

Optical Trapping and Optical Micromanipulation V

Conference Chair: **Kishan Dholakia**, Univ. of St. Andrews (United Kingdom); **Gabriel C. Spalding**, Illinois Wesleyan Univ.

Program Committee: **Elliot L. Botvinick**, Beckman Laser Institute; **Carlos Lenz César**, Univ. Estadual de Campinas (Brazil); **Jesper Glückstad**, Risø National Lab. (Denmark); **Min Gu**, Swinburne Univ. (Australia); **Jens-Christian D. Meiners**, Univ. of Michigan; **H. Daniel Ou-Yang**, Lehigh Univ.; **Thomas T. Perkins**, Univ. of Colorado at Boulder; **Ruben Ramos-Garcia**, Instituto Nacional de Astrofísica, Óptica y Electrónica (Mexico); **Halina H. Rubinsztein-Dunlop**, The Univ. of Queensland (Australia)

Sunday 10 August

SESSION 1: Single Molecule Studies

Session Chair: **Jens-Christian D. Meiners**, Univ. of Michigan

Room: TBD

Sun. 8:00 to 10:10 am

8:00 am: **Observing sequential formation of structural components in a single riboswitch molecule with an optical trap** (*Invited Paper*), Michael T. Woodside, National Research Council Canada (Canada) and Univ. of Alberta (Canada) [703801]

8:30 am: **Surface-coupled optical trapping assay with 1 base pair resolution**, Thomas T. Perkins, Ashley R. Carter, Univ. of Colorado at Boulder [703802]

8:50 am: **Measurements of elastic constants between probe DNA strands and a target DNA linker**, Yun-Hui Park, Sun-Uk Hwang, Daekyung Sung, Dongkyu Kim, Sangyong Jon, Yong-Gu Lee, Gwangju Institute of Science and Technology (South Korea) [703803]

9:10 am: **Expansion and rupture of a virus shell during DNA packaging detected by optical tweezers measurements**, Douglas E. Smith, Univ. of California/San Diego [703804]

9:30 am: **Mechanism of a viral DNA packaging motor studied by characterization of biochemical mutants via optical tweezers measurements**, James M. Tsay, Univ. of California/San Diego; Jean Sippy, Michael Feiss, The Univ. of Iowa; Douglas E. Smith, Univ. of California/San Diego [703805]

9:50 am: **Determining single-molecule ATP stoichiometry in a multi-subunit enzyme with a hardware-based anti-Brownian electrokinetic trap**, Yan Jiang, Adam E. Cohen, Nick Douglass, William E. Moerner, Stanford Univ. [703806]

Coffee Break

10:10 to 10:40 am

SESSION 2: Cellular Studies Using Optical Forces

Session Chair: **Thomas T. Perkins**, Univ. of Colorado at Boulder

Room: TBD

Sun. 10:40 am to 12:10 pm

10:40 am: **Feeling for Cells with Light** (*Invited Paper*), Josef A. Käs, Univ. Leipzig (Germany) [703807]

11:10 am: **Deformability of erythrocytes of gene knockout and wild type mice measured by oscillatory optical tweezers**, Yu-Shan C. Huang, Guan-Bo Liao, National Yang-Ming Univ. (Taiwan); Yunlong Sheng, Univ. Laval (Canada); Yi-Fan Chen, Ting-Fen Tsai, Arthur E. T. Chiou, National Yang-Ming Univ. (Taiwan) [703808]

11:30 am: **A laser microscope for mechanotransduction studies on cells**, Samir Shreim, Jamie Evora, Univ. of California/Irvine; Halina Rubinsztein-Dunlop, The Univ. of Queensland (Australia); Elliot L. Botvinick, Univ. of California/Irvine [703809]

11:50 am: **The smallest crane system in the world or how macrophages trap the prey** (*Presentation Only*), Alexander Rohrbach, Felix Kohler, Albert-Ludwigs-Univ. Freiburg (Germany); Holger Kress, Yale Univ. [703811]

Lunch Break

12:10 to 1:30 pm

SESSION 3: Wiggings and Jiggings

Session Chair: **Kishan Dholakia**, Univ. of St. Andrews (United Kingdom)

