2005
 “A Liquid Stream Bouncing of a Moving Liquid Bath”
 Stacy Sidle, The University of Texas at Austin, 2006
 “Investigating a Granular Length Scale Using the Central Limit Theorem”
 Luis Salinas, The University of Texas at Austin, 2007
 “Determination of the Static Force Distribution on a Sphere Resting in a Wedge”
 Alexander Buck, The University of Texas at Austin, 2007
 “The effective granular temperature based on the fluctuation-dissipation theorem”
 Daniel Kiefer, The University of Texas at Austin, 2007
 “Nonlinear Interaction of Internal Wave Beams Upon Reflection at a Sloping Boundary”
 Leen Alawieh, The University of Texas at Austin, 2009
 “Dynamical Heterogeneity in a Fluidized Bed”
 Guenther Ebert, The University of Texas at Austin, 2010
 “The Efficiency of Turbulent Mixing in Stratified Fluids”
 Mattew Drake, The University of Texas at Austin, 2012
 “Internal Wave Generation in the Presence of Turning Depths
 ‘ Laboratory Models of the Deep Ocean”
 Amadeus K. Dettner, The University of Texas at Austin, 2012
 “Internal gravity waves generated by tidal flow over topography”

Postdoctoral Research Associates:

Don Eden, 1971-73
 Richard Weingarten, 1973-76
 Michael Gorman, 1977-80
 C. David Andereck, 1980-84
 Reuben Simoyi, 1981-83
 Jerzy Maselko, 1983-86
 Joel Sommeria, 1985-87
 Wing Yim Tam, 1985-88
 Laurette Tuckerman, 1985-88
 Eric Kostelich, 1985-89
 Randall Tagg, 1985-1990
 Girish Kshirsagar, 1988-89
 Jay Fineberg, 1988-1992
 R. Dennis Vigil, 1990-1993
 Thomas R. Solomon, 1990-93
 Francisco Melo, 1992-94
 Dror Haim, 1994-95
 Michael Schatz, 1991-1996
 Jeffrey Urbach, 1993-1996
 Qi Ouyang, 1987-1996
 Valery Petrov, 1995-1998
 Stephen Van Hook, 1996-98
 Brendan Plapp, 1997-99

Anne Juel, 1998-1999
Mark D. Shattuck, 1996-2000
Anna Lin, 1997-2001
Julien Aubert 2001-2002
Eran Sharon, 2000 - 2003
Nick Peffley, 2000 - 2002
Daniel Goldman, 2002 - 2003
Olivier Praud, 2002 - 2004
Matthias Schroeter, 2003 - 2007
Hepeng Zhang, 2004 - 2011)
Avraham Be'er, 2007 - 2011
Matthew Paoletti, 2010 - 2013
Likun Zhang, 2012-2016
Michael Allshouse, 2013 - 2016

Visitors:

Jean-Claude Roux, 1980-81, Centre de Recherche Paul Pascal, Bordeaux
Li-Hua Zhang, 1981-82, Academia Sinica, Beijing
Shu-Sheng Liu, 1981-82, Tianjin University
Francoise Argoul, 1987-90, CNRS Centre de Recherche Paul Pascal (Bordeaux)
Alain Arneodo, 1987-90, Ecole Normale Superiere Lyon
Robert Behringer, 1989-90, Duke University
Zoltan Noszticzius, 1989-92, Technical University of Budapest
Alexei Predtechensky, 1991-1995, Novobirsk University, Russia
Ge Li, 1995-9, Tsinghua University, Beijing
Yudong Tian, 1995-1996, UCLA
Jean-Pierre Delville, 1996-1997, CNRS - Bordeaux
John deBruyn, 1997-98, Memorial University of Newfoundland
Andreas Engel, 1998-1999, Institut fur Theoretische Physik, Magdeberg
Stephen Morris, 2000-2001, University of Toronto
Eduardo Ramos, 2001-2002, Centro de Investigacion en Energia,
Universidad Nacional Autonoma de Mexico - Cuernavaca
Jiajung Zhao, 2014-2015, National University of Singapore