

Optical Trapping and Optical Micromanipulation XV

Sunday - Thursday 19 - 23 August 2018

Conference Sessions At A Glance

SHOW | HIDE

- 1: Holographic Optical Systems: From Speckle to Studies of Neurons
- 2: Hybrid, Correlative Measurement Systems
- 3: Statistical Mechanics of Small Systems
- 4: Special Session Honoring Halina Rubinsztein-Dunlop
Sunday Evening Plenary Session
Nanoscience + Engineering Plenary Session
- 5: High-Sensitivity Detectors I
- 6: Measurement of Fluctuation-Induced Effects
Posters-Monday
- 7: Radiation Pressure, Tractor Beams, and Solar Sails
- 8: Reactive Optical Matter
- 9: High-Sensitivity Detectors II
- 10: Optofluidic Biological Studies
- 11: Interrogating Single Bio-Molecules and Nano-Components
- 12: Tutorial on Optical Tweezers Microheology
- 13: Microrheological Probes and Studies
- 14: Using the Photonic Toolbox to Study Cells and Their Organelles
- 15: Near-Field Manipulation, Plasmonic Traps, and Auxiliary Tools
- 16: Trapping at Extremes ("Gonzo Trapping")
- 17: Optical Manipulation of Matter Through Gaseous Media
- 18: Pick-and-Place and Hybrid Technologies
- 19: Novel Manipulation and Sorting and Active Matter
- 20: Micro-Mechanics: Stretching and Compression
- 21: Future Work for the OTOM Community

Important Dates

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Abstract Due:
7 February 2018Author Notification:
16 April 2018Manuscript Due Date:
25 July 2018

Conference Cosponsors



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Conference Committee

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SUNDAY 19 AUGUST

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Session 1: Holographic Optical Systems: From Speckle to Studies of Neurons


Sunday 19 August 2018
 8:00 AM - 10:20 AM
 Location: Conv. Ctr. Room 30C

Session Chair: [Daryl Preece](#), Univ. of California, San Diego (United States)

Volumetric display by movement of particles trapped in a laser via photophoresis (*Invited Paper*)
 Paper 10723-1

Time: 8:00 AM - 8:30 AM

Author(s): Justin Peatross, Daniel Smalley, Wesley Rogers, Erich Nygaard, Emily Laughlin, Kamran Qaderi, Leslie Howe, Brigham Young Univ. (United States)


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Stiff traps using super-oscillating optical beams

Paper 10723-2

Time: 8:30 AM - 8:50 AM

Author(s): Brijesh K. Singh, Central Univ. of Rajasthan (India); Harel Nagar, Yael Roichman, Ady Arie, Tel Aviv Univ. (Israel)


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Customizing speckle intensity statistics and correlations (Conference Presentation)

Paper 10723-3

Time: 8:50 AM - 9:10 AM

Author(s): Nicholas Bender, Hasan Yilmaz, Yale Univ. (United States); Yaron Bromberg, Racah Institute of Physics (Israel); Hui Cao, Yale Univ. (United States)


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Holographic optics for spatio-temporal dynamical systems: from alloys to neurons

Paper 10723-4

Time: 9:10 AM - 9:30 AM

Author(s): Wolfgang Losert, Samira Aghayee, Univ. of Maryland, College Park (United States)


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Spatio-temporal modulation of light for stimulating and recording neuronal activity

Paper 10723-5

Time: 9:30 AM - 9:50 AM

Author(s): He Ma, Michael Castanares, Vincent R. Daria, The Australian National Univ. (Australia)


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Two-photon imaging and bidirectional control of neuronal excitability with high spatial resolution in vivo (Invited Paper)

Paper 10723-6

Time: 9:50 AM - 10:20 AM

Author(s): Angelo Forlì, Dania Vecchia, Noemi Binini, Francesca Succol, Serena Bovetti, Claudio Moretti, Francesco Nespoli, Istituto Italiano di Tecnologia (Italy); Mathias Mahn, Weizmann Institute of Science (Israel); Christopher A. Baker, McLean M. Bolton, Max Planck Florida Institute for Neuroscience (United States); Ofer Yizhar, Weizmann Institute of Science (Israel); Tommaso Fellin, Istituto Italiano di Tecnologia (Italy)

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Coffee Break 10:20 AM - 10:50 AM