Room: TBD

Sun. 1:30 to 4:30 pm

1:30 pm: **Oscillatory optical tweezers for biomedical applications** (*Invited Paper, Presentation Only*), Arthur E. Chiou, National Yang-Ming Univ. (Taiwan) [703813]

2:00 pm: **Noninvasive measurement of intracellular viscoelastic properties**, Martha B. Alvarez-Elizondo, Instituto Tecnológico y de Estudios Superiores de Monterrey (Mexico); Susan H. Roelofs, The Univ. of Queensland (Australia); Frederic Meunier, Queensland Brain Institute (Australia); Norman Heckenberg, Halina Rubinsztein-Dunlop, The Univ. of Queensland (Australia) [703814]

2:20 pm: **Using Laser Tweezers to Find the Bridge between Bulk and Local Mechanical Properties in Tissue Engineered Constructs**, Max A. Kotlarchyk, Andy Putnam, Elliot Botvinick, Univ. of California/Irvine [703815]

2:40 pm: **Multi-point viscosity measurements using optical tweezers**, Steven Keen, Jonathan Leach, Univ. of Glasgow (United Kingdom); Monica Berry, Univ. of Bristol (United Kingdom); Miles Padgett, Univ. of Glasgow (United Kingdom) [703816]

Coffee Break

3:00 to 3:30 pm

3:30 pm: **Hydrodynamic interactions in a quasi two-dimensional fluid**, Roberto Di Leonardo, Univ. degli Studi di Roma/La Sapienza (Italy); Steven Keen, Univ. of Glasgow (United Kingdom); Francesca Ianni, Univ. degli Studi di Roma/La Sapienza (Italy); Jonathan Leach, Miles Padgett, Univ. of Glasgow (United Kingdom); Giancarlo Ruocco, Univ. degli Studi di Roma/La Sapienza (Italy) [703817]

3:50 pm: **Three-dimensional highspeed interferometric tracking of several diffusing particles close to interfaces**, Michael Speidel, Alexander Rohrbach, Albert-Ludwigs-Univ. Freiburg (Germany) [703818]

4:10 pm: **Measurements of the compressibility of colloidal suspensions by radiation pressure**, Joseph Junio, H. Daniel Ou-Yang, Lehigh Univ. [703819]

Coffee Break

3:00 to 3:30 pm

SESSION 4: Statistical Mechanics of Small Systems

Session Chair: **H. Daniel Ou-Yang**, Lehigh Univ.

Room: TBD

Sun. 4:30 to 6:00 pm

4:30 pm: **Geometric frustration in temperature sensitive colloidal suspensions** (*Invited Paper*), Arjun G. Yodh, Univ. of Pennsylvania [703820]

5:00 pm: **Fabrication of structures using holographic optical tweezers and adhesion via entropic attraction**, David M. Carberry, David C. Benito, Eleanor Edwards, Julia Hildmann, Univ. of Bristol (United Kingdom); Graham M. Gibson, Miles J. Padgett, Univ. of Glasgow (United Kingdom); Martin Kuball, Simon Hanna, Mervyn J. Miles, Univ. of Bristol (United Kingdom) [703821]

5:20 pm: **Optical tweezers manipulation of colloids and biopolymers: non-equilibrium processes**, Edith M. Sevick, Genmiao Wang, The Australian National Univ. (Australia) [703822]

5:40 pm: **Carnot's heat engine by light**, Hideki Okamura, Yuko Hiranuma, International Christian Univ. (Japan) [703823]

All-Conference Plenary Session

Room: TBD

Sun. 6:00 to 6:45 pm

6:00 pm: **The Solar Decathlon: building a better future with solar energy**, Richard J. King, U.S. Dept. of Energy [OP08PLS101]

Monday 11 August

NanoScience + Engineering Plenary Session

Session Chair: **James G. Grote**, Air Force Research Lab.

