Lou Kondic

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APPOINTMENTS

New Jersey Institute of Technology, Professor	9/09-present
Director of Graduate Programs of the Department of Mathematical Sciences	7/07-6/09
New Jersey Institute of Technology, Associate Professor	9/02-8/09
New Jersey Institute of Technology, Assistant Professor	7/99-8/02
Duke University, Research Associate	9/97-7/99
Courant Institute of Mathematical Sciences,	
New York University, Research Associate	9/95-9/97

SHORT-TERM AND NONACADEMIC APPOINTMENTS

The Kavli Institute for Theoretical Physics,	
University of California at Santa Barbara, Visiting Scholar	01/05-08/07
Institute of Physics, UNCPBA, Tandil, Argentina,	
Fulbright Visiting Professor	02/06-05/06
The Courant Institute, New York University, Visiting Professor	09/05-01/06
Institute Rudjer Boskovic, Zagreb, Croatia, Research Assistant Scientist	03/89-09/89
KFA, Jülich, Germany, Visiting Scientist	09/88-11/88

EDUCATION

The City College of The City University of New York
Ph. D. in Physics, 6/95
- Thesis "Theory of Sonoluminescence" (advisor: Joel Gersten)

University of Zagreb, Croatia
B. S. in Physics 6/89 (advisor Klaus Goeke, KFA, Jülich, Germany)

RESEARCH INTERESTS

Modeling: 1. Fluid Mechanics: thin films; coating flows; liquid-solid interaction; micro and nano scale fluidics; multiphase problems including phase change; *2. Granular Matter:* dense granular systems; effects of microstructure on macro properties; energy propagation. *Computing:* Numerical solution of nonlinear ordinary and partial differential equations of hyperbolic, parabolic and elliptic type; Molecular dynamics.

HONORS

- Member of the Specialist Review Committee for the Fulbright Scholar Program (2006 - 2008).
- Named Fulbright Scholar for Academic year 2005/06.
- Invited talk at the Division of Fluid Mechanics of the Argentinian Physical Society Annual Meeting, Buenos Aires, Argentina, 2012.
- Invited Plenary talk at the Annual Meeting of Argentinian Physical Society, La Plata, Argentina, 2005.
- Entries in the Citation Index: 700+ (as of September 2011).
- H-index: 17 (as of September 2011).
- Named 'KITP Scholar' by The Kavli Institute for Theoretical Physics, University of California, Santa Barbara, CA (2005 - 2007).

- Discussion leader at the Gordon conferences: "Nonlinear Science", Mount Holyoke, MA, June 2009; "Gravitational Effects in Physico-chemical Systems", New London, NH, July 2001. Invited Session Chair at: FACM '05, '07, '08, '10, '12 conferences at NJIT, Newark, NJ; European Solid Mechanics Conferences (Lisbon, Portugal 2009; Graz, Austria, 2012); International Conference on Applied Mathematics, Hong Kong, China (June 2010), Eurotherm Seminar 84, Namur, Belgium (May 2009), International Congress of Mathematicians (ICM), Madrid, Spain (September 2006); APS Division of Fluid Dynamics meetings in Baltimore (2011), Long Beach (2010), San Antonio (2008), Chicago (2005) and Dallas (2002); SIAM Annual Meeting, Atlanta, GA, May 1999.