Session 2: Hybrid, Correlative Measurement Systems

Sunday 19 August 2018

10:50 AM - 11:30 AM

Location: Conv. Ctr. Room 30C


Session Chair: [Michael W. Berns](#), Beckman Laser Institute and Medical Clinic (United States)

Advances in correlative tweezers fluorescence microscopy (Conference Presentation)

Paper 10723-7

Time: 10:50 AM - 11:10 AM

Author(s): Mattijs de Groot, LUMICKS B.V. (Netherlands)


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Looping DNA with protamine requires multiple steps

Paper 10723-8

Time: 11:10 AM - 11:30 AM

Author(s): Ashley R. Carter, Amherst College (United States)

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Lunch Break 11:30 AM - 1:40 PM

Session 3: Statistical Mechanics of Small Systems

Sunday 19 August 2018

1:40 PM - 2:30 PM

Location: Conv. Ctr. Room 30C


Session Chair: Ernst Ludwig Florin, The Univ. of Texas at Austin (United States)

Fluctuation-dissipation of an active Brownian particle under confinement

Paper 10723-10

Time: 1:40 PM - 2:00 PM


Author(s): Chong Shen, H. Daniel Ou-Yang, Lehigh Univ. (United States)

[Add To My Schedule](#) **Experimental test of the differential fluctuation theorem and realization of the Feynman's ratchet with an optically trapped nanosphere (Conference Presentation) (Invited Paper)**

Paper 10723-11

Time: 2:00 PM - 2:30 PM

Author(s): Tongcang Li, Purdue Univ. (United States)

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Session 4: Special Session Honoring Halina Rubinsztein-Dunlop

Sunday 19 August 2018

2:30 PM - 5:30 PM


Location: Conv. Ctr. Room 30C

Session Chair: [Wolfgang Losert](#), Univ. of Maryland, College Park (United States)2:30 to 2:50 pm: Introduction by **Kishan Dholakia**, Univ. of St. Andrews (United Kingdom)**Optical trapping in zebrafish (Conference Presentation) (Invited Paper)**

Paper 10723-13

Time: 2:50 PM - 3:20 PM


Author(s): Itia A. Favre-Bulle, Gilles Vanwalleghem, Alexander B. Stilgoe, Ethan Scott, Halina Rubinsztein-Dunlop, The Univ. of Queensland (Australia)

[Add To My Schedule](#) **Coffee Break Sponsored by Laser Quantum Inc. 3:20 PM - 3:50 PM****Characterizing forces imparted on cells using laser-induced shockwaves (Conference Presentation)**

Paper 10723-14

Time: 3:50 PM - 4:10 PM


Author(s): Christopher Carmona, Univ. of California, San Diego (United States); Michael W. Berns, Beckman Laser Institute and Medical Clinic (United States); Daryl C. Preece, Veronica Gomez-Godinez, Linda Z. Shi, Univ. of California, San Diego (United States)

[Add To My Schedule](#) **Optical trapping of individual magnetic nanoparticles (Invited Paper)**

Paper 10723-15

Time: 4:10 PM - 4:40 PM


Author(s): Akbar Samadi, University of Copenhagen (Denmark); Mengting Wang, Yanlian Yang, National Center for Nanoscience and Technology (China); Lene B. Oddershede, Niels Bohr Institute (Denmark)

[Add To My Schedule](#) **Non-linear momentum transfer of single microtubules and small networks investigated by multiple traps and BFP tracking (Conference Presentation) (Invited Paper)**

Paper 10723-16

Time: 4:40 PM - 5:10 PM


Author(s): Alexander Rohrbach, Univ. of Freiburg (Germany); Matthias D. Koch, Princeton Univ. (United States)

[Add To My Schedule](#) **Elucidating the mechanisms of cell division with optical tweezers**

Paper 10723-17

Time: 5:10 PM - 5:30 PM

Author(s): Daryl C. Preece, Matthew Ono, Michelle L. Duquette, Univ. of California, San Diego (United States); Arthur Forer, York Univ. (Canada); Michael W. Berns, Univ. of California, San Diego (United States)

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Session Plen: Sunday Evening Plenary Session

Sunday 19 August 2018

6:00 PM - 7:05 PM

Location: Conv. Ctr. Ballroom 20A

6:00 to 6:05 pm: **Welcome and opening remarks**6:05 to 6:35 pm: **Attosecond pulses generated in gases and solids**, Paul B. Corkum, Univ. of Ottawa and National Research Council of Canada (Canada)


