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PERSONAL INFORMATION

Born August 2, 1956, China. Married, one child. Naturalized U.S. citizen; Hong Kong permanent resident

EDUCATION

1984-1988: Ph.D. in Physics, University of Pittsburgh, USA. Dissertation: Relative velocity fluctuations in turbulent flows at moderate Reynolds numbers. Advisor: Walter I. Goldberg.

1983-1984: M.Sc. in Physics, University of Pittsburgh, USA.

1978-1982: B.Sc. in Physics, Northeastern University, Shenyang, China.

PROFESSIONAL EXPERIENCE

2011-2016: Associate Dean (Research & Postgraduate Study) of School of Science, Hong Kong University of Science and Technology, Hong Kong.

2011-present: Chair Professor of Physics, Hong Kong University of Science & Technology, Hong Kong.

2003-2011: Professor of Physics, Hong Kong University of Science & Technology, Hong Kong.

2001 (sabbatical leave): Visiting Scientist of Applied Physics, Harvard University, USA.

1999-2002: Professor of Physics, Oklahoma State University, USA.

1995-1999: Associate Professor of Physics, Oklahoma State University, USA.

1990-1995: Assistant Professor of Physics, Oklahoma State University, USA.

1988-1990, Postdoctoral Research Associate, Exxon Research & Engineering Company, New Jersey, USA.
Supervisors: Thomas A. Witten and John S. Huang.

TEACHING EXPERIENCE

Undergraduate courses: general physics, optics, advanced mechanics, general physics laboratory, advanced physics laboratories, electromagnetic radiation, energy and related environmental issues. *Graduate courses:* modern optics, statistical thermodynamics.

CURRENT RESEARCH INTERESTS

Soft condensed matter physics: structures, interactions, and dynamics in colloidal suspensions and other complex fluids; interactions and dynamics of colloidal monolayers at liquid-liquid and near liquid-solid interfaces; non-equilibrium processes in suspensions and wetting dynamics at a three-phase contact line between liquid and solid interfaces; sedimentation of non-Brownian particles in simple and complex fluids; viscoelastic properties of biomaterials, active matter and live cells; anomalous diffusion of membrane-bound proteins and lipids in live cells.

Non-equilibrium dynamics in flow systems: statistical properties of fully developed turbulence, high Rayleigh number thermal convection, boundary layer dynamics and transport phenomena in turbulent flows.

RESEARCH FUNDING**Federal and Industrial Grants:**

(1) Petroleum Research Fund, "Interactions in Mixtures of Colloid and Polymer by Scattering Techniques," \$40,000, 1991-1993.

- (2) Exxon Research and Engineering Company, "Scattering Studies of Polymer, Microemulsion, and Colloid Interactions," \$21,000, 1991-1995.
- (3) National Science Foundation, "Scattering Experiments in Turbulent Rayleigh-Benard Convection," \$250,000, 1993-1996.
- (4) National Aeronautics and Space Administration, "Light Scattering Studies of Relative Motions of Solid Particles in Turbulent Flows," \$140,000, 1994-1996 (with Co-PI W. I. Goldberg).
- (5) National Aeronautics and Space Administration, "Studies of Particle Sedimentation by Novel Scattering Techniques," \$400,000, 1996-2002 (with Co-PI B. J. Ackerson).
- (6) National Science Foundation, "Experimental Studies of Convective Turbulence," \$240,000, 1996-2000.
- (7) National Science Foundation, "Development of a Novel Fiber-Optic Vorticity Probe," \$60,235, 2000-2001 (with Co-PI B. J. Ackerson).
- (8) National Science Foundation, "Vorticities, Coherent Structures, and Surface Roughness Effect in Turbulent Thermal Convection," \$300,000, 2001-2004.
- (9) Hong Kong Research Grants Council, "Structures, dissipations, and local heat transport in turbulent convection," HK\$561,000, 2003-2006.
- (10) Hong Kong Research Grants Council, "Hydrodynamic interactions, instabilities, and pattern formation in a rotating suspension of non-Brownian settling particles," HK\$283,000, 2004-2007.
- (11) Hong Kong Research Grants Council, "Development of dual-beam dynamic light scattering for two-point micro-rheology of soft materials," HK\$428,000, 2005-2008.
- (12) Hong Kong Research Grants Council, France/Hong Kong Joint Research Scheme, "Confinement and ordering in a monolayer of carbon nanotubes at an air-water interface, in a free standing surfactant bilayer, and onto a solid substrate," HK\$62,518, 2005-2007.
- (13) Hong Kong Research Grants Council Central Allocation, "Multi-phase fluid flow: theory, simulation and experiments," HK\$3,400,000, Co-PI with 26% funds, 2006-2008.
- (14) Hong Kong Research Grants Council, "Interactions, structures, and dynamics of colloidal particles at soft interfaces," HK\$300,000, 2006-2009.
- (15) Hong Kong Research Grants Council, "Experimental studies of convective turbulence," HK\$317,000, 2007-2010.
- (16) Hong Kong Research Grants Council, Germany/Hong Kong Joint Research Scheme, "Experimental study of soft/biological interfaces: from assembly to dynamics and function," HK\$60,000, 2008-2009.
- (17) Hong Kong Research Grants Council, "Experimental test of the steady-state fluctuation theorem of Gallavotti and Cohen in a driven far-from-equilibrium system," HK\$883,200, 2008-2011.
- (18) Hong Kong Research Grants Council, "Development of an AFM-based passive rheometer for the study of interfacial dynamics," HK\$416,300, 2009-2011.
- (19) Hong Kong Research Grants Council, France/Hong Kong Joint Research Scheme, "Experimental study of interfacial dynamics: from supported membranes to micro-menisci of a bubble mattress," HK\$28,000, 2010-2011.
- (20) Hong Kong Research Grants Council, "An experimental study of the diffusion dynamics of membrane-bounded proteins in living cells," HK\$869,055, 2010-2013.
- (21) Hong Kong Research Grants Council, Theme-based Research Scheme (TBRS) Project, "Stem Cell for Nervous System Disorder," HK\$500,000, Co-I, 2012-2016.
- (22) Hong Kong Research Grants Council, "Experimental study of contact line dissipation, wetting dynamics and the mechanical properties of lipid monolayers," HK\$869,055, 2013-2016.
- (23) K. C. Wong Education Foundation, "International conference on frontiers of soft matters physics: from non-equilibrium dynamics to active matter," HK \$171,000, 2014.
- (24) Hong Kong Research Grants Council, "Postgraduate Students Conference on Frontiers of Soft Matter Physics: from Non-equilibrium Dynamics to Active Matter," HK\$50,000, 2014.
- (25) Hong Kong Research Grants Council, "Experimental study of colloidal dynamics over complex energy landscapes," HK\$1,010,045, 2014-2017.
- (26) Hong Kong Research Grants Council, Areas of Excellence Scheme, "Novel wave functional materials for manipulating light and sound," HK\$760,000, Co-PI, 2014-2018.

- (27) Hong Kong Research Grants Council, ANR / RGC Joint Research Scheme, “Assembly and dynamics of active and passive micro-ellipsoids at a fluid interface,” HK\$2,541,953, Co-PI with 40% funds, 2015-2019.
- (28) Hong Kong Research Grants Council, Collaborative Research Fund, “Dynamics of Soft Matter at Interfaces: Theory, simulations and experiments,” HK\$5,100,000, PI, 2015-2018.
- (29) Hong Kong Research Grants Council, “An experimental study of active remodeling of the cortical actin network and its influence on membrane diffusion,” HK\$540,824, 2016-2019.

State and University Grants:

- (1) University Center for Energy Research, “Scattering Studies of Interactions in Polymer-Surfactant Mixtures for Enhanced Oil Recovery,” \$24,000, 1992-1993.
- (2) University Center for Water Research, “Light Scattering Studies of the Facilitated Contaminant Transport in Porous Media,” \$4,000, 1992-1993.
- (3) Dean's Incentive Grant, \$9,000, 1991-1994.
- (4) Regents Cost Share grant for the NSF grant, \$38,547, 1993-1996.
- (5) Regents Cost Share grant for the NASA grant, \$20,000, 1994-1996.
- (6) Regents Cost Share grant for the NSF grant, \$33,479, 1996-1999.
- (7) Regents Cost Share grant for the NASA grant, \$103,000, 1996-2000.
- (8) NASA Space Fellowship Grant, \$12,000, 1996-1997.
- (9) NASA EPSCoR Research Initiation Grant, \$20,000, 2000-2001.
- (10) Regents Cost Share grant for the NSF grant, \$28,658, 2001-2003.
- (11) Oklahoma Network for Nano-structured Materials, \$15,023, 2002.
- (12) Hong Kong University of Science & Technology, “Experimental studies of convective turbulence,” HK\$192,000, 2003-2004.
- (13) Hong Kong University of Science & Technology, Research Equipment Fund Competition for MFP-3D Inverted Optical Atomic Force Microscope, HK\$1,428,000, 2006.
- (14) Hong Kong University of Science & Technology, Research Equipment Fund Competition for upgrade of an existing atomic force microscope, HK\$150,000, 2007.
- (15) Hong Kong University of Science & Technology, Research Project Competition, “Dynamics of Proteins and Lipids in Biological Membranes Studies with Nano-Probes and Atomic Force Microscopy,” HK\$550,000, Co-PI with 30% funds, 2007-2009.
- (16) Hong Kong University of Science & Technology, Research Project Competition, “Experimental study of motions of nano- and micro-particles: from ellipsoids in one dimensional channels to spheres in low temperature quantum fluids,” HK\$500,000, Co-PI with 50% funds, 2008-2010.
- (17) Hong Kong University of Science & Technology, Research Equipment Fund Competition for upgrade of an atomic force microscope, HK\$90,000, 2008.
- (18) Hong Kong University of Science & Technology, Post-doctoral Fellowship Matching Fund, HK\$124,700, 2009.
- (19) Hong Kong University of Science & Technology, Research Project Competition, “Experimental and mathematical studies of nano-scale fluid-solid interfacial phenomena,” HK\$300,000, Co-PI, 2010-2012.
- (19) Hong Kong University of Science & Technology, Research Project Competition, “Experimental and mathematical studies of nano-scale fluid-solid interfacial phenomena,” HK\$300,000, Co-PI, 2010-2012.
- (20) Hong Kong University of Science & Technology, Provost Office, Senior Teaching Fellow Fund, HK\$200,000, PI, 2010-2012.
- (21) Hong Kong University of Science & Technology, Special Research Fund Initiative (SRFI), “Functional Nanostructures – From Novel Interfacial Phenomena to Superconductivity,” HK\$326,400, Co-PI, 2011-2013.
- (22) Hong Kong University of Science & Technology, Research Project Competition, “The effect of adhesion on cell polarization,” HK\$380,000, Co-PI, 2011-2013.
- (23) Hong Kong University of Science & Technology, Provost Office, “Development of the technique of two-color fluorescence microscopy using a dual EM-CCD camera system,” HK\$420,000 with \$160,000 match, PI, 2011.

(24) Hong Kong University of Science & Technology, School of Science, Research Support, HK\$164,400, PI, 2011.

(25) Hong Kong University of Science & Technology, William Mong Institute of Nano Science and Technology, "Measurement of Optical Forces," HK\$300,000, Co-PI, 2011-2013.

(26) Hong Kong University of Science & Technology, Research Equipment Fund Competition for a microscope-based spatial light modulator (mSLM) system for photonics and biomechanics applications, HK\$604,996, 2016.

CURRENT RESEARCH GROUP

Six PhD students and one undergraduate student.

HONORS, PROFESSIONAL SERVICES, AND AFFILIATIONS

Co-editor of the American Chemical Society Symposium Series Vol. 532 developed from the ACS symposium on Colloid-Polymer Interactions, 1993. C N Yang Visiting Fellow, the Chinese University of Hong Kong, June-July, 1994. NASA Microgravity Review Panel Member (1998, 2000). Reviewer for National Science Foundation (USA), National Aeronautics and Space Administration (USA), Department of Energy (USA), Petroleum Research Fund (USA), Netherlands Foundation for Fundamental Research on Matter, Israel Science Foundation, Research Grants Council of Hong Kong, and National Science Foundation of China. Referee for Nature, Nature Nanotechnology, Nature Communications, Proceedings of the National Academy of Sciences (USA), Physical Review Letters, Physical Review E, Macromolecules, Journal of Fluid Mechanics, Physics of Fluids, Journal of the American Chemical Society, Langmuir, and several other journals and publishers. External Examiner of Master and PhD thesis committees, the Chinese University of Hong Kong, the Hong Kong University of Polytechnic University and University of Twente. Served as an Organizing/Scientific Committee member in a number of international workshops and conferences including: International Symposium on the Recent Progress in Quantitative and Systems Biology (December 9-11, 2006, Hong Kong), Workshop on Multi-scale Modeling: Complex Fluids and Micro-fluidics (January 9-13, 2006, Hong Kong), The National Conference on Liquids and Soft Matters (Nov. 9-11, 2006, Guangzhou, China; Nov. 6-7, 2008, Hefei, China), The 6th Asian Biophysics Association Symposium (January 11-15, 2009, Hong Kong), The Institute of Advanced Study Seminar Series on Soft Matter (Hong Kong University of Science and Technology, 2009), Les Houches Workshop on High Rayleigh Number Convection (January 25-29, 2010, France). Life Member and Fellow (2010) of the American Physical Society. Editorial board member of Chinese Physics B and Acta Physica Sinica.

PUBLICATIONS

Refereed Journal Articles:

(1) "Turbulent Transition by Photon Correlation Spectroscopy," **P. Tong**, W. I. Goldberg, C. K. Chan and A. Sirivat, *Physical Review A*, **37**, 2125 (1988).

(2) "Experimental Study of Relative Velocity Fluctuations in Turbulence," **P. Tong** and W. I. Goldberg, *Physics Letters A*, **127**, 147, (1988).

(3) "Relative Velocity Fluctuations in Turbulent Flows at Moderate Reynolds Number I. Experimental," **P. Tong** and W. I. Goldberg, *Physics of Fluids*, **31**(10), 2841 (1988).

(4) "Relative Velocity Fluctuations in Turbulent Flows at Moderate Reynolds Number II. Model Calculation," **P. Tong** and W. I. Goldberg, *Physics of Fluids*, **31**(11), 3253 (1988).

(5) "Temporal Fluctuations in a Turbulently Stirred Binary Liquid Mixture," **P. Tong**, W. I. Goldberg, J. Stavans, and A. Onuki, *Physical Review Letters*, **62**, 2668 (1989).

(6) "Using Photon Correlation Spectroscopy to Study Small-Scale Turbulence," W. I. Goldberg and **P. Tong**, *Physica Scripta*, **40**, 424 (1989).

(7) "A Light Scattering Study of Turbulence," W. I. Goldberg, **P. Tong** and H. K. Pak, *Physica D*, **38**, 134 (1989).

(8) "Comparison of Light Scattering of Colloidal Dispersions with Direct Force Measurements between

Analogous Macroscopic Surfaces,” M. L. Gee, **P. Tong**, J. N. Israelachvili and T. A. Witten, *J. Chem. Phys.* **93**, 6057 (1990).

(9) “Interactions in Mixtures of Colloid and Polymer,” **P. Tong**, T. A. Witten, J. S. Huang and L. J. Fetters, *J. Phys. France*, **51**, 2813 (1990).

(10) “Anisotropy in Turbulent Drag Reduction,” **P. Tong**, W. I. Goldburg, J. S. Huang and T. A. Witten, *Phys. Rev. Lett.* **65**, 2780 (1990).

(11) “Effect of Elastic Bending Energy on the Emulsification Failure in AOT Microemulsion,” X-L Wu, **P. Tong**, and J. S. Huang, *J. Coll. Interface. Sci.*, **148**, 104 (1992).

(12) “Measured Scaling Properties of Inhomogeneous Turbulent Flows,” **P. Tong**, W. I. Goldburg, and J. S. Huang, *Physical Review A*, **45**, 7222 (1992).

(13) “Measured Effects of Polymer Additives on Turbulent Velocity Fluctuations at Various Length scales,” **P. Tong**, W. I. Goldburg, and J. S. Huang, *Physical Review A*, **45**, 7231 (1992).

(14) “Relative Velocity Fluctuations in Turbulent Rayleigh-Benard Convection,” **P. Tong** and Y. Shen, *Phys. Rev. Lett.* **69**, 2066 (1992).

(15) “Adsorption of End-Functionalized Polymers on Colloidal Spheres,” B. L. Carvalho, **P. Tong**, J. S. Huang, T. A. Witten and L. J. Fetters, *Macromolecules*, **26**, 4632 (1993).

(16) “Incoherent Cross-correlation Spectroscopy,” **P. Tong**, K. -Q. Xia, and B. J. Ackerson, *J. Chem. Phys.* **98**, 9256 (1993).

(17) “Dual-beam Incoherent Cross-correlation Spectroscopy,” K. -Q. Xia, Y.-B. Xin and P. Tong, *J. Opt. Soc. Am. A*, **12**, 1571 (1995).

(18) “Measured Local-velocity Fluctuations in Turbulent Convection,” Y. Shen, K. -Q. Xia and **P. Tong**, *Phys. Rev. Lett.* **75**, 437 (1995).

(19) “Turbulent Convection over Rough Surfaces,” Y. Shen, **P. Tong**, and K. -Q. Xia, *Phys. Rev. Lett.*, **76**, 908 (1996).

(20) “Neutron Scattering Study of Depletion Interactions in a Colloid-Polymer Mixture, X. Ye, T. Narayanan, **P. Tong**, and J. S. Huang, *Phys. Rev. Lett.* **76**, 4640 (1996).

(21) “Measured Velocity Boundary Layers in Turbulent Convection,” Y.-B. Xin, K. -Q. Xia and **P. Tong**, *Phys. Rev. Lett.* **77**, 1266 (1996).