PAST AND CURRENT Ph.D. STUDENTS AND POST-DOCTORAL ASSOCIATES

1. Nanyi Dong, PhD candidate, starting February 2012.
2. Lenka Kovalcinova, PhD candidate, starting February 2012.
3. Kyle Mahady, PhD candidate, starting September 2011 (co-advised with Shahriar Afkhami).
4. Chenjing Cai, PhD candidate, starting September 2009 (co-advised with Linda Cummings).
5. Te-sheng Lin, PhD candidate, thesis title "Instabilities in Newtonian Films and Nematic Liquid Crystal Droplets", graduated May 2012 (co-advised with Linda Cummings).
6. Xiaoni Fang, PhD candidate, thesis title "Energy Propagation in Jammed Granular Matter", graduated August 2011.
7. Nebojsa Murisic, PhD candidate, thesis title "Instabilities of Evaporative Drops and Films", graduated May 2008; first position after graduation: Research Professor at Dept. of Mathematics, UCLA.
8. Tetyana Segin, PhD candidate, thesis title "Nonlinear Long-wave Interfacial Stability of Two-layer Gas-liquid Flow", graduated May 2004; first position after graduation: Postdoctoral Associate at Dept. of Chem. Eng., U. Alberta.
9. Arnaud Goullet, postdoctoral associate, project title: "Force field structure of dense granular matter", (starting August 2010).
10. Michel Tsukahara, postdoctoral associate, project title: "Topological properties of force fields in jammed granular systems" (January 2010 - January 2011); consequent position: Dept. of Mathematics, U. Laussane, Switzerland.
11. Yiguang Yu, postdoctoral associate, project tite: "Applications of topological techniques to dense granular matter" (September 2008 - September 2009), consequent position: Dept. of Chem. Eng., MIT.
12. Svetlana Tlupova, postdoctoral associate, project title: "Modeling of two phase flow using combined Stokes-Darcy model", (September 2007 - August 2009) (co-advised with W. Choi, M. Siegel, D. Papageorgiou), consequent position: Dept. of Mathematics, U. Michigan, Ann Arbor.
13. Oleh Baran, postdoctoral associate, project title "Statistical properties of dense granular materials", (January 2003 - August 2004), consequent position: DEM Solutions, Inc.

TEACHING ACTIVITIES

1. Director of Graduate Studies at the Department of Mathematical Sciences (2007-2009).
2. Undergraduate research paper *'Instabilities of spreading liquid crystal films"* by S. Naughton, N. Patel, I. Seric, supervised by L. Kondic, T. Lin, L. Cummings, SIAM Undergraduate Research Online (SIURO), **5** (2012); Teaching/research paper "Instabilities in the flow of thin liquid films", Kondic, L., *SIAM Review*, **45**, 95-115 (2003).
3. Courses taught at NJIT: (i) Undergraduate Courses: Calculus I - III, Linear Algebra, Partial Differential Equations, Numerical Methods, Numerical Mathematics Laboratory, Topics in Scientific Computing, Advanced Partial Differential Equations, Methods of Applied Mathematics I and II; (ii) Graduate Courses: Nonlinear Partial Differential Equations, Applied Mathematics I, II and III, Teaching in Mathematics.

4. New Courses Developed: Multiple moduli for the Methods in Applied Mathematics; Topics in Scientific Computing; Numerical Mathematics Laboratory.
5. Supervised summer research projects (REU's) in 2003, 2005, 2011.
6. Organizer of the Pan American Study Institute (PASI) on Interfacial Fluid Dynamics, Argentina, 2007, attended by 80 lecturers, senior and postdoctoral researchers and graduate students originating from more than 10 countries. Supported by: the PASI NSF grant, Grants from the International Center for Theoretical Physics (ICTP), Trieste, Italy; the National Council for Scientific and Technical Research (CONICET), Argentina; the Latin American Physics Center (CLAF), Brazil.
7. Speaker at the 2011 Interdisciplinary Summer School: Granular Flows: From Simulations to Astrophysical Applications. College Park, MD, June 2011.

CONSULTING ACTIVITIES

- Consulting for KLA-Tencor, San Jose, CA, 2006-2008.