6:35 to 7:05 pm: **Metasurface flat optics: unifying semiconductor manufacturing and lens making**, Federico Capasso, John A. Paulson School of Engineering and Applied Sciences, Harvard Univ. (United States)

Attosecond pulses generated in gases and solids (Conference Presentation) (Plenary Presentation)

Paper 10753-201

Time: 6:05 PM - 6:35 PM

Author(s): Paul B. Corkum, Univ. of Ottawa (Canada)


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Metasurface flat optics: Unifying semiconductor manufacturing and lens making (Conference Presentation) (Plenary Presentation)

Paper 10719-202

Time: 6:35 PM - 7:05 PM

Author(s): Federico Capasso, Harvard John A. Paulson School of Engineering and Applied Sciences (United States)

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MONDAY 20 AUGUST

[Show All Abstracts](#)

Session Plen: Nanoscience + Engineering Plenary Session

Monday 20 August 2018

8:30 AM - 12:00 PM

Location: Conv. Ctr. Ballroom 20A


Session Chairs: **Halina Rubinsztein-Dunlop**, The Univ. of Queensland (Australia) and **Mark L. Brongersma**, Geballe Lab. for Advanced Materials (GLAM), Stanford Univ. (USA)

Plasmonic nanostructures for molecular sensing and actuation (Conference Presentation) (Plenary Presentation)

Paper 10722-500

Time: 8:30 AM - 9:15 AM

Author(s): Mikael Käll, Chalmers Univ. of Technology (Sweden)


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Rapidly time-variant metadevices for linear frequency conversion (Conference Presentation) (Plenary Presentation)

Paper 10719-500

Time: 9:15 AM - 10:00 AM

Author(s): Bumki Min, KAIST (Korea, Republic of)

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Coffee Break 10:00 AM - 10:30 AM

Structured light on the nanoscale (Conference Presentation) (Plenary Presentation)

Paper 10730-500

Time: 10:30 AM - 11:15 AM

Author(s): Natalia M. Litchinitser, Univ. at Buffalo (United States)


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Wave control with "time materials" (Conference Presentation) (Plenary Presentation)

Paper 10719-501

Time: 11:15 AM - 12:00 PM

Author(s): Mathias Fink, Institut Langevin Ondes et Images (France)

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Lunch Break 12:00 PM - 1:30 PM

Session 5: High-Sensitivity Detectors I

Monday 20 August 2018

1:30 PM - 3:30 PM

Location: Conv. Ctr. Room 30C


Session Chair: [Halina Rubinsztein-Dunlop](#), The Univ. of Queensland (Australia)

Tests of fundamental physics with optically levitated microspheres in high vacuum (Invited Paper)

Paper 10723-18

Time: 1:30 PM - 2:00 PM

Author(s): David C. Moore, Yale Univ. (United States)


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Single-beam dielectric-microsphere trapping with optical heterodyne detection: investigating torsional optomechanics and testing fundamental physics (Conference Presentation)

Paper 10723-19

Time: 2:00 PM - 2:20 PM


Author(s): Charles Blakemore, Alexander Rider, Akio Kawasaki, Giorgio Gratta, Stanford Univ. (United States)

[Add To My Schedule](#) **MEMS gravity sensors for imaging density anomalies (Invited Paper)**

Paper 10723-20

Time: 2:20 PM - 2:50 PM

Author(s): Andreas Noack, Richard Middlemiss, Abhinav Prasad, Giles Hammond, Univ. of Glasgow (United Kingdom)

[Add To My Schedule](#) **A levitated nanoparticle phonon laser via feedback control (Conference Presentation)**

Paper 10723-21

Time: 2:50 PM - 3:10 PM


Author(s): Robert M. Pettit, Univ. of Rochester (United States); W. Ge, P. Kumar, Rochester Institute of Technology (United States); Danika R. Luntz-Martin, Justin T. Schultz, Univ. of Rochester (United States); Levi P. Neukirch, Los Alamos National Lab. (United States); M. Bhattacharya, Rochester Institute of Technology (United States); A. Nick Vamivakas, Univ. of Rochester (United States)

[Add To My Schedule](#) **Interaction of acoustic waves with optomechanical resonators and oscillators**