(22) “Depletion Interactions in Colloid-Polymer Mixtures,” X. Ye, T. Narayanan, **P. Tong**, J. S. Huang, M. Y. Lin, B. L. Carvalho, and L. J. Fetters, *Phys. Rev. E* **54**, 6500 (1996).

(23) “Interactions in Mixtures of a Microemulsion and a Polymer,” K.-Q. Xia, Y.-B. Zhang, **P. Tong**, and C. Wu, *Phys. Rev. E* **55**, 5792 (1997).

(24) “Light Scattering Properties of Paramagnetic Particles,” Y.-B. Du and **P. Tong**, *J. Chem. Phys.* **107**, 355 (1997).

(25) “Neutron Scattering Study of Colloidal Interactions in an Adsorbing Polymer Solution,” X. Ye, **P. Tong**, and L. J. Fetters, *Macromolecules*, **30**, 4103 (1997).

(26) “Measurement of the Velocity Difference Using Photon Correlation Spectroscopy - an Improved Scheme,” T. Narayanan, C. Cheung, **P. Tong**, W. I. Goldburg, and X.-L. Wu, *Applied Optics*, **36**, 7639 (1997).

(27) “Sedimentation of Colloidal Particles through a Polymer Solution,” **P. Tong**, X. Ye, B. J. Ackerson, *Phys. Rev. Lett.* **79**, 2363 (1997).

(28) “Enhanced heat transport in turbulent thermal convection over a rough surface,” Y.-B. Du and **P. Tong**, *Phys. Rev. Lett.* **81**, 987 (1998).

(29) “Velocity Difference Measurement Using a Fiber-optic Coupler,” Yixue Du, B. J. Ackerson, and **P. Tong**, *J. Opt. Soc. Am. A* **15**, 2433 (1998).

(30) “Transport of Probe Particles in Semidilute Polymer Solutions,” X. Ye, **P. Tong** and L. J. Fetters, *Macromolecules*, **31**, 5785 (1998).

(31) “Colloidal Sedimentation in Polymer Solutions,” X. Ye, **P. Tong** and L. J. Fetters, *Macromolecules*, **31**, 6534 (1998).

(32) “Analogies between Colloidal Sedimentation and Turbulent Convection at High Prandtl Numbers,”

- P. Tong** and B. J. Ackerson, *Phys. Rev. E* **58**, R6931, (1998).
- (33) “Turbulent thermal convection in a cell with ordered rough boundaries,” Y.-B. Du and **P. Tong**, *J. Fluid Mech.* **407**, 57 (2000).
- (34) “Large-scale coherent rotation and oscillation in turbulent thermal convection,” X.-L. Qiu, Y.-S. Yao, and **P. Tong**, *Phys. Rev. E* **61**, R6075 (2000).
- (35) “Turbulent thermal convection over a rough surface,” Y.-B. Du and **P. Tong**, *Phys. Fluids*, **12**, S11 (2000).
- (36) “Measurements of the instantaneous velocity difference and the local velocity with a fiber-optic coupler,” S. H. Yao, V. K. Horvath, **P. Tong**, B. J. Ackerson, and W. I. Goldburg, *J. Opt. Soc. Am. A*, **18**, 696 (2001).
- (37) “Settling statistics of hard sphere particles,” X. Lei, B. J. Ackerson, and **P. Tong**, *Phys. Rev. Lett.* **86**, 3300 (2001).
- (38) “Temperature fluctuations in a convection cell with rough upper and lower surfaces,” Y.-B. Du and **P. Tong**, *Phys. Rev. E*, **63**, 046303 (2001).
- (39) “Onset of coherent oscillations in turbulent Rayleigh-Benard convection,” X.-L. Qiu and **P. Tong**, *Phys. Rev. Lett.* **87**, 094501 (2001)
- (40) “Proposal and testing for a fiber-optic based measurement of flow vorticity,” S. H. Yao, **P. Tong**, and B. J. Ackerson, *Applied Optics*, **40**, 4022 (2001).
- (41) “Large-scale velocity structures in turbulent thermal convection,” X.-L. Qiu and **P. Tong**, *Phys. Rev. E*, **64**, 036304 (2001).
- (42) “Subtle order in settling suspensions,” B. J. Ackerson, X. L. Lei, and **P. Tong**, *Pure and Applied Chemistry*, **73**, 1679 (2001).
- (43) “Temperature oscillations in turbulent Rayleigh-Benard convection,” X.-L. Qiu and **P. Tong**, *Phys. Rev. E* **66**, 026308 (2002).
- (44) “Measured local heat transport in turbulent Rayleigh-Benard convection,” X.-D. Shang, X.-L. Qiu, **P. Tong** and K.-Q. Xia, *Phys. Rev. Lett.* **90**, 074501 (2003).
- (45) “Pattern formation in a rotating suspension of non-Brownian settling particles,” W. R. Matson, B. J. Ackerson, and **P. Tong**, *Phys. Rev. E*, **67**, 050301(R) (2003).
- (46) “Intermittency of velocity fluctuations in turbulent thermal convection,” E. S. C. Ching, C. K. Leung, X.-L. Qiu, and **P. Tong**, *Phys. Rev. E*, **68**, 026307 (2003).
- (47) “Velocity oscillations in turbulent Rayleigh-Benard convection,” X.-L. Qiu, X.-D. Shang, **P. Tong** and K.-Q. Xia, *Phys. Fluids*, **16**, 412 (2004).
- (48) “Proposal and testing of dual-beam dynamic light scattering for two-particle microrheology,” X.-L. Qiu, **P. Tong**, and B. J. Ackerson, *Applied Optics*, **43**, 3382 (2004).
- (49) “Measurements of the local convective heat flux in turbulent Rayleigh-Benard convection,” X.-D. Shang, X.-L. Qiu, **P. Tong** and K.-Q. Xia, *Phys. Rev. E*, **70**, 026308 (2004).
- (50) “Extraction of plumes in turbulent thermal convection,” E. S.C. Ching, H. Guo, X-D. Shang, **P. Tong**, and K.-Q. Xia, *Phys. Rev. Lett.* **93**, 124501 (2004).
- (51) “Velocity and temperature cross scaling in turbulent thermal convection,” E. S. C. Ching, K. W. Chui, X.-D. Shang, X. L. Qiu, **P. Tong**, and K.-Q. Xia, *J. Turbulence* **5**, 027 (2004).
- (52) “Concentration and velocity patterns in a horizontal rotating suspension of non-Brownian settling particles,” W. R. Matson, M. Kalyankar, B. J. Ackerson, and **P. Tong**, *Phys. Rev. E*, **71**, 031401 (2005).
- (53) “Three-dimensional flow structures and dynamics of turbulent thermal convection in a cylindrical cell,” C. Sun, K-Q. Xia, and **P. Tong**, *Phys. Rev. E* **72**, 026302 (2005).
- (54) “Test of steady-state fluctuation theorem in turbulent Rayleigh-Benard convection,” X.-D. Shang, **P. Tong** and K.-Q. Xia, *Phys. Rev. E*, **72**, 015301(R) (2005).
- (55) “Long-ranged attraction between charged polystyrene spheres at aqueous interfaces,” W. Chen, S.-S. Tan, T. K. Ng, W. T. Ford, and **P. Tong**, *Phys. Rev. Lett.* **95**, 218301 (2005).
- (56) “Experimental study of velocity boundary layer near a rough conducting surface in turbulent natural convection,” X.-L. Qiu, K.-Q. Xia, and **P. Tong**, *J. Turbulence* **6**, 1 (2005).