OTHER SELECTED ACTIVITIES

1. Editor of the Program Book of the Pan American Study Institute (PASI) on Interfacial Fluid Dynamics, Mar del Plata, Argentina, August 2007 (with A. G. Gonzalez, J. Gomba, and J. Diez) (70 pages).
2. Organizer: Workshop on Predicting Response of Dense Granular Matter at ESMC 2012, Graz, Austria, July 2012. Workshop on Fluctuations and Response in Granular Materials, Center for Physics, Aspen, CO, 2011; Special Session on Mathematical and Computational Advances in Interfacial Fluid Dynamics at 1070th AMS meeting Worcester, MA, 2011; Symposium on Force Chains and Jamming at ESMC 2009 (9th European Solid Mechanics Conference), Lisbon, Portugal; Symposium on Granular Matter at ICIAM 2007 (6th International Congress on Industrial and Applied Mathematics), Zürich, Switzerland, 2007.
3. Grant from the Fulbright Foundation to perform teaching and research in Argentina during the Spring semester of 2006; developed a graduate course "Nonlinear Partial Differential Equations" taught at Department of Physics, Universitad del Centro de la Provincia de Buenos Aires, Tandil, Argentina (Spring 2006).
4. Grant from NSF Division of Undergraduate Education CCLI Adaptation and Implementation Program "Equipment and Modules for Capstone Course in Applied Mathematics" (2005) (with Daniel Goldman, Michael Booty, Bruce Bukiet and Michael Siegel).
5. Grant from the Council for International Exchange of Scholars/Fulbright Foundation to develop collaborative track of PhD program in Mathematical Sciences with University National del Centro de la Provincias de Buenos Aires, Argentina (with Javier Diez).

SELECTED SERVICE ACTIVITIES AT NJIT

- Member of the Faculty Council of NJIT (2009 - 2012).
- Director of Graduate Studies of the Department of Mathematical Sciences (2007 - 2009).
- Graduate advisor for the PhD program in Applied Mathematics (2007 - 2009), MS programs in Applied Mathematics and in Computational Biology (2007 - 2008).
- Member of the Graduate Council of NJIT (2007 - 2009).
- Chair of the Committee for Qualifying Exams (2006, 2010-2012).
- Member of the Organizing Committee of the Conference Frontiers in Applied and Computational Mathematics (2006, 2011, 2012).

PAST AND CURRENT SUPPORT

PI	DTRA/DOD	Microstructure, fluidization, and control of penetrator trajectories in granular media	04/10 - 03/15
I	NSF/IFPRI	Collaboratory Research in Dense Particulate Flow	06/10 - 05/11
Co-PI	NSF	Modeling and analysis of nematic liquid crystals in thin geometries: Bistable configurations and free surface instabilities	09/09 - 08/12
PI	NSF	CDI-type II: Collaborative Research: Computational Homology, Jamming, and Force Chains in Dense Granular Flows	10/08 - 09/12
PI	NSF	Bridging the Spatial and Temporal Scales in Dense Granular Systems	08/06 - 07/09
PI	NSF	Pan-American Study Institute (PASI) on Interfacial Fluid Dynamics	09/06 - 08/08
PI	ICTP (Trieste, Italy)	Pan-American Study Institute (PASI) on Interfacial Fluid Dynamics	08/07 - 08/07
PI	Fulbright Foundation	Dynamics of non-Newtonian liquid films involving contact lines	09/05–08/06
PI	NSF	Equipment and Modules for a Capstone Course in Applied Mathematics	09/05 - 08/08
PI	NASA	Gravity and Granular Materials: Flight Project	04/04 -11/07
Co-PI	CIES	Establishment of Joint PhD Programs	07/04 - 06/06
I	NSF	Major Research Instrumentation	08/04 - 07/06
PI	NASA	Gravity and Granular Materials	03/00 - 11/03
PI	NSF	Instabilities in the flow of thin liquid films	02/02 - 01/05
Co-PI	NSF	Scientific Computing Research Environments for the Mathematical Sciences (SCREMS)	09/01 - 08/03

REVIEWER FOR:

The National Science Foundation; The Department of Energy; The Petroleum Research Foundation; The Fulbright Foundation; The Netherlands Organization for Scientific Research, Cambridge University Press; SIAM Review; SIAM Journal of Applied Mathematics; SIAM Journal of Applied Dynamical Systems; Journal of Fluid Mechanics; Physics of Fluids; Physical Review Letters; Physical Review E; Journal of Computational Physics; Europhysics Letters; Physics Letters A; Journal of Physics A: Mathematical and General; Journal of Physics: Condensed Matter; Physica D; European Physical Journal E; Journal of Acoustical American Society; ASME Journal of Fluids Engineering; Journal of Engineering Mathematics; Analysis and Applications; International Journal of Mathematics and Mathematical Sciences; International Journal for Numerical Methods in Fluids; Computers and Fluids; Granular Matter; Mechanics Research Communications; Journal of the Australian Mathematical Society Series B: Applied Mathematics.