Paper 10723-22

Time: 3:10 PM - 3:30 PM

Author(s): Ke Huang, Mani Hossein-Zadeh, The Univ. of New Mexico (United States)

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Coffee Break 3:30 PM - 4:00 PM

**Session 6:
Measurement of Fluctuation-Induced Effects**

Monday 20 August 2018

4:00 PM - 5:30 PM

Location: Conv. Ctr. Room 30C


Session Chair: [H. Daniel Ou-Yang](#), Lehigh Univ. (United States)

Stable Casimir equilibria and quantum trapping

Paper 10723-23

Time: 4:00 PM - 4:20 PM


Author(s): Rongkuo Zhao, Lin Li, Sui Yang, Wei Bao, Yang Xia, Yuan Wang, Xiang Zhang, Univ. of California, Berkeley (United States)

[Add To My Schedule](#) **Thermal van der Waals and optical forces among molecular and macroscopic bodies (Conference Presentation)**

Paper 10723-24

Time: 4:20 PM - 4:40 PM


Author(s): Alejandro W. Rodriguez, Princeton Univ. (United States)

[Add To My Schedule](#) **Control over phase separation and nucleation using a optical-tweezing potential (Invited Paper)**

Paper 10723-25

Time: 4:40 PM - 5:10 PM

Author(s): Klaas Wynne, Finlay Walton, Univ. of Glasgow (United Kingdom)

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**Session PMon:
Posters-Monday**

Monday 20 August 2018

5:30 PM - 7:30 PM

Location: Conv. Ctr. Room 20C

Conference attendees are invited to attend the poster session on Monday evening. Come view the posters, enjoy light refreshments, ask questions, and network with colleagues in your field. Authors of poster papers will be present to answer questions concerning their papers. Attendees are required to wear their conference registration badges to the poster sessions. Poster authors, view poster presentation guidelines at <http://spie.org/x30293.xml>.

Optical tweezers toolbox: full dynamics simulations for particles of all sizes

Paper 10723-89

Time: 5:30 PM - 7:30 PM

Author(s): Isaac C. Lenton, Ann A. Bui, Timo A. Nieminen, Alexander B. Stilgoe, Halina Rubinsztein-Dunlop, The Univ. of Queensland (Australia)

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Measuring the motility and drag forces acting on biological particles using optical tweezers

Paper 10723-90

Time: 5:30 PM - 7:30 PM


Author(s): Isaac C. Lenton, Declan Armstrong, Jackson Calvert-Lane, Timo A. Nieminen, Alexander B. Stilgoe, Halina Rubinsztein-Dunlop, The Univ. of Queensland (Australia)

[Add To My Schedule](#) **Using single-beam optical tweezers for the passive microrheology of complex fluids**

Paper 10723-91

Time: 5:30 PM - 7:30 PM

Author(s): Iliya Stoev, Alessio Caciagli, Univ. of Cambridge (United Kingdom); Zhongyang Xing, univ. of cambridge (United Kingdom); Erika Eiser, Univ. of Cambridge (United Kingdom)

[Add To My Schedule](#) **Non-equilibrium thermodynamics of optically trapped metal nanoparticles**

Paper 10723-92

Time: 5:30 PM - 7:30 PM


Author(s): Partha Pratim Patra, Chalmers Univ. of Technology (Sweden)

[Add To My Schedule](#) **Sensor-side Brownian noise reduction in optically trapped probe microscopy**

Paper 10723-93

Time: 5:30 PM - 7:30 PM

Author(s): Thomas F. Dixon, Peter Reece, The Univ. of New South Wales (Australia)

[Add To My Schedule](#) **Optical trapping of dielectric nanoparticles using femtosecond laser****(Canceled)**

Paper 10723-94

Time: 5:30 PM - 7:30 PM


Author(s):

Conservativeness of the optical forces in optical tweezers

Paper 10723-95

Time: 5:30 PM - 7:30 PM


Author(s): Xiao Li, Chi-Hong Yuen, Hong Kong Baptist Univ. (Hong Kong, China); Junjie Du, East China Normal Univ. (China), Hong Kong Baptist Univ. (Hong Kong, China); Jun Chen, Shanxi Univ. (China), Hong Kong Baptist Univ. (Hong Kong, China); Zhifang Lin, Fudan Univ. (China); Jack Ng, Hong Kong Baptist Univ. (Hong Kong, China)