Room: TBD

Mon. 8:30 am to 12:20 pm

8:30 am: **Revivals of Molecular Nonlinear Optics in Physics, Chemistry, and onto Life Sciences**, Joseph Zyss, École Normale Supérieure de Cachan (France) [OP08NPLS101]

9:10 am: **Applications of Biological Materials**, Rajesh R. Naik, Air Force Research Lab. [OP08NPLS102]

10:20 am: **Two-Photon Lithography for Precise 3D Nano/Micro-Objects**, Kwang-Sup Lee, Hannam Univ. (South Korea) [OP08NPLS103]

11:00 am: **Multifunctional Excimer-Laser Lithography and Photoablation Technologies for Large-Area Micro and Nanoelectronics, Displays and Microsystems**, Kanti Jain, Univ. of Illinois at Urbana-Champaign [OP08NPLS104]

11:40 am: **Molecules, Surfaces, and Symmetry: From Pure Geometry to Nanoscience**, Denis Fichou, Commissariat à l'Energie Atomique (France) [OP08NPLS105]

Lunch Break

12:00 to 1:10 pm

SESSION 5: Ensemble Behaviors in Optical Fields

Session Chair: **H. Daniel Ou-Yang**, Lehigh Univ.

Room: TBD

Mon. 1:10 to 3:20 pm

1:10 pm: **Actin networks under large deformations studied with optical tweezers and HOTs**, Wolfgang Losert, Andrew Pomerance, Erin Rericha, Univ. of Maryland/College Park [703810]

1:30 pm: **Theoretical study of light-induced forces and binding on small particle clusters** (*Invited Paper*), Jack Ng, Zhihong Hang, Ross Tang, Che Ting Chan, The Hong Kong Univ. of Science and Technology (Hong Kong China) [703824]

2:00 pm: **Stability and dynamics of self-arranged structures in longitudinal optical binding**, Vitezslav Karasek, Oto Brzobohaty, Tomas Cizmar, Institute of Scientific Instruments (Czech Republic); Veneranda Garces-Chavez, Kishan Dholakia, Univ. of St. Andrews (United Kingdom); Pavel Zemánek, Institute of Scientific Instruments (Czech Republic) [703825]

2:20 pm: **Long distance beam propagation in colloidal suspensions: comparison between theory and experiment**, Ewan M. Wright, College of Optical Sciences/The Univ. of Arizona; Woei Ming Lee, Univ. of St. Andrews (United Kingdom); Pierre-Louis Giscard, College of Optical Sciences/The Univ. of Arizona; Kishan Dholakia, Univ. of St. Andrews (United Kingdom) [703826]

2:40 pm: **Generation and control of multiple Bessel beams for optical micromanipulation**, Tomas Cizmar, Univ. of St. Andrews (United Kingdom); Vera Kollarova, Univ. Palackého V Olomouci (Czech Republic); Xanthi Tsampoula, Frank J. Gunn-Moore, Univ. of St. Andrews (United Kingdom); Zdenek Bouchal, Univ. Palackého V Olomouci (Czech Republic); Kishan Dholakia, Univ. of St. Andrews (United Kingdom) [703827]

3:00 pm: **Optically induced multi-particle structures: multi-dimensional energy landscapes**, Justo J. Rodriguez, David L. Andrews, Univ. of East Anglia Norwich (United Kingdom) [703828]

Coffee Break

3:20 to 3:30 pm

SESSION 6: Itty-Bitty Bits under Optical Control

Session Chair: **Min Gu**, Swinburne Univ. of Technology (Australia)

Room: TBD

Mon. 3:30 to 5:10 pm

3:30 pm: **Controlled motion of nanoparticles using molecular motors**, Jean-Pierre Abid, Ecole Normale Supérieure de Cachan (France); Michel Frigoli, Chantal Larpent, Univ. de Versailles Saint-Quentin-en Yvelines (France); Robert Pansu, Joseph Zyss, Ecole Normale Supérieure de Cachan (France); Sophie Brasselet, Institut Fresnel (France) [703829]

3:50 pm: **Assembly of 3D structures using holographic optical tweezers**, Leo Ikin, James A. Grieve, David M. Carberry, Univ. of Bristol (United Kingdom); Graham M. Gibson, Miles J. Padgett, Univ. of Glasgow (United Kingdom); Mervyn J. Miles, Univ. of Bristol (United Kingdom) [703830]

4:10 pm: **Molecular assembling and crystallization in solution by photon pressure of a focused CW laser beam** (*Invited Paper*), Hiroshi M. Masuhara, Teruki Sugiyama, Nara Institute of Science and Technology (Japan); Hiroyuki Yoshikawa, Yu Nabetani, Osaka Univ. (Japan); Takuji Adachi, National Chiao Tung Univ. (Japan) [703831]