1. Kondic, L., Goullet, A., O'Hern, C.S., Kramar, M., Mischaikow, K., Behringer, R.P., Topology of force networks in compressed granular media, *Europhys. Lett.* **97**, 54001 (2012).
2. Kondic, L., Fang, X., Losert, W., O'Hern, C.S., Behringer, R.P., Microstructure Evolution during Impact on Granular Matter, *Phys. Rev. E* **85**, 011305 (2012).
3. Lin, T., Kondic, L., Filippov, A., Thin hanging films with fronts: two dimensional flow, *Phys. Fluids*, **24** 022105 (2012).
4. Lin, T., Kondic, L., Cummings, L., Defect modeling in spreading nematic droplets, *Phys. Rev. E* **85**, 012702 (2012).
5. Diez, J., Gonzalez, A.G., Kondic, L., Instability of a transverse liquid rivulet on an inclined plane, *Phys. Fluids* **24** 032104 (2012).
6. Wu, Y., Fowlkes, J., Roberts, N.A., Diez, J., Kondic, L., Gonzalez, A.G., Rack, P., Competing liquid phase instabilities during pulsed laser induced self-assembly of copper rings into ordered nanoparticle arrays on SiO2, *Langmuir* **27**, 13314 (2011).
7. Murisic, N, Kondic, L. On evaporation of sessile drops with moving contact lines, *J. Fluid Mech.*, **679** 219 (2011).
8. Fowlkes, J. D., Kondic, L., Diez, J., Wu, Y., Rack, P. D., Self versus Directed assembly of Nanoparticles via Pulsed Laser Induced Dewetting of Patterned Metal Films, *Nanoletters*, **11**, 2478 (2011).
9. Cummings, L., Lin, T., Kondic, L., Modeling and simulation of the spreading and destabilization of small nematic droplets, *Phys. Fluids*, **23** 043102 (2011).
10. Mukhopadhyay, S., Murisic, N., Behringer, R.P., Kondic, L., Evolution of droplets of perfectly wetting liquid under the influence of thermocapillary forces, *Phys. Rev. E*, **83**, 046302 (2011).
11. Wu, Y., Fowlkes, J., Rack, P., Diez, J., Kondic, L., On the Breakup of Patterned Nanoscale Copper Rings into Droplets Via Pulsed Laser Induced Dewetting: Competing Liquid Phase Instability and Transport Mechanisms, *Langmuir* **26**, 11972 (2010).
12. Lin, T., Kondic, L., Thin hanging films with fronts: two dimensional flow, *Phys. Fluids*, **22**, 052105 (2010).
13. Rosato, A.D., Dybenko, O., Horntrop, D.J., Ratnaswamy, V., Kondic, L., Microstructure evolution in density relaxation by tapping, *Phys. Rev. E*, **81**, 061301 (2010).
14. Diez, J., Gonzalez, A.G., Kondic, L., On the breakup of fluid rivulets, *Phys. Fluids*, **21**, 082105 (2009).
15. Kondic, L., Diez, J., Rack, P., Guan, Y., Fowlkes, J., Nanoparticle assembly via the dewetting of patterned thin metal lines: Understanding the instability mechanism, *Phys. Rev. E*, **79**, 026302 (2009); selected for *Virtual Journal of Nanoscale Science & Technology*, **19** (2009).
16. Kondic, L., Dybenko, O.M., Behringer, R.P., Probing dense granular materials by space-time dependent perturbations, *Phys. Rev. E*, **79**, 041304 (2009).
17. Murisic, N., Kondic, L., Modeling evaporation of sessile drops with moving contact lines, *Phys. Rev. E*, **78**, 065301R (2008).
18. Borden, Z., Grandjean, H., Hosoi, A.E., Kondic, L., Tilley, B.S., On long-wave instabilities in isothermal binary fluid films, *Phys. Fluids*, **20**, 102103 (2008).
19. Kondic L., O'Hern, C.S., Behringer, R.P., Dense Granular Systems: From Theory to Applications, *SIAM News*, **40**, No. 8, 13-15 (2007).
20. Gomba, J., Diez, J., Gratton, R., Gonzalez, A., Kondic, L., Stability study of a constant-volume thin film flow, *Phys. Rev. E*, **76**, 046308 (2007).
21. Diez, J., Kondic, L., On the breakup of fluid films of finite and infinite extent, *Phys. Fluids*, **19**, 072107 (2007).
22. Gotkis, Y., Ivanov, I., Murisic, N., Kondic, L., Dynamic Structure Formation at the Fronts of Volatile Liquid Drops, *Phys. Rev. Lett.*, **93**, 186101 (2006).
23. Baran, O., Kondic, L., On velocity profiles and stresses in sheared and vibrated granular systems under variable gravity, *Phys. Fluids*, **18**, 121509 (2006).