[Add To My Schedule](#) **Computational toolbox to calculate the dynamics of nanometer-size particles interacting with structured light beams**

Paper 10723-96

Time: 5:30 PM - 7:30 PM


Author(s): Manuel F. Ferrer-Garcia, Dorilian Lopez-Mago, Tecnológico de Monterrey (Mexico)

[Add To My Schedule](#) **Optical feedback tweezers**

Paper 10723-98

Time: 5:30 PM - 7:30 PM


Author(s): Avinash Kumar, John Bechhoefer, Simon Fraser Univ. (Canada)

[Add To My Schedule](#) **Spirally polarized OAM beam generation in few-mode fiber**

Paper 10723-99

Time: 5:30 PM - 7:30 PM


Author(s): Hari Krishna Chowduri, Durga Rama Pavan Vadapalli, Sourabh Roy, National Institute of Technology, Warangal (India)

[Add To My Schedule](#) **Trapping of a dielectric microparticles using two lasers via optical fiber**

Paper 10723-100

Time: 5:30 PM - 7:30 PM


Author(s): Benjamín Islas, Univ. Politécnica de Tulancingo (Mexico); Jose Gabriel Ortega-Mendoza, Univ. Tecnológica de Tulancingo (Mexico)

[Add To My Schedule](#) **Light-induced self-organization of metal nanoparticles with anisotropic electrodynamic interactions**

Paper 10723-101

Time: 5:30 PM - 7:30 PM


Author(s): Fan Nan, Patrick McCormack, Fei Han, Zijie Yan, Clarkson Univ. (United States)

[Add To My Schedule](#) **Deposition of functional nano/micro particles using collimated light**

Paper 10723-102

Time: 5:30 PM - 7:30 PM

Author(s): Kentaro Yamada, Satoru Odate, Takeshi Sasaki, Makoto Nakazumi, Koichiro Iwahori, Nikon Corp. (Japan)


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Assembly and 2D manipulation of colloidal crystal by temperature gradient

Paper 10723-103

Time: 5:30 PM - 7:30 PM

Author(s): Julián Ramírez Ramírez, Juan Israel Vazquez Lozano, Instituto Nacional de Astrofísica, Óptica y Electrónica (Mexico); Ulises Ruiz Corona, Instituto Nacional de Astrofísica (Mexico); Rubén Ramos-García, Instituto Nacional de Astrofísica, Óptica y Electrónica (Mexico)


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3D trapping of thermally generated microbubbles

Paper 10723-104

Time: 5:30 PM - 7:30 PM

Author(s): Yunyang Li, Ujitha A. Abeywickrema, Partha P. Banerjee, Univ. of Dayton (United States)


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Assembly and manipulation of mesoscopic particles using micro bubbles in thermo-optical tweezers

Paper 10723-105

Time: 5:30 PM - 7:30 PM

Author(s): Subhrokoli Ghosh, Indian Institute of Science Education and Research Kolkata (India); Rajesh Singh, Institute of Mathematical Sciences (India); Ayan Banerjee, Indian Institute of Science Education and Research Kolkata (India)


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Manipulation of photothermally generated microbubbles

Paper 10723-106

Time: 5:30 PM - 7:30 PM

Author(s): Rubén Ramos-García, Instituto Nacional de Astrofísica, Óptica y Electrónica (Mexico); Jose Gabriel Ortega-Mendoza, Julio Sarabia-Alonso, Univ. Politécnica de Tulancingo (Mexico); Placido Zaca, Benemérita Univ. Autónoma de Puebla (Mexico); Alfonso Padilla-Vivanco, Carina Toxqui-Quittl, Ivan Rivas-Camero, Univ. Politécnica de Tulancingo (Mexico); Julián Ramírez Ramírez, Susana Alejandra Torres Hurtado, Instituto Nacional de Astrofísica, Óptica y Electrónica (Mexico)


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Opto-thermophoretic trapping on single plasmonic nanoantenna

Paper 10723-107

Time: 5:30 PM - 7:30 PM

Author(s): Yaoran Liu, Linhan Lin, Bharath Bangalore Rajeeva, Xiaolei Peng, Yuebing Zheng, The Univ. of Texas at Austin (United States)


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Opto-thermal tweezers for low-power manipulation and assembly of colloidal nanoparticles