4:30 pm: **Simulation methods to model the total force on nanoparticles in an optical trap including the effect of fluid interactions**, Arvind Balijepalli, National Institute of Standards and Technology and Univ. of Maryland/College Park; Thomas Lebrun, National Institute of Standards and Technology; Satyandra K. Gupta, Univ. of Maryland/College Park [703832]

4:50 pm: **Surface-plasmon-based optical manipulation**, Romain Quidant, Maurizio Righini, Institut de Ciències Fotòniques (Spain) [703833]

Tuesday 12 August

SESSION 7: Advanced Microscopy with Integrated Optical Traps

Session Chair: **Elliot L. Botvinick**, Beckman Laser Institute, Univ. of California/Irvine

Room: TBD

Tues. 8:00 to 10:30 am

8:00 am: **Nonlinear dynamic phase contrast microscopy for microfluidic and molecular biology applications** (*Invited Paper*), Cornelia Denz, F. Holtmann, M. Wördemann, M. Oevermann, Westfälische Wilhelms-Univ. Münster (Germany) [703834]

8:30 am: **Control of nonlinear processes in trapped particles via dispersion compensated and phase shaped ultrashort laser pulses**, Janelle C. Shane, Michael Mazilu, Kishan Dholakia, Univ. of St. Andrews (United Kingdom) [703835]

8:50 am: **Three-axis computer-steered optical trapping integrated with a high-speed confocal imaging system**, Jingfang Wan, The Ohio State Univ. [703836]

9:10 am: **Study of optically-trapped living trypanosoma cruzi-rhodnius prolixus interactions by real time confocal images using CdTe quantum dots**, André A. de Thomaz, Diogo B. Almeida, Wagner M. Faustino, Gilberto J. Jacob, Univ. Estadual de Campinas (Brazil); Adriana Fontes, Univ. Federal de Pernambuco (Brazil); Luiz C. Barbosa, Carlos L. Cesar, Univ. Estadual de Campinas (Brazil); Cecília S. Vieira, Teresa C. M. Gonçalves, Jacenir R. Santos-Mallet, Suzete A. O. Gomes, Fundacao Oswaldo Cruz (Brazil); Denise Feder, Univ. Federal Fluminense (Brazil) [703837]

9:30 am: **CARS microscopy and optical tweezers photonic tool for biomechanical and biochemical cell processes investigation**, Wagner M. Faustino, André A. Thomaz, Diogo B. Almeida, Gilberto G. Jacob, Univ. Estadual de Campinas (Brazil); Adriana Fontes, Univ. Federal de Pernambuco (Brazil); Luiz C. Barbosa, Carlos L. Cesar, Univ. Estadual de Campinas (Brazil) [703838]

9:50 am: **Study on the floating micro-probe with multi degrees of freedom and function for cell operation: juggling probe**, Kazuhiro Gesho, Tomohiro Uraki, Ichirou Ishimaru, Kagawa Univ. (Japan) [703839]

10:10 am: **Optical trapping of Janus particles**, Hyuk Wang, Yong-Gu Lee, Gwangju Institute of Science and Technology (South Korea) [703840]

Coffee Break

10:30 to 11:00 am

SESSION 8: Advanced Microscopy II

Session Chair: **Jesper Glückstad**, Riso National Lab., Danmarks Tekniske Univ. (Denmark)

Room: TBD

Tues. 11:00 am to 12:10 pm

11:00 am: **Compact optical tweezers based on optical storage technology** (*Invited Paper*), Dirk Vossen, Sjoerd Stallinga, Philips Research Labs. (Netherlands) [703841]

11:30 am: **Scanning sub-wavelength structured surfaces with optically trapped probes** (*Presentation Only*), Alexander Rohrbach, Lars Friedrich, Albert-Ludwigs-Univ. Freiburg (Germany) [703842]

11:50 am: **Calibration of a microscope's point-spread function with an optical trap**, Joshua W. Shaevitz, Princeton Univ.; Daniel A. Fletcher, Univ. of California/Berkeley [703843]

Lunch/Exhibition Break

12:10 to 1:30 pm

SESSION 9: Anisotropic Media

Session Chair: **Ruben Ramos-Garcia**, Instituto Nacional de Astrofísica, Óptica y Electrónica (Mexico)