24. Segin, T., Kondic, L., Tilley, B.S., Long-wave linear stability theory for two-fluid channel flow including compressibility effects, *IMA J. Appl. Math.*, **71**, 715-739 (2006).
25. Xu, N., O'Hern, C., Kondic, L., Stabilization of nonlinear velocity profiles in athermal systems undergoing planar shear flow *Phys. Rev. E*, **72**, 041504 (2005).
26. Baran, O., Kondic, L., Velocity profiles, stresses, and Bagnold scaling of sheared granular system in zero gravity, *Phys. Fluids*, **17**, 073304 (2005).
27. Kondic, L., Diez, J., On nontrivial traveling waves in thin film flows including contact lines, *Physica D*, **209**, 135-144 (2005) (special issue on Non-linear Dynamics of Thin Films and Fluid Interfaces).
28. Segin, T., Tilley, B.S., Kondic, L., On undercompressive shocks in constrained two-layer flows, *Physica D* **209**, 245-259 (2005) (special issue on Non-linear Dynamics of Thin Films and Fluid Interfaces).
29. Diez, J., Gonzalez, A., Gomba, J., Gratton, R., Kondic, L., Unstable spreading of a fluid filament on a vertical plane: Experiments and simulations, *Physica D* **209**, 49-61 (2005) (special issue on Non-linear Dynamics of Thin Films and Fluid Interfaces).
30. Segin, T., Tilley, B.S., Kondic, L., On flooding and undercompressive shocks in countercurrent two-layer flow, *J. Fluid. Mech.* **532**, 217-242 (2005).
31. Xu, N., O'Hern, C., Kondic, L., Velocity Profiles in Repulsive Glassy and Athermal Systems under Shear, *Phys. Rev. Lett.* **94**, 016001 (2005).
32. Kondic L., Behringer, R.P., Elastic Energy, Fluctuations and Temperature for Granular Materials, *Europhys. Lett.*, **67**, 205-211 (2004).
33. Gonzalez, A., Diez, J., Gomba, J., Gratton, R., Kondic, L. Spreading of a thin two-dimensional strip of fluid on a vertical plane: Experiments and modeling, *Phys. Rev. E*, **70** 026309 (2004).
34. Kondic, L., Instabilities in the flow of thin liquid films, *SIAM Review*, **45**, 95-115 (2003).
35. Kondic L., Tennakoon, S.G.K., Painter, B., Hartley, R., Behringer, R.P., Segregation by friction, *Europhys. Lett.*, **61**, 742-748 (2003).
36. Diez, J., Kondic, L., Instabilities in the flow of thin films, *International J. Heat and Technology*, **21**, 31-36 (2003).
37. Kondic, L., Diez, J., Flow of thin films on patterned surfaces, *Colloids and Surfaces A*, **214**, 1-11 (2002).
38. Diez, J., Kondic, L. Computing three-dimensional thin film flows including contact lines, *J. Comp. Phys.*, **183**, 274-306 (2002).
39. Kondic, L., Diez, J., Flow of thin films on patterned surfaces: Controlling the instability, *Phys. Rev. E*, **65**, 045301 (2002).
40. Metcalfe, G., Tennakoon, S.G.K., Kondic, L., Schaeffer, D.G., Behringer, R.P., Granular friction, Coulomb Failure, and Fluid-Solid transition for horizontally shaken granular materials, *Phys. Rev. E*, **65**, 031302 (2002).
41. Kondic, L., Diez, J., Pattern formation in gravity driven flow of thin films: Constant flux flow, *Phys. Fluids* **13**, 3168-3184 (2001).
42. Fast, P., Kondic, L., Shelley, M.J., Palffy-Muhoray, P., Pattern formation in non-Newtonian Hele-Shaw flow, *Phys. Fluids* **13**, 1191-1212 (2001).
43. Diez, J., Kondic, L., Contact line instabilities of thin liquid films, *Phys. Rev. Lett.* **86**, 632-635 (2001).
44. Diez, J., Kondic, L., Bertozzi, A.L., Global models for moving contact lines, *Phys. Rev. E* **63**, 011208 (2001).
45. Kondic, L., Acoustic cavitation and sonoluminescence, edited by J. R. Blake, *J. Acoust. Am. Soc.*, **108**, 881-882 (2000).
46. Dan, M., Cheeke, J.D.N., Kondic, L., Dependence of Single Bubble Sonoluminescence on Ambient Pressure, *Ultrasonics* **38**, 566-569 (2000).
47. Kondic, L., Bertozzi, A.L., Nonlinear dynamics and transient growth of driven contact lines, *Phys. Fluids* **11**, 3560-3562 (1999).
48. Dan, M., Cheeke, J.D.N., Kondic, L., Ambient Pressure Effect on Single Bubble Sonolumi-