- (57) “Measured long-ranged attractive interaction between charged polystyrene latex spheres at a water-air interface,” W. Chen, S.-S. Tan, Z.-S. Huang, T. K. Ng, W. T. Ford, and **P. Tong**, *Phys. Rev. E* **74**, 021406 (2006).
- (58) “Dynamics of rotating suspensions,” W. R. Matson, B. J. Ackerson, and **P. Tong**, *Solid State Communications* **139**, 605 (2006).
- (59) “Measured thermal dissipation field in turbulent Rayleigh-Benard convection,” X.-Z. He, **P. Tong**, and K.-Q. Xia, *Phys. Rev. Lett.* **98**, 144501 (2007).
- (60) “Sedimentation, Peclet number, and hydrodynamic screening,” K. Benes, **P. Tong**, and B. J. Ackerson, *Phys. Rev. E* **76**, 056302 (2007).
- (61) “Measured Scaling Properties of the Transition Boundaries in a Rotating Suspension of Non-Brownian Settling Particles,” W. R. Matson, B. J. Ackerson, and **P. Tong**, *J. Fluid Mech* **597**, 233 (2008), (featured on the cover page of the issue).
- (62) “Scaling of the local convective heat flux in turbulent Rayleigh-Benard convection,” X.-D. Shang, **P. Tong**, and K.-Q. Xia, *Phys. Rev. Lett.* **100**, 244503 (2008).
- (63) “Molecular Transfer of Surfactant Bilayers: Widening the Range of Substrates,” Gaelle Andreatta, Yong Jian Wang, Fuk Kay Lee, Ange Polidori, **Penger Tong**, Bernard Pucci, and Jean-Jacques Benattar, *Langmuir*, **24**, 6072 (2008).
- (64) “Deposition of organized surfactant films on solid substrates,” Andreatta G., Benattar J.-J., Petkova R., Wang J. Y. J., **Tong P.**, Polidori A., Pucci B., *Colloids and Surfaces A: Physicochem. Eng. Aspects*, **321**, 211 (2008).
- (65) “Pattern Formation in a Rotating Suspension of Non-Brownian Buoyant Particles,” Makrand G. Kalyankar, W. R. Matson, **Penger Tong**, and Bruce J. Ackerson, *Phys. Fluids* **20**, 083301 (2008).
- (66) “Short-time self-diffusion of weakly charged silica spheres at aqueous interfaces,” Wei Chen and **Penger Tong**, *Europhys. Letters* **84**, 28003 (2008).
- (67) “Short-time self-diffusion of nearly hard spheres at an oil-water interface,” Y. Peng, W. Chen, Th. M. Fischer, D. A. Weitz, and **P. Tong**, *J. Fluid Mech.* **618**, 243 (2009).
- (68) “Measurements of the thermal dissipation field in turbulent Rayleigh-Benard convection,” X.-Z. He and **P. Tong**, *Phys. Rev. E* **79**, 026306 (2009).
- (69) “Attraction between weakly charged silica spheres at a water-air interface induced by surface-charge heterogeneity,” W. Chen, S.-S. Tan, Y. Zhou, T.-K. Ng, W. T. Ford, and **P. Tong**, *Phys. Rev. E* **79**, 041403 (2009).
- (70) “Development of an atomic-force-microscope-based hanging-fiber rheometer for interfacial microrheology,” Xiaomin Xiong, Shuo Guo, Zuli Xu, Ping Sheng, **Penger Tong**, *Phys. Rev. E* **80**, 061604 (2009).
- (71) “Studies of phospholipid vesicle deposition/transformation on a polymer surface by dissipative quartz crystal microbalance and atomic force microscopy,” Yecang Tang, Zhining Wang, Junwu Xiao, Shihe Yang, Yong Jian Wang and **Penger Tong**, *J. Phys. Chem. B* **113**, 14925 (2009).
- (72) “Scaling laws in turbulent Rayleigh-Benard convection under different geometry,” Hao Song and **Penger Tong**, *Europhys. Letters* **90**, 44001 (2010).
- (73) “Small-scale turbulent fluctuations beyond Taylor’s frozen-flow hypothesis,” X.-Z He, G.-W He, and P. Tong, *Phys. Rev. E* **81**, 065303(R) (2010).
- (74) “Statistics of the locally averaged thermal dissipation rate in turbulent Rayleigh–Benard convection,” Xiaozhou He, **Penger Tong** and Emily S. C. Ching, *Journal of Turbulence*, **11**, No. 35, 1-10 (2010).
- (75) “Patterns in a suspension contained in a horizontally rotating cylinder,” W. R. Matson, Bruce J. Ackerson and **Penger Tong**, *Chaos* **20**, 041102 (2010), (featured on the cover page of the issue).
- (76) “Two features at the two-dimensional freezing transitions,” Ziren Wang, Weikai Qi, Yi Peng, Ahmed M. Alsayed, Yong Chen, **Penger Tong**, and Yilong Han, *J. Chem. Phys.* **134**, 034506 (2011).
- (77) “Locally-averaged thermal dissipation rate in turbulent thermal convection: A decomposition into contributions from different temperature gradient components,” Xiaozhou He, Emily S. C. Ching, and **Penger Tong**, *Phys. Fluids* **23**, 025106 (2011).

- (78) “Kraichnan's random sweeping hypothesis in homogeneous turbulent convection,” Xiaozhou He and **Penger Tong**, *Phys. Rev. E* **83**, 037302 (2011).
- (79) “Coherent oscillations of turbulent Rayleigh-Bénard convection in a thin vertical disk,” Hao Song, E. Villermaux, and **Penger Tong**, *Phys. Rev. Lett.* **106**, 184504 (2011).
- (80) “Scaling behavior in turbulent Rayleigh-Benard convection revealed by conditional structure functions,” Emily S. C. Ching, Y.-K Tsang, T. N. Fok, Xiaozhou He and **Penger Tong**, *Phys. Rev. E* **87**, 013005 (2013).
- (81) “Test of the universal scaling law of diffusion in colloidal monolayers,” X.-G. Ma, W. Chen, Z. Wang, Y. Peng, Y.-L. Han and **P. Tong**, *Phys. Rev. Lett.* **110**, 078302 (2013).
- (82) “Direct measurement of friction of a fluctuating contact line,” S. Guo, M. Gao, X. Xiong, Y. J. Wang, X.-P. Wang, P. Sheng and **P. Tong**, *Phys. Rev. Lett.* **111**, 026101 (2013).
- (83) “Colloidal diffusion over a periodic energy landscape,” X.-G. Ma, P.-Y. Lai and **P. Tong**, *Soft Matter* **9**, 8826 (2013), (featured on the cover page of the issue).
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- (85) “Dynamics of Large-scale Circulation of Turbulent Thermal Convection in a Horizontal Cylinder,” Hao Song, Eric Brown, Russell Hawkins and **Penger Tong**, *J. Fluid Mech.* **740**, 136 (2014).
- (86) “Electric-field-induced forces between two surfaces filled with an insulating liquid: the role of adsorbed water,” Y.-J. Wang, Z.-L. Xu, P. Sheng and **P. Tong**, *Eur. Phys. J. Appl. Phys.* **66**, 31301 (2014).
- (87) “Test of the anomalous scaling of passive temperature fluctuations in turbulent Rayleigh-Benard convection with spatial inhomogeneity,” Xiaozhou He, Xiao-dong Shang and **Penger Tong**, *J. Fluid Mech.* **753**, 104 (2014).
- (88) “Space-time Correlations in Turbulent Rayleigh-Benard Convection,” X.-Z. He and P. Tong, *Acta Mechanica Sinica*, **30**, 457 (2014).
- (89) “Measurement of the friction coefficient of a fluctuating contact line using an AFM-based dual-mode mechanical resonator,” Shuo Guo, Xiaomin Xiong, Zuli Xu, Ping Sheng, and **Penger Tong**, *Chin. Phys. B* **23**, 116802 (2014).
- (90) “Colloidal transport and diffusion over a tilted periodic potential: dynamics of individual particles,” Xiao-guang Ma, Pik-Yin Lai, Bruce J. Ackerson, and **Penger Tong**, *Soft Matter*, **11**, 1182 (2015).
- (91) “Measurement of contact-line dissipation in a nanometer-thin soap film,” Shuo Guo, Chun Huen Lee, Ping Sheng and **Penger Tong**, *Phys. Rev. E* **91**, 012404 (2015).
- (92) “Colloidal dynamics over a tilted periodic potential: non-equilibrium steady-state distributions,” Xiao-guang Ma, Pik-Yin Lai, Bruce J. Ackerson, and **Penger Tong**, *Phys. Rev. E* **91**, 042306 (2015) [editor's suggestion].
- (93) “Direct Measurement of Optical Force Induced by Near-Field Plasmonic Cavity Using Dynamic Mode AFM,” D.-S. Guan, Z. H. Hang, Z. Marcet, H. Liu, I. I. Kravchenko, C. T. Chan, H. B. Chan, and **P. Tong**, *Scientific Reports*, **5**, 16216 (2015).
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- (98) “Boundary layer fluctuations and their effects on mean and variance temperature profiles in turbulent Rayleigh-Benard convection,” Y. Wang, X.-Z. He, and **P. Tong**, *Phys. Rev. Fluids* **1**, 082301(R) (2016).

- (99) “Mechanical characterization of microengineered epithelial cysts by using atomic force microscopy,” Y.-S. Shen, D.-S. Guan, D. Serien, S. Takeuchi, **P. Tong**, L. Yobas, and P.-B. Huang, *Biophys. J.* **112**, 398, (2017).
- (100) “Noncontact viscoelastic measurement of polymer thin films in a liquid medium using a long-needle AFM,” D.-S. Guan, C. Barraud, E. Charlaix, and **P. Tong**, *Langmuir*, **33**, 1385 (2017).
- (101) “Colloidal diffusion over a quasicrystalline-patterned surface,” Y. Su, P.-Y. Lai, B. J. Ackerson, X. Cao, Y.-L. Han, and **P. Tong**, *J. Chem. Phys.* **146**, 214903 (2017) [Editors’ Pick].
- (102) “Colloidal dynamics over a tilted periodic potential: Forward and reverse transition probabilities and entropy production in a nonequilibrium steady state,” X.-G. Ma, Y. Su, P.-Y. Lai, and **P. Tong**, *Phys. Rev. E* **96**, 012601 (2017) [Editors’ Suggestion].
- (103) “Colloidal diffusion over a quenched two-dimensional random potential,” Y. Su, X.-G. Ma, P.-Y. Lai and **P. Tong**, *Soft Matter* **13**, 4773 (2017).
- (104) “Noncontact viscoelastic imaging of living cells using a long-needle atomic force microscope with dual-frequency modulation,” D.-S. Guan, E. Charlaix, R. Z. Qi, and **P. Tong**, *Phys. Rev. Applied* (accepted).