Room: TBD

Tues. 1:30 to 3:20 pm

1:30 pm: **Engineering optically driven micromachines** (*Invited Paper*), Norman R. Heckenberg, Timo A. Nieminen, Halina H. Rubinsztein-Dunlop, The Univ. of Queensland (Australia) [703844]

2:00 pm: **Improved optically driven microrotors**, Theodor Asavei, Vincent L. Y.Loke, Timo A. Nieminen, Norman R. Heckenberg, Halina H. Rubinsztein-Dunlop, The Univ. of Queensland (Australia) [703845]

2:20 pm: **Stability and dynamics of complex dielectric shapes in a simple optical trap**, Thomas G. Mason, James N. Wilking, Univ. of California/Los Angeles [703846]

2:40 pm: **Anisotropic particle motion in optical landscapes modeled via the T-matrix optical scattering approach**, Brandon L. Conover, Michael J. Escuti, North Carolina State Univ. [703847]

3:00 pm: **Optical manipulation of nematic colloids: wires, superstructures and 2D crystals**, Igor Musevic, Univ. v Ljubljani (Slovenia) [703848]

Coffee Break

3:20 to 3:40 pm

SESSION 10: Multi-Trap Systems

Session Chair: Gabriel Cooper Spalding, Illinois Wesleyan Univ.

Room: TBD

Tues. 3:40 to 6:00 pm

3:40 pm: **Calibration of dynamic holographic optical tweezers for force measurements on biomaterials**, Astrid van der Horst, Nancy R. Forde, Simon Fraser Univ. (Canada) [703849]

4:00 pm: **Quantitative characterization of potential energy landscape in holographic optical tweezers**, Serge Monneret, Federico Belloni, Institut Fresnel (France) [703850]

4:20 pm: **A high-accuracy algorithm for designing arbitrary holographic atom traps**, Brian DeMarco, Matthew Pasienski, Univ. of Illinois [703851]

4:40 pm: **Computation of optically induced forces and torques arising in connection with holographic optical assembly**, Stephen H. Simpson, David C. Benito, Simon Hanna, Univ. of Bristol (United Kingdom) [703852]

5:00 pm: **Information capacity in optical systems for generating dynamic optical landscapes**, Darwin Palima, Jeppe S. Dam, Ivan Perch-Nielsen, Jesper Glückstad, Danmarks Tekniske Univ. (Denmark) [703853]

5:20 pm: **Comparison between various types of multiple tweezers**, Jean-Marc R. Fournier, Fabrice Merenda, Johann Rohner, Pierre Jacquot, René P. Salathé, Ecole Polytechnique Fédérale de Lausanne (Switzerland) [703854]

5:40 pm: **A multiple trap optical tweezer system based on adaptive optics technology**, Rodolphe Conan, Colin Bradley, Shaun Bowman, Univ. of Victoria (Canada) [703855]

Wednesday 13 August

SESSION 11: Droplets, Nanofluidics, Cavitation

Session Chair: Carlos Lenz Cesar, Univ. Estadual de Campinas (Brazil)

Room: TBD

Wed. 8:00 to 10:00 am

8:00 am: **Large spectral tuning of liquid microdroplets using the optical scattering force**, Alper Kiraz, Saime C. Yavuz, Yasin Karadag, Adnan Kurt, Alphan Sennaroglu, Huseyin Cankaya, Koç Univ. (Turkey) [703856]

8:20 am: **Holographic control of droplet microfluidics**, Daniel R. Burnham, Univ. of St. Andrews (United Kingdom); David McGloin, Univ. of Dundee (United Kingdom); Charles N. Baroud, Maria-Luisa Cordero Garrayar, Ecole Polytechnique (France) [703857]

8:40 am: **Optoelectronic tweezer (OET) trap stiffness with HeLa cells**, Steven L. Neale, Ming C. Wu, Univ. of California/Berkeley [703858]

9:00 am: **Nanoscale optofluidic transport**, David Erickson, Cornell Univ. [703859]

9:20 am: **Parallel optical manipulation using evanescent optical landscapes**, Carlos Lopez-Mariscal, Kristian Helmersson, National Institute of Standards and Technology [703860]

9:40 am: **The application of optical trapping for cavitation studies**, Paul A. Campbell, Paul A. Prentice, Univ. of Dundee (United Kingdom) [703861]