nescence, *Phys. Rev. Lett.* **83**, 1870-1873 (1999).

49. Kondic, L., Dynamics of the particles on a surface: About collision induced sliding and other effects, *Phys. Rev. E* **60**, 751-770 (1999).
50. Behringer, R.P., Howell, D., Kondic, L., Tennakoon, S.G.K., Veje, C., Predictability and granular materials, *Physica D* **133**, 1-17 (1999).
51. Tennakoon, S.G.K., Kondic, L., Behringer, R.P., Onset of a flow in horizontally vibrated granular bed: convection by horizontal shearing, *Europhysics Lett.* **45**, 470-475 (1999).
52. Kondic, L., Shelley, M.J., Palffy-Muhoray, P., Non-Newtonian Hele-Shaw flow and the Saffman-Taylor instability, *Phys. Rev. Lett.* **80**, 1433-1436 (1998).
53. Kondic, L., Yuan, C., Chan, C.K., About ambient pressure and sonoluminescence, *Phys. Rev. E* **57**, 32-35 (1998).
54. Kondic L., Palffy-Muhoray, P., Shelley, M.J., Models of Non-Newtonian Hele-Shaw flow, *Phys. Rev. E* **54**, 4536-4539 (1996).
55. Kondic, L., Gersten, J.I., Yuan, C., Theoretical studies of sonoluminescence radiation: Radiative transfer and parametric dependence, *Phys. Rev. E* **52**, 4976-4990 (1995).