Conference Proceedings and Book Chapters:

- (1) “Some Recent Experiments in Turbulently Stirred Fluids,” W. I. Goldburg and **P. Tong**, in *Cooperative Dynamics in Complex Physical Systems*, edited by H. Takayama (Springer, 1988).
- (2) “Scaling in Turbulent Flow: What You Can Learn With Homodyne Spectroscopy,” W. I. Goldburg and **P. Tong**, in *Fractal Aspects of Materials: Disordered Systems*, edited by D. A. Weitz, L. M. Sander and B. B. Mandelbrot (Materials Research Society, Pittsburgh, 1988), p55.
- (3) “Brownian Motion of Small Particles between Closely Packed Spheres,” **P. Tong**, W. I. Goldburg, and D. J. Pine, in *Fractal Aspects of Materials: Disordered Systems*, edited by D. A. Weitz, L. M. Sander and B. B. Mandelbrot (Materials Research Society, Pittsburgh, 1988), p.97.
- (4) “Scaling in Turbulent Flow by Photon Correlation Spectroscopy,” W. I. Goldburg and **P. Tong**, in *Proceedings of Forum on Chaotic Dynamics in Fluid Mechanics*, edited by K. N. Ghia et al. (The American Society of Mechanical Engineers, New York, 1989).
- (5) “Scaling Laws in Weak Turbulence,” H. K. Pak, W. I. Goldburg, and **P. Tong**, in *Spontaneous Formation of Space-Time Structures and Criticality*, edited by T. Riste and D. Sherrington, (Kluwer Academic, Netherlands, 1991).
- (6) “Study of the Reduction of Turbulent Drag by Photon Correlation Spectroscopy,” **P. Tong**, W. I. Goldburg, and J. S. Huang, in *Complex Fluids*, edited by D. Weitz, E. Sirota, T. Witten, J. Israelachvili [Materials Research Society Symposium Proceedings, Volume 248, pp. 151 (1992)].
- (7) “A Study of Polymer-Colloid Interaction by Light Scattering,” J. S. Huang, **P. Tong**, B. Carvalho, and L. J. Fetters, in *Structure and Dynamics of Strongly Interacting Colloids and Supramolecular Aggregates in Solution*, edited by S. -H. Chen, J. S. Huang, and P. Tartaglia, (Kluwer Academic, Netherlands, 1992).
- (8) “Light Scattering Studies of Adsorption of End-functionalized Polymers in Colloidal Solutions,” **P. Tong**, B. L. Carvalho, J. S. Huang, and L. J. Fetters, in *Colloid-Polymer Interactions*, edited by P. L. Dubin and P. Tong (American Chemical Society Symposium Series Vol. 532, p. 96, 1993).
- (9) “Polymer-Induced Depletion Interaction and its Effect on Colloidal Sedimentation in Colloid-Polymer Mixtures,” **P. Tong**, in *Proceedings of the Third Microgravity Fluid Physics Conference*, NASA Conference Publication 3338, p. 413 (1996).
- (10) “Recent Velocity Measurements in Turbulent Convection,” **P. Tong** and K.-Q. Xia, in *Flow at Ultra-High Reynolds and Rayleigh Numbers*, edited by R. J. Donnelly and K. R. Sreenivasan, p. 258 (Springer-Verlag, New York, 1998).
- (11) “Sedimentation of Colloidal Particles through a Polymer Solution,” **P. Tong** and X. Ye, in *Introduction of Soft Matter Physics*, edited by K.-Q. Lu and J.-X. Liu (in Chinese), p. 473-500 (Peking University Press, Peking, 2006).

Books:

Colloid-Polymer Interactions, edited by P. L. Dubin and **P. Tong** (American Chemical Society Symposium Series Vol. 532, 1993).

INVITED PRESENTATIONS, COLLOQUIA, AND SEMINARS

- (1) "Turbulently Stirred Binary Liquid Mixture," Department of Physics, Lehigh University, September 1989.
- (2) "Scaling in Turbulent Flow by Photon Correlation Spectroscopy," ASME Fluids Engineering Spring Conference, July 10-12, 1989.
- (3) "Interactions in Mixtures of Colloid and Polymer," CR Science Forum, Exxon Research and Engineering Co., March 1990.
- (4) "Study of Turbulent Drag Reduction by Photon Correlation Spectroscopy," James Franck Institute, University of Chicago, April 1990.
- (5) "Turbulence and its Interaction with Polymer," Department of Physics, Oklahoma State University, April 1990.
- (6) "Study of the Reduction of Turbulent Drag by Photon Correlation Spectroscopy," Materials Research Society Fall Meeting, Boston, Dec. 6, 1991.
- (7) "Adsorption of End-functionalized Polymers on Colloid Particles," Symposium on Colloid-Polymer Interactions, 203rd American Chemical Society National Meeting, San Francisco, April 5-10, 1992.
- (8) "Scaling Laws in Turbulent Rayleigh-Benard Convection," Department of Physics, Kansas State University, Nov. 4, 1992.
- (9) "Scaling Laws in Turbulent Rayleigh-Benard Convection," Physics Department Colloquium, Oklahoma State University, Oct. 7, 1993.
- (10) "Statistical Description of Turbulent Convection," Department of Physics, the Chinese University of Hong Kong, July 8, 1994.
- (11) "Light Scattering Studies of Turbulent Rayleigh-Benard Convection," Institute of Physics, Academia Sinica, Taiwan, August 4, 1994.
- (12) "Interactions of Colloidal Particles in Polymer Solutions," Institute of Physics, Academia Sinica, Taiwan, August 5, 1994.
- (13) "Scattering Experiments in Mixtures of Colloid and Polymer: Depletion and Adsorption," Physics Department Colloquium, Oklahoma State University, April 13, 1995.
- (14) "Colloids in Polymer Solutions: Depletion and Adsorption," The Conference on Complex Fluids and Monte Carlo Methods, Hong Kong, July 27-29, 1995.
- (15) "Depletion and Adsorption Phenomena for Colloids in Polymer Solutions," Symposium on Colloid/Polymer Science and Engineering, 26th Annual Meeting of the Fine Particle Society, Chicago, IL, August 22-25, 1995.
- (16) "Neutron Scattering Studies of Interactions in Mixtures of Colloid and Polymer," Physics Department Colloquium, University of North Texas, April 16, 1996.
- (17) "Polymer-Induced Depletion Interaction and its Effect on Colloidal Sedimentation in Colloid-Polymer Mixtures," Third Microgravity Fluid Physics Conference, Cleveland, Ohio, June 13-15, 1996.
- (18) "Recent Velocity Measurements in Turbulent Thermal Convection," International Workshop on Ultra-High Reynolds Number Flows, Brookhaven National Laboratory, Upton, New York, June 18-20, 1996.
- (19) "Velocity Measurements in Turbulent Thermal Convection Using Lasers," Laser and Photonics Research Seminar, Laser Center, Oklahoma State University, August 8, 1996.
- (20) "Complex Fluids: Physics and Applications," Workshop on Complex Fluids, China Center of Advanced Science and Technology, Beijing, China, Sept 23-27, 1996.
- (21) "Interactions in Mixtures of Colloid and Polymer," Department of Applied Physics, Northeastern University, Shenyang, China, Oct. 4, 1996.
- (22) "Recent Velocity Measurements in Turbulent Thermal Convection," Center for Non-linear Dynamics, Department of Physics, University of Texas at Austin, April 14, 1997.
- (23) "Recent Velocity and Temperature Measurements in Turbulent Thermal Convection," National Center for Atmospheric Research, Boulder CO, May 14, 1997.