Coffee Break

10:00 to 10:30 am

SESSION 12: Trapping in Air

Session Chair: **Lowell McCann**, Univ. of Wisconsin-River Falls

Room: TBD

Wed. 10:30 am to 12:00 pm

10:30 am: **The optical manipulation and characterisation of aerosol particles** (*Invited Paper*), Jonathan P. Reid, Univ. of Bristol (United Kingdom) [703862]

11:00 am: **Dynamics of airborne tweezing**, Daniel R. Burnham, Univ. of St. Andrews (United Kingdom); David McGloin, Univ. of Dundee (United Kingdom) [703863]

11:20 am: **Aerosol tweezing with a super-continuum laser beam**, Marc Guillon, Univ. of Dundee (United Kingdom); Kishan Dholakia, Univ. of St. Andrews (United Kingdom); David McGloin, Univ. of Dundee (United Kingdom) [703864]

11:40 am: **Numerical analysis of fluid resistance exerted on vibrating micro-sphere controlled by optical radiation pressure**, Shimpei Tanaka, Yasuhiro Takaya, Terutake Hayashi, Osaka Univ. (Japan) [703865]

Lunch/Exhibition Break

12:00 to 1:30 pm

SESSION 13: Optical Momentum

Session Chair: **Jonathan Leach**, Univ. of Glasgow (United Kingdom)

Room: TBD

Wed. 1:30 to 3:00 pm

1:30 pm: **Transfer of optical momentum: reconciliations of the Abraham and Minowski formulations** (*Invited Paper*), Tomasz M. Grzegorzczak, Brandon A. Kemp, Massachusetts Institute of Technology [703866]

2:00 pm: **Electromagnetic stress tensor in ponderable media**, Masud Mansuripur, College of Optical Sciences/The Univ. of Arizona [703867]

2:20 pm: **Longitudinal force and torque exerted on a circular waveguide by rotating eigenmodes**, Amit Mizrahi, Univ. of California/San Diego; Moshe Horowitz, Levi Schachter, Technion-Israel Institute of Technology (Israel) [703868]

2:40 pm: **Momentum transfer in a standing optical vortex**, Vladlen G. Shvedov, The Australian National Univ. (Australia) and Vernadskiy Tavricheskiy National Univ. (Ukraine); Anton S. Desyatnikov, The Australian National Univ. (Australia); Yana Izdebskaya, The Australian National Univ. (Australia) and Vernadskiy Tavricheskiy National Univ. (Ukraine); Andrei V. Rode, Wieslaw Z. Krolikowski, Yuri S. Kivshar, The Australian National Univ. (Australia) [703869]

Coffee Break

3:00 to 3:10 pm

SESSION 14: Alternative Strategies

Session Chair: **Halina H. Rubinsztein-Dunlop**, The Univ. of Queensland (Australia)

Room: TBD

Wed. 3:10 to 5:20 pm

3:10 pm: **Micro manipulation of superparamagnetic particles using magneto-optic tweezers** (*Invited Paper*), Igor Poberaj, Dusan Babic, Natan Osterman, Jurij Kotar, Univ. v Ljubljani (Slovenia) [703870]

3:40 pm: **Polarization modulation of an optical trap's spring constant**, Ethan F. Schonbrun, Univ. of Colorado at Boulder; Kenneth B. Crozier, Harvard Univ. [703871]

4:00 pm: **Independent polarisation control of multiple optical traps**, Jonathan Leach, Stephen Keen, Daryl Preece, Miles Padgett, Univ. of Glasgow (United Kingdom); Elliot Botvinick, Univ. of California/Irvine [703872]

4:20 pm: **Thermal tweezers for effective manipulation on surfaces with nano-scale resolution**, Dmitri K. Gramotnev, Daniel R. Mason, Galina Gramotnev, Queensland Univ. of Technology (Australia) [703873]

4:40 pm: **Thermal forces driving transport and interactions in colloidal suspensions**, Francesca Ianni, Giancarlo Ruocco, Roberto Di Leonardo, Univ. degli Studi di Roma/La Sapienza (Italy) [703874]

5:00 pm: **High bandwidth estimation of optical traps using disturbance estimation**, Hullas Sehgal, Tanuj Aggarwal, Murti V. Salapaka, Univ. of Minnesota [703875]

Posters-Wednesday

Room: TBD

Wed. 5:30 to 7:00 pm

Poster authors will begin displaying posters after 10:00 am Wednesday morning. A poster session, with authors present at their posters, will be held Wednesday evening from 5:30 to 7:00 pm. Light refreshments will be served.