PUBLISHED PROCEEDINGS ARTICLES

1. Rosato, A.D., Ratnaswamy, V., Horntrop, D.J., Dybenko, O., Kondic, L., A Concise Review of Tapped Density Relaxation and Recent Discrete Element Results, IUTAM Symposium "Mathematical Modelling and Physical Instances of Granular Flows", ed. J. Goddard, P. Giovine, J. Jenkins, AIP Conference Proceedings **1227**, page 89-99 (2009).
2. Diez, J., Gonzalez, A.G., Kondic, L., Stability of finite-length rivulet under partial wetting conditions, *Journal of Physics: Conference Series* **166**, 012009 (2009).
3. Kondic, L., Fang, X., Dybenko, O.M., Behringer, R.P., Energy transport through dense granular matter, *Powders and Grains 2009*, eds. M. Nakagawa and S. Luding, AIP Conference Proceedings **1145**, page 293-296 (2009).
4. Rosato, A.D., Ratnaswamy, V., Horntrop, D., Dybenko, O., Kondic, L., Density relaxation of granular matter via Monte Carlo and discrete element simulations, *Powders and Grains 2009*, eds. M. Nakagawa and S. Luding, AIP Conference Proceedings **1145**, page 481-484 (2009).
5. Kondic, L., Murisic, N., Evaporative drops, *Annali dell'Universita di Ferrara*, **54**, 277 (2008).
6. Murisic, N., Kondic, L., On modeling evaporation of sessile drops, *The Proceedings of the 2008 Annual Meeting of Aiche,* 1-2, ISBN 978-0-816910-1050-2 (2008).
7. Kondic, L., Diez, J., Breakup of finite fluid films, *Proceedings in Applied Mathematics and Mechanics,* **7**, 1090601-2 (2008).
8. Kondic, L., Behringer, R. P., Signal propagation through dense granular systems, *Proceedings in Applied Mathematics and Mechanics,* **7**, 1090607-8 (2008).
9. Murisic, N., Kondic, L., Instabilities of Volatile Drops, *Proceedings in Applied Mathematics and Mechanics,* **7**, 2100039-40 (2008).
10. Kondic, L., Behringer, R. P., Elastic Energy, Fluctuations and Temperature for Granular Materials, *Proceedings of the 5th International Conference on Micromechanics of Granular Media, Powders and Grains 2005*, Stuttgart, Germany, ed. R. Garcia-Rojo, H. J. Herrmann, S. McNamara, Balkema Publishers, Leiden, The Netherlands, ISBN 0-415-38347-1, 397-400 (2005).
11. Kondic, L., Behringer, R. P., Extended granular temperature, *Proceedings of the XXI International Congress on Theoretical and Applied Mechanics*, Warsaw, Poland, Proceedings on CD-ROM: ISBN 83-89697-10-1 (2004).
12. Gonzalez, A., Diez, J., Gomba, J., Gratton, R., Kondic, L., Spreading of thin two-dimensional strip of fluid on a vertical plane: Experiments and modeling, *Proceedings of the VIII Meeting on Recent Advances in Physics of Fluids and its Applications*, 18-36 (2003).
13. Gomba, J., Gonzalez, A., Diez, J., Gratton, R., Kondic, L., Instability of the contact line and thickness profiles in vertical oil spreading, *Anales de la Asociacion Fisica Argentina* **14**,

Asociacion Fisica Argentina (AFA) publishers, 86-91 (2003).