- (24) "New Dynamic Light Scattering Techniques for Studies of Turbulent Flows," Institute of Physics, Academia Sinica, Taiwan, August 7, 1997.
- (25) "Recent Velocity and Temperature Measurements in Turbulent Thermal Convection," Institute of Physics, Academia Sinica, Taiwan, August 8, 1997.
- (26) "Recent Neutron Scattering Studies of Interactions in Mixtures of Colloid and Polymer, the Second Joint Meeting of OCPA, Taiwan, August 11-15, 1997.
- (27) "Transport of Probe Particles in Semidilute Polymer Solutions," Symposium on Colloid/Nano-particle Science and Engineering, 28th Annual Meeting of the Fine Particle Society, Dallas, April 1-3, 1998.
- (28) "Enhanced heat transport in turbulent thermal convection over a rough surface," Los Alamos National Laboratory Workshop on Turbulence: Challenges for the 21st Century, Los Alamos National Laboratory, New Mexico, May 18-21, 1998.
- (29) "Transport of Probe Particles in Semidilute Polymer Solutions," Department of Physics, the Chinese University of Hong Kong, July 13, 1998.
- (30) "Sedimentation of Colloidal Particles in Polymer Solutions," Department of Physics, Nanjing University, Nanjing, China, July 16, 1998.
- (31) "Enhanced heat transport in turbulent thermal convection over a rough surface," Department of Applied Physics, Northeastern University, Shenyang, China, July 20, 1998.
- (32) "Analogies between Colloidal Sedimentation and Turbulent Convection at High Prandtl Numbers," Fourth Microgravity Fluid Physics and Transport Phenomena Conference, Cleveland, Ohio, August 12-14, 1998.
- (33) "Analogies between Colloidal Sedimentation and Turbulent Convection," Symposium on Sedimentation and Particulate Dispersion, Centennial Meeting of the American Physical Society, March 20-26, Atlanta, GA, 1999.
- (34) "Enhanced heat transport over a rough surface in turbulent thermal convection," Department of Physics, University of California at San Diego, May 10, 1999.
- (35) "Large-scale velocity structures in turbulent thermal convection," Workshop on Turbulent Convection, Institute for Theoretical Physics, University of California, Santa Barbara, CA, March 30 - April 1, 2000.
- (36) "Large-scale coherent structures in turbulent thermal convection," Department of Physics, Baptist University, Hong Kong, June 7, 2000.
- (37) "Large-scale coherent structures in turbulent thermal convection," Department of Physics, University of Science and Technology, Hong Kong, June 8, 2000.
- (38) "Sedimentation of non-Brownian Particles," Department of Physics, Fudan University, Shanghai, China, June 13, 2000.
- (39) "Transport of probe particles in semidilute polymer solutions," Department of Physics, Jiao-Tong University, Shanghai, China, June 15, 2000.
- (40) "Micro-mechanics of complex fluids," Workshop on Soft Matter, Institute of Physics, Chinese Academy of Sciences, Beijing, China, June 19-28, 2000.
- (41) "Large-scale coherent structures in turbulent thermal convection," Condensed Matter Physics Seminar, Department of Physics and Astronomy, University of Pittsburgh, November 16, 2000.
- (42) "Large-scale coherent structures in turbulent thermal convection," Mathematics Colloquium, Department of Mathematics, Oklahoma State University, February 16, 2001.
- (43) "Large-scale coherent structures in turbulent thermal convection," Physics Colloquium, Department of Physics, University of North Texas, April, 24, 2001.
- (44) "Setting statistics of hard sphere particles," Center for Nonlinear Studies 21st Annual International Conference: Principles of Soft Matter, Los Alamos National Laboratory, NM, May 21-25, 2001.
- (45) "Coherent events in turbulent thermal convection," Continuum Mechanics: Materials in Motion Workshop, University of Chicago, July 24 - August 1, 2001.
- (46) "Coherent events in turbulent Rayleigh-Benard convection," Laboratoire de Physique, Ecole Normale Supérieure de Lyon, Lyon, France, September 7, 2001.
- (47) "Particle sedimentation in simple and complex fluids," Institut Universitaire des Systemes Industriels, Marseille, France, September 14, 2001.

- (48) “Self-organization in non-equilibrium flow systems,” 8th New England Complex Fluids Workshop, Brandeis University, September 21, 2001.
- (49) “Self-organization in non-equilibrium flow systems,” Physics Colloquium, Department of Physics, Brandeis University, October 16, 2001.
- (50) “Self-organization in non-equilibrium flow systems,” Condensed Matter Seminar, Department of Physics, Harvard University, December 13, 2001.
- (51) “Self-organization in non-equilibrium flow systems,” Condensed Matter Seminar, Department of Physics, Ohio State University, March 7, 2002.
- (52) “Self-organization in non-equilibrium flow systems,” Computations in Science Seminar, University of Chicago, April 10, 2002.
- (53) “Self-organization in non-equilibrium flow systems,” Physics Seminar, Illinois Institute of Technology, April 11, 2002.
- (54) “Self-organization in non-equilibrium flow systems,” Physics Seminar, Institute of Physics, Chinese Academy of Sciences, Beijing, China, July 9, 2002.
- (55) “Non-equilibrium dynamics and pattern formation in non-Brownian settling suspensions,” Soft Matter Physics Seminar, Institute of Physics, Chinese Academy of Sciences, Beijing, China, March 26, 2003.
- (56) “Plume dynamics and local heat transport,” Euromech 443 Colloquium and International Workshop on High Rayleigh Number Thermal Convection, University of Leiden, the Netherlands, June 13-20, 2003.
- (57) “Coherent structures and Self-organization in non-equilibrium flow systems,” The First Condensed Matter and Material Physics Workshop, Nanjing University, Nanjing, China, September 15-16, 2003.
- (58) “Non-equilibrium Dynamics and Pattern Formation in Non-Brownian Settling Suspensions,” Physics Colloquium, Hong Kong Baptist University, November 11, 2003.
- (59) “Non-equilibrium Dynamics and Pattern Formation in Non-Brownian Settling Suspensions,” Physics Colloquium, the Chinese University of Hong Kong, February 20, 2004.
- (60) “Local heat transport in turbulent Rayleigh-Benard convection,” Focus Session: High Rayleigh Number Convection, March 2004 Meeting of the American Physical Society, Montreal, Canada, March 22-26, 2004.
- (61) “Micro-rheology of complex fluids,” Fourth National Liquid State and Soft Matter Physics Conference, Shandong University, Jinan, China, May 15-17, 2004.
- (62) “Pattern Formation in a Rotating Suspension of Non-Brownian Settling Particles,” Satellite Meeting to STAPHYS-22, Pattern Formation in Non-equilibrium Systems, Kolkata, India, July 11-13, 2004.
- (63) “Microrheology of complex fluids,” Physics Seminar, Institute of Physics, Academia Sinica, Taipei, Taiwan, January 25, 2005.
- (64) “Attraction between like-charged colloidal particles at aqueous interfaces,” Physics Colloquium, Department of Physics, the National Central University, Taiwan, April 19, 2005.
- (65) “Attraction between like-charged colloidal particles at aqueous interfaces,” Institute Colloquium, Institute of Physics, Academia Sinica, Taipei, Taiwan, April 21, 2005.
- (66) “Attraction between like-charged colloidal particles at aqueous interfaces,” Physics Seminar, Zhongshan University, Guangzhou, China, May 16, 2005.
- (67) “Attraction between like-charged colloidal particles at aqueous interfaces,” Chinese Physical Society Fall Meeting, Wuhan, China, September 18-20, 2005.
- (68) “Interactions and dynamics of colloidal particles at aqueous interfaces,” Physics Seminar, Wuhan University, Wuhan, China, September 21, 2005.
- (69) “Interactions and dynamics of charged colloidal particles at aqueous interfaces,” Physics Seminar, Nanjing University, Nanjing, China, December 27, 2005.
- (70) “Attractions between charged colloidal particles at aqueous interfaces,” Workshop on Multi-scaling Modeling: Complex Fluids and Microfluidics, Hong Kong University of Science and Technology, Hong Kong, January 9-13, 2006.
- (71) “Interactions and dynamics of charged colloidal particles at aqueous interfaces,” Workshop on Complex Fluids, National Central University, Chung-Li, Taiwan, May 5-7, 2006.