Poster Setup

Poster presenters must set up their posters between 10:00 am and 5:00 pm on Wednesday. Poster presenters who have not set up by 5:00 pm on Wednesday will be considered a "no show" and their manuscript will not be published. Presenters must remove their posters immediately after the poster session. Posters not removed will be considered unwanted and will be discarded. SPIE assumes no responsibility for posters left up after the end of each poster session.

Validation of FDT calibration method in complex media, Andrew C. Richardson, Mario Fischer, Niels Bohr Institute (Denmark); Nader Reihani, Institute for Advanced Studies in Basic Sciences (Iran) and Niels Bohr Institute (Denmark); Kirstine Berg-Sørensen, Danmarks Tekniske Univ. (Denmark) and Niels Bohr Institute (Denmark); Lene B. Oddershede, Niels Bohr Institute (Denmark) [703876]

Calibration of trap stiffness and viscoelasticity in polymer solution, Susan H. Roelofs, The Univ. of Queensland (Australia); Martha B. Alvarez-Elizondo, Instituto Tecnológico y de Estudios Superiores de Monterrey (Mexico); Martin Persson, Kungliga Tekniska Högskolan (Sweden); Norman R. Heckenberg, Halina H. Rubinsztein-Dunlop, The Univ. of Queensland (Australia) [703877]

Hysteretic axial motion of optically-trapped aerosol droplets, Lowell I. McCann, Shawntel Murphy, Univ. of Wisconsin-River Falls [703878]

Characterization of a periodic optical potential by means of particle dynamics analysis in a deterministic regime, Alejandro Vásquez-Arzola, Karen P. Volke-Sepulveda, Jose L. Mateos, Univ. Nacional Autónoma de México (Mexico) [703879]

Electrostatic force and torque description of generalized spheroidal particles in optical landscapes, Ryan W. Going, Brandon L. Conover, Michael J. Escuti, North Carolina State Univ. [703880]

Sorting of microparticles by optical landscapes by using a spatial light modulator, Ulises Ruiz-Corona, Victor M. Arrizon, Julio C. Ramirez-San-Juan, Ruben Ramos-Garcia, Instituto Nacional de Astrofisica, Óptica y Electrónica (Mexico) [703881]

Novel dual beam fiber traps using endlessly single mode photonic crystal fiber, David M. Gherardi, Antonia E. Carruthers, Tomas Cizmar, Robert F. Marchington, Kishan Dholakia, Univ. of St. Andrews (United Kingdom) [703882]

Measurement of trap length for an optical trap, S. Y. Wrbanek, NASA Glenn Research Ctr. [703883]

Steering accuracy of a spatial light modulator-based single beam steerer: guidelines and limitations for general free-space optics and optical tweezers setups, David Engström, Emma Eriksson, Univ. of Gothenburg (Sweden); Jorgen Bengtsson, Chalmers Univ. of Technology (Sweden); Mattias Goksör, Univ. of Gothenburg (Sweden) [703884]

Vortical fields based on spiral beam optics for laser manipulation, Alexander V. Korobtsov, Kirill N. Afanasiev, Svetlana P. Kotova, Nikolay N. Losevsky, Vladimir G. Volostnikov, P.N. Lebedev Physical Institute (Russia) [703885]

Coated microspheres as enhanced probes for optical trapping, Anita Jannasch, Volker Bormuth, Jonathon Howard, Max-Planck-Institut für Molekulare Zellbiologie und Genetik (Germany); Erik Schäffer, Technische Univ. Dresden (Germany) [703886]

Light actuated diaphragm: high efficiency conversion from light energy to mechanical vibrational energy, Ryo Hamamura, Hideki Okamura, International Christian Univ. (Japan) [703888]

Magnetic modification of optical tweezers, Alexander G. Zhdanov, Maria D. Khokhlova, Evgeniy V. Lyubin, Irina V. Soboleva, Alexander A. Ezhov, Andrey A. Fedyanin, Lomonosov Moscow State Univ. (Russia) [703889]