14. Kondic, L, Utter, B., Behringer, R.P., Dynamics of Sheared Granular Materials, *Proceedings of the Sixth Microgravity Fluids Physics and Transport Phenomena Conference*, 453-475 (2002).
15. Kondic, L., Diez, J., Instabilities in the flow of thin liquid films, *Proceedings of IUTAM Symposium on Free Surface Flows*, eds. A. C. King and Y. D. Shikhmurzaev, Fluid Mechanics and its Applications **62**, 161-168 (2001), Kluwer Academic Publishers, Norwell, MA.
16. Diez, J., Kondic, L., Contact line instabilities in thin films flowing down an incline, *Proceedings of the Seventh International Seminar on Recent Advances in Fluid Mechanics, Physics of Fluids and Associated Complex Systems*, 1-33, Buenos Aires, Argentina (2001).
17. Behringer, R.P., Clément, E., Geng, J., Howell, D., Kondic, L., Metcalfe, G., O'Hern, C., Reydellet, G., Tennakoon, S.G.K., Vanel, L., Veje, C., Science in the Sandbox: Fluctuations, Friction and Instabilities, *Lecture Notes in Physics* Vol. 567, Eds. D. Reguera, L. L. Bonilla, and J. M. Rubi, 351-391, Springer-Verlag, Berlin, 2001.
18. Metcalfe, G., Tennakoon, S.G.K., Kondic, L, Schaeffer, D.G., Behringer, R.P., Solid-Liquid Transitions of Horizontally Shaken Dry Granular Materials, *Powders and Grains 2001*, ed. Y Kishino, Balkema, Rotterdam, 513-516 (2001).
19. Diez, J., Kondic, L., Instability of the contact line in thin film spreading, (Inestabilidades de linea de contacto en flujos de capas delgadas), *Anales de la Asociacion Fisica Argentina* **12**, 98-102 (2000), Asociacion Fisica Argentina (AFA) publishers (2000).
20. Diez, J., Kondic, L., Bertozzi, A.L., A two-dimensional code for thin films, *Proceedings of the Fluid Dynamics Conference of Argentinian Physical Society*, 35-40 (1999).
21. Kondic, L., Bertozzi, A.L., Thin liquid films: Instabilities of driven coating flows on a rough surface, *Dynamics in Small Confining Systems IV*, eds. J. M. Drake, G. S. Grest, J. Klafter, and R. Kopelman, Materials Research Society Proceedings Series **543**, 213-218 (1999).
22. Kondic, L., Tennakoon, S.G.K., Painter, B., Behringer, R.P., eds. J. M. Drake, G. S. Grest, J. Klafter, and R. Kopelman, Friction-based segregation of 2D granular assembly, *Dynamics in Small Confining Systems IV*, Materials Research Society Proceedings Series **543**, 357-362 (1999).
23. Kondic, L., Fast, P., Shelley, M.J., About computations of Hele-Shaw flow of non-Newtonian fluids, *Dynamics in Small Confining Systems IV*, eds. J. M. Drake, G. S. Grest, J. Klafter, and R. Kopelman, Materials Research Society Proceedings Series **543**, 207-212 (1999).
24. Dan, M., Cheeke, J.D.N., Kondic, L., Experimental observation of the effect of ambient pressure on single bubble sonoluminescence, *Proceedings of the Joint Conference of ASA, EAA and DAGA*, Proceedings in CD-ROM: 1PPAD_8, 4 pages (1999).
25. Diez, J., Kondic, L., Bertozzi, A.L., A two-dimensional code for thin films, *Proceedings of the Fluid Dynamics Conference of Argentinian Physical Society*, 35-40 (1999).
26. Behringer, R.P., Howell, D., Kondic, L., Tennakoon, S.G.K., Veje, C., Gravity and granular materials, *Proceedings of The Fourth NASA Microgravity Fluid Physics Transport Phenomena Conference*, 6 pages (1998).

INVITED PRESENTATIONS

1. Thin fluid films on nanoscale: spreading, breaking, jumping, Division of Fluid Mechanics of Argentine Physical Society Annual Meetting, Buenos Aires, Argentina, November 2012.
2. Persistence of force networks in compressed granular media, International Workshop on Computational Mechanics of Materials (IWCMM 2012), Baltimore, MD, September 2012.
3. Films, rings, rivulets: application to liquid metals on nanoscale, Multiflow Workshop, Free University Brussels, Brussels, Belgium, June 2012.
4. From Energy Propagation to Force Networks in Dense Granular Matter, Department of Physics, Friedrich-Alexander Erlangen-Nürnberg University, Erlangen, Germany, June 2012.
5. Instabilities of Nanoscale Liquid Metal Films, Department of Mathematics, Imperial College, London, United Kingdom, March 2012.

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