- (72) "Test of the steady-state fluctuation theorem in Rayleigh-Bènard convection," International Conference on the Frontiers of Nonlinear and Complex Systems, the Hong Kong Baptist University, May 24-26, 2006.
- (71) "Attraction between like-charged particles at aqueous interfaces," The Fifth Cross-Strait Workshop on Biology Inspired Theoretical Science, Taichung, Taiwan, June 21-24, 2006.
- (73) "Test of the steady-state fluctuation theorem in Rayleigh-Bènard convection," The 8th Taiwan International Symposium on Statistical Physics, Institute of Physics, Academia Sinica, Taipei, June 21-26, 2006.
- (74) "Measured local thermal dissipation rate in turbulent Rayleigh-Bènard convection," Conference and Euromech Colloquium #480 on High Rayleigh number Convection, ICTP, Trieste, Italy, Sept 4-8, 2006.
- (75) "Interactions and dynamics of charged colloidal particles at aqueous interfaces," Department of Physics, Northeastern University, Shenyang, China, October 9, 2006.
- (76) "Diffusion of charged colloidal particles at aqueous interfaces," The 5th National Conference on liquids and Soft matters, Zhongshan University, Guangzhou, China, Nov. 9-11, 2006.
- (77) "Diffusion of weakly charged silica particles at a water-air interface," Physics Seminar, Wuhan University, Wuhan, China, April 6, 2007.
- (78) "Interactions and dynamics of charged colloidal particles at aqueous interfaces," Institute of Chemistry, Chinese Academy of Sciences, Beijing, China, May 17, 2007.
- (79) "Interactions and dynamics of charged colloidal particles at aqueous interfaces," Service de Physique de l'Etat Condense (SPEC), Commissariat à l'Energie Atomique (CEA), Saclay, France, June 6, 2007.
- (80) "Interactions and dynamics of a monolayer of colloidal particles at aqueous interfaces," Serial Lectures of Material Science, Fudan University, Shanghai, China, July 3, 2007.
- (81) "Experimental test of the steady-state fluctuation theorem in Rayleigh-Bènard convection," Chinese Physical Society Fall Meeting, Nanjing, China, September 18-20, 2007.
- (82) "Experimental test of the steady-state fluctuation theorem in Rayleigh-Bènard convection," Condensed Matter and Non-linear Physics Symposium celebrating Professor Walter Goldberg's 80th birthday, University of Pittsburgh, USA, September 29-30, 2007.
- (83) "Interactions and dynamics of a monolayer of colloidal particles at aqueous interfaces," Physics Colloquium, Oklahoma State University, USA, October 4, 2007.
- (84) "Collective dynamics and pattern formation in rotating suspensions of non-Brownian particles," IAS-HKUST Workshop on Mathematics of Multi-Scale Problems, Hong Kong University of Science and Technology, Hong Kong, December 9-13, 2007.
- (85) "Diffusion of colloidal particles at soft interfaces," Workshop on Frontiers in Microrheology, California NanoSystems Institute, University of California, Los Angeles, USA, February 6-9, 2008.
- (86) "Diffusion of colloidal particles at liquid-liquid interfaces," Workshop on Nano-scale Interfacial Phenomena in Complex Fluids, Kavli Institute for Theoretical Physics China, Beijing, May 19-23, 2008.
- (87) "Diffusion of colloidal particles at liquid-liquid interfaces," Laboratory of Soft Matter Physics, Institute of Physics, the Chinese Academy of Sciences, Beijing, China, June 4, 2008.
- (88) "Diffusion of colloidal particles and proteins at interfaces," International Workshop on Bio-Soft Matter, University of Tokyo, Japan, June 9-10, 2008.
- (89) "Pattern formation in a rotating suspension of non-Brownian particles," International Conference on Modeling and Simulation, Xi'an Jiaotong University, Xi'an, China, July 9-12, 2008.
- (90) "Scaling of the local convective heat flux in turbulent Rayleigh-Bènard convection," 22nd International Congress of Theoretical and Applied Mechanics, Adelaide, Australia, August 24-29, 2008.
- (91) "Pattern formation in a rotating suspension of non-Brownian particles," The 6th National Liquid State and Soft Matter Physics Conference, Institute of Solid State Physics, Hefei, China, Nov. 6-7, 2008.
- (92) "Diffusion of colloidal particles and proteins at interfaces," Max Planck Institute of Colloids and Interfaces, Potsdam, Germany, December 4, 2008.
- (93) "Colloidal interactions and dynamics at liquid interfaces," Physics Colloquium, Hong Kong Baptist University, February 24, 2009.
- (94) "Colloidal interactions and dynamics at liquid interfaces," Informal Condensed Matter Seminar, University of Pennsylvania, March 26, 2009.

- (95) "Thermal dissipation field and its statistics in turbulent Rayleigh-Bénard convection," International Workshop "Solving the Riddle of Turbulence - What, Why, and How?" Max Planck Institute for Dynamics and Self-Organization, Gottingen, Germany, May 6-9, 2009.
- (96) "Pattern formation in a rotating suspension of non-Brownian particles," Physics Seminar, Fudan University, Shanghai, China, June 26, 2009.
- (97) "Pattern formation in a rotating suspension of non-Brownian particles," Physics Seminar, National Laboratory of Solid State Microstructures, Nanjing University, Nanjing, China, July 1, 2009.
- (98) "Thermal dissipation field and its statistics in turbulent Rayleigh-Benard convection," the Chinese Society of Theoretical and Applied Mechanics 2009 Meeting, Symposium on Turbulent Thermal Convection, Zheng Zhou, China, August 24-26, 2009.
- (99) "Scaling laws in turbulent Rayleigh-Bénard convection under different geometry," International Symposium on Turbulence, Peking University, Beijing, China, September 21-25, 2009.
- (100) "Colloidal interactions and dynamics at liquid interfaces," Invited Seminar, National Microgravity Laboratory, Institute of Mechanics, Chinese Academy of Sciences, Beijing, China, September 24, 2009.
- (101) "Colloidal interactions and dynamics at liquid interfaces," Colloquium, Department of Chemical and Biomolecular Engineering, Hong Kong University of Science and Technology, November 6, 2009.
- (102) "Scaling laws in turbulent Rayleigh-Bénard convection under different geometry," Computations in Science Seminar, University of Chicago, Nov. 19, 2009.
- (103) "Colloidal interactions and dynamics at liquid interfaces," Physics Seminar, Illinois Institute of Technology, November 20, 2009.
- (104) "Interfacial pinning, hysteresis, and dynamics near a moving contact line," 2009 Academic Symposium on Condensed Matter and Optical Physics, Chinese University of Hong Kong, December 15, 2009.
- (105) "Interfacial pinning, hysteresis, and dynamics near a moving contact line," Physics Seminar, Zhejiang Normal University, Jinhua, China, April 13, 2010.
- (106) "Interfacial pinning, hysteresis, and dynamics near a moving contact line," Physics Colloquium, Zhejiang University, Hangzhou, China, April 16, 2010.
- (107) "Interfacial pinning, hysteresis, and dynamics near a moving contact line," Physics Colloquium, Fudan University, Shanghai, China, April 20, 2010.
- (108) "Interfacial pinning, hysteresis, and dynamics near a moving contact line," 2010 Taipei International Workshop for Soft Matter and Biophysics, National Taiwan University, Taiwan, May 24-28, 2010.
- (109) "Interfacial pinning, hysteresis, and dynamics near a moving contact line," the Fourth Shanghai Jiaotong University Workshop on the Frontiers of Interdisciplinary Sciences, Shanghai Jiaotong University, Shanghai, China, May 29-30, 2010.
- (110) "Interfacial pinning, hysteresis, and dynamics near a moving contact line," Physics Seminar, University de Lyon 1, Lyon, France, June 2, 2010.
- (111) "Anomalous diffusion of membrane-bound proteins in living cells," the First National Conference on Biophysical Chemistry, Beijing University, Beijing, China, July 5-7, 2010.
- (112) "Dynamic heterogeneity and anomalous diffusion of membrane-bound lipids and proteins in living cells," Physics Seminar, Wuhan University, Wuhan, China, Sept. 10, 2010.
- (113) "Dynamic heterogeneity and anomalous diffusion of membrane-bound proteins in living cells," The 7th National Conference on Liquid State and Soft Matter Physics, Northwestern Polytechnic University, Xian, October 22, 2010.
- (114) "Small-Scale Turbulent Fluctuations beyond Taylor's Frozen-Flow Hypothesis," The 8th National Conference of Experimental Fluid Mechanics, South China Sea Institute of Oceanology, Chinese Academy of Sciences, Guangzhou, China, December 26-27, 2010.
- (115) "Thermal dissipation field and its statistics in turbulent Rayleigh-Bénard convection," KITP Program on the Nature of Turbulence, Kavli Institute for Theoretical Physics, University of California, Santa Barbara, CA, April 6, 2011.

- (116) “Dynamic heterogeneity and anomalous diffusion of membrane-bound lipids and proteins in living cells,” ICTP Program on the Mechanics of Soft and Biological Matter, Abdu-Salam International Center for Theoretical Physics, Trieste, Italy, May 9-13, 2011.
- (117) “Colloidal interactions and dynamics at liquid interfaces and lateral motion of proteins and lipids on live cell membrane,” KITPC International Conference on Growth of Hierarchical Functional Materials in Complex fluids, Kavli Institute for Theoretical Physics China, Beijing, China, July 5-8, 2011.
- (118) “Turbulent Rayleigh-Benard convection under different geometry,” The Chinese Congress of Theoretical and Applied Mechanics 2011 Meeting, Symposium on Turbulent Thermal Convection, Harbin, China, August 22-24, 2011.
- (119) “Lateral motion of proteins and lipids on live cell membrane,” Chinese Physical Society Fall Meeting, Hangzhou University, China, September 16-18, 2011.
- (120) “Lateral motion of proteins and lipids on live cell membrane,” The 2nd Asia-Pacific Regional Workshop for Complex Non-equilibrium Systems, Chinese University of Hong Kong, Hong Kong, November 11-13, 2011.
- (121) “Lateral motion of proteins and lipids on live cell membrane,” The 11th AEARU Workshop on Molecular Biology and Biotechnology, Hong Kong University of Science and Technology, Hong Kong, December 20-22, 2011.
- (122) “Test of anomalous scaling of passive temperature fluctuations in turbulent Rayleigh-Bénard convection,” KITPC International Conference on New Directions in Turbulence, Kavli Institute for Theoretical Physics China, Beijing, China, April 2-6, 2012.
- (123) “Colloidal Interactions and Dynamics at Liquid Interfaces,” International Workshop on Coulomb Many-body Systems, Institute of Natural Sciences, Shanghai Jiaotong University, Shanghai, June 13, 2012.
- (124) “Interfacial pinning, hysteresis and dynamics near a moving contact line,” Physics Seminar, Shanghai Institute of Applied Physics, Chinese Academy of Sciences, Shanghai, June 15, 2012.
- (125) “Colloidal Interactions and Dynamics at Liquid Interfaces,” Physics Seminar, Micro/nano Technology Research Center, Harbin Institute of Technology, Harbin, June 21, 2012.
- (126) “Interfacial pinning, hysteresis and dynamics near a moving contact line,” Dynamic Days Asia Pacific 7 and the 7th International Conference on Nonlinear Science, Academia Sinica, Taipei, August 6-9, 2012.
- (127) “Scaling of locally averaged thermal dissipation rate in turbulent Rayleigh-Bénard convection,” the 23rd International Congress of Theoretical and Applied Mechanics, Beijing, China, Aug. 19-24, 2012.
- (128) “Interfacial pinning, hysteresis and dynamics near a moving contact line,” Institute of Mechanics, Chinese Academy of Sciences, Beijing, China, August 23, 2012.
- (129) “Test of the universal scaling law of diffusion in colloidal monolayers,” Chinese Physical Society Fall Meeting, Zhongshan University, Guangzhou, China, September 21-23, 2012.
- (130) “Interfacial pinning, hysteresis and dynamics near a moving contact line,” Center for Soft Matter Physics and Interdisciplinary Research, Soochow University, Suzhou, China, October 25, 2012.
- (131) “Large- and small-scale dynamics in turbulent Rayleigh-Bénard convection,” 2013 Spring Progress in Mathematical and Computational Studies on Science and Engineering Problems, the National Taiwan University, Taipei, Taiwan, May 6 - 8, 2013.
- (132) “Test of the universal scaling law of diffusion in colloidal monolayers,” KITPC International Conference on Complex Dynamics in Granular Systems, Kavli Institute for Theoretical Physics China, Beijing, China, June 2-8, 2013.
- (133) “Interfacial pinning, hysteresis and dynamics near a moving contact line,” KITPC Program on Complex Dynamics in Granular Systems, Kavli Institute for Theoretical Physics China, Beijing, China, June 14, 2013.
- (134) “Interfacial pinning, hysteresis and dynamics near a moving contact line,” Physics Seminar, École Normale Supérieure (ENS), Paris, France, June 19, 2013.
- (135) “Test of the universal scaling law of diffusion in colloidal monolayers,” 7th International Discussion Meeting on Relaxations in Complex Systems, University Politecnica de Catalunya, Barcelona, Spain, July 21-26, 2013.

- (136) “Interfacial pinning, hysteresis and dynamics near a moving contact line,” Physics Seminar, Universitat de Barcelona, Barcelona, Spain, July 29, 2013.
- (137) “Test of the anomalous scaling of passive temperature fluctuations in turbulent thermal convection,” The Chinese Congress of Theoretical and Applied Mechanics 2013 Meeting, Symposium on Turbulent Thermal Convection, Xian, China, August 19-21, 2013.
- (138) “Direct measurement of contact line dissipation,” 2014 New Year Fluid Mechanics Workshop, Peking University Shenzhen Graduate School, Shenzhen, China, February 7-9, 2014.
- (139) “Dynamics of Soft Matter at a Three-phase Contact Line,” Colloquium, Department of Physics and Astronomy, Shanghai Jiaotong University, Shanghai, China, April 16, 2014.
- (140) “Test of the universal scaling law of diffusion in colloidal monolayers,” the 17th Physical Society of Hong Kong Annual Conference, Hong Kong Baptist University, Hong Kong, June 7, 2014.
- (141) “Rayleigh-Bénard Convection: A Century of Scientific Discovery,” Summer School 2014 of Kuang Yaming Honors School, Nanjing University, China, July 7, 2014.
- (142) “Test of the universal scaling law of diffusion in colloidal monolayers,” The 6th KIAS Conference on Statistical Physics, Korea Institute for Advanced Study, Seoul, Korea, July 8 - 11, 2014.
- (143) “Lateral Motion of Proteins and Lipids on Live Cell Membrane,” First Workshop HKUST-ENS, École Normale Supérieure, Paris, France, October 2, 2014.
- (144) “Interfacial pinning, hysteresis and dynamics near a moving contact line,” Physics Seminar, Institute of Physics, Academia Sinica, Taipei, Taiwan, October 13, 2014.
- (145) “Colloidal transport and diffusion dynamics over complex energy landscapes,” Soochow University 2014 Forum: Frontiers of Physics, Suzhou, China, October 18, 2014.
- (146) “Colloidal transport and diffusion over complex energy landscapes,” the 9th National Soft Matter and Living Matter Conference, Wenzhou, China, November 7-9, 2014.
- (147) “Interfacial Dynamics at a Three-phase Contact Line,” 2015 New Year Fluid Mechanics Workshop, Southern University of Science and Technology, Shenzhen, China, February 28, 2015.
- (148) “Dynamics of Soft Matter at a Three-phase Contact Line,” Physics Colloquium, Department of Physics, the Chinese University of Hong Kong, Hong Kong, April 17, 2015.
- (149) “Test of the anomalous scaling of passive temperature fluctuations in turbulent Rayleigh-Bénard convection with spatial inhomogeneity,” The Chinese Congress of Theoretical and Applied Mechanics 2015 Meeting, Symposium on Turbulent Thermal Convection, Shanghai Jiaotong University, August 18, 2015.
- (150) “Colloidal transport and dynamics over periodic potentials,” KITPC International Conference on Controlled Structural Formation of Soft Matter, Kavli Institute for Theoretical Physics China, Beijing, August 20, 2015.
- (151) “Colloidal transport and dynamics over periodic potentials,” Chinese Physical Society Fall Meeting, Jilin University, Changchun, China, September 11-13, 2015.
- (152) “Colloidal transport and dynamics over periodic potentials,” Hong Kong University of Science and Technology, IAS Focused Program on Computational and Mathematical Problems in Materials Science, Hong Kong, January 25-29, 2016.
- (153) “Colloidal transport and diffusion dynamics over complex energy landscapes,” Max Planck Society – Croucher Foundation Joint Workshop on Molecular Systems Engineering Sciences, Hong Kong University of Science and Technology, Hong Kong, April 5-7, 2016.
- (154) “Speed-dependent capillary force hysteresis and relaxation of a moving contact line,” The 3rd Asia-Pacific Regional Workshop for Complex Non-Equilibrium Systems, Ulsan National Institute of Science and Technology, Korea, May 19-21, 2016.
- (155) “Dynamic heterogeneity and non-Gaussian statistics for acetylcholine receptors on live cell membrane,” The 2016 International Soft Matter Symposium, Tianjing University, Tianjing, China, June 26-27, 2016.
- (156) “Colloidal transport and dynamics over periodic potentials,” Center of Soft Matter Physics and Its Applications, Beihang University, Beijing, China, June 29, 2016.
- (157) “Dynamic heterogeneity and non-Gaussian statistics for acetylcholine receptors on live cell membrane,” The 2nd Conference on Condensed Matter Physics, Nanjing University, July 20-22, 2016.

- (158) “Boundary layer fluctuations and their effects on mean and variance temperature profiles in turbulent Rayleigh-Bénard Convection,” OIST Seminar, Okinawa Institute of Science and Technology, December 9, 2016.
- (159) “Interfacial pinning, hysteresis and dynamics of a moving contact line,” International workshop on Soft Matter Sciences, Shanghai Jiaotong University, December 12-14, 2016.
- (160) “Interfacial pinning, hysteresis and dynamics of a moving contact line,” HKUST-CSRC Joint Workshop on Computational Science, Hong Kong University of Science and Technology, Jan 13-14, 2017.
- (161) “Interfacial pinning, hysteresis and dynamics of a moving contact line,” the 10th National Conference on Soft Matter and Biophysics, Xiamen University, Xiamen, March 24-27, 2017.
- (162) “Interfacial pinning, hysteresis and dynamics of a moving contact line,” Soft Matter Seminar, Laboratory Charles Coulomb, University of Montpellier, France, June 26, 2017.
- (163) “Colloidal diffusion over complex potential landscapes: From periodic, quasi-periodic and random potentials to live cell membranes,” The 4th National Statistical Physics and Complex Systems Conference Shaanxi Normal University, Xi’an, China, July 17, 2017.
- (164) “Boundary layer fluctuations in turbulent Rayleigh-Bénard convection,” the 2017 Chinese Congress of Theoretical and Applied Mechanics (CCTAM), Beijing, August 15, 2017.
- (165) “Colloidal diffusion over complex potential landscapes: From periodic, quasi-periodic and random potentials to live cell membranes,” Physics Colloquium, School of Physics and Technology, Wuhan University, China, August 25, 2017.
- (166) “Dynamic heterogeneity and non-Gaussian statistics for acetylcholine receptors on live cell membrane,” 2017 International Conference of Micro/Nanomachines (ICMNM), Wuhan, China, August 26-28, 2017.