Paper 10723-108

Time: 5:30 PM - 7:30 PM

Author(s): Linhan Lin, Xiaolei Peng, Yuebing Zheng, The Univ. of Texas at Austin (United States)


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Trapping and assembly of colloidal particles with opto-thermophoretic tweezers

Paper 10723-109

Time: 5:30 PM - 7:30 PM

Author(s): Xiaolei Peng, Linhan Lin, Jingang Li, Yuebing Zheng, The Univ. of Texas at Austin (United States)


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Investigating light absorbing atmospheric aerosol particles using a hollow beam optical trap and broadband scattering

Paper 10723-110

Time: 5:30 PM - 7:30 PM

Author(s): Alison Bain, Thomas C. Preston, McGill Univ. (Canada)


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Measuring aerosol surface tension through optical deformation

Paper 10723-111

Time: 5:30 PM - 7:30 PM

Author(s): Aidan Rafferty, Kyle Gorkowski, Thomas C. Preston, McGill Univ. (Canada)

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Robust optical trapping and manipulation of absorbing particles in air by single optical fiber-based tweezers

(Canceled)

Paper 10723-112

Time: 5:30 PM - 7:30 PM


Author(s):

Comparison of the orbital and spin rotation of a dielectric particle

Paper 10723-113

Time: 5:30 PM - 7:30 PM

Author(s): Oleg V. Angelsky, Elena Kurek, Andrew P. Maksimyak, Peter P. Maksimyak, Yuriy Fedkovych Chernivtsi National Univ. (Ukraine)


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Optical manipulation and rotation of liquid crystal microspheres using vector beams

Paper 10723-114

Time: 5:30 PM - 7:30 PM


Author(s): Juan Israel Vazquez Lozano, Rubén Ramos-García, Julián Ramírez Ramírez, Rafael Páez López, Instituto Nacional de Astrofísica, Óptica y Electrónica (Mexico)

[Add To My Schedule](#) **Integrated nanoaperture optical fiber tweezer**

Paper 10723-115

Time: 5:30 PM - 7:30 PM


Author(s): Jamal Ehtaiba, Reuven Gordon, Univ. of Victoria (Canada)

[Add To My Schedule](#) **Optothermal trapping and fabrication in a nanoliter droplet**

Paper 10723-116

Time: 5:30 PM - 7:30 PM


Author(s): Chenglong Zhao, Univ. of Dayton (United States)

[Add To My Schedule](#) **Analysis of the mechanism of the vertical spin formation for the evanescent wave in the near-surface layer of biological tissue fluid**

Paper 10723-119

Time: 5:30 PM - 7:30 PM


Author(s): C. Yu. Zenkova, Dmytro I. Ivanskyi, V. M. Tkachuk, Yuriy Fedkovych Chernivtsi National Univ. (Ukraine)

[Add To My Schedule](#) **Experimental demonstration of nanoparticles motion by the vertical spin of the evanescent wave action in biological media**

Paper 10723-120

Time: 5:30 PM - 7:30 PM


Author(s): O. V. Angelsky, P. P. Maksymyak, A. P. Maksymyak, Dmytro I. Ivanskyi, P. O. Angelsky, Yuriy Fedkovych Chernivtsi National Univ. (Ukraine); Bin Guo, Zhejiang University (China); Chen Zhebo, Taizhou Research Institute of Zhejiang University (China)

[Add To My Schedule](#) **Study of red blood cells aggregation upon treatment with engineered nanoparticles by optical tweezers and SEM imaging**

Paper 10723-121

Time: 5:30 PM - 7:30 PM

Author(s): Tatiana I. Avsievich, Univ. of Oulu (Finland); Yana Tarakanchikova, Univ. of Oulu (Finland), Pavlov First Saint Petersburg State Medical Univ. (Russian Federation); Alexey Popov, Alexander Bykov, Univ. of Oulu (Finland); Artashes Karmenyan, National Dong Hwa Univ. (Taiwan); Igor Meglinski, Univ. of Oulu (Finland)

[Add To My Schedule](#) **Trapping forces on highly motile *Bdellovibrio bacteriovorus*****(Canceled)**

Paper 10723-122

Time: 5:30 PM - 7:30 PM


Author(s):

Single-molecule studies of viral DNA packaging with optical tweezers: experimental tests of a scrunchworm model for packaging motor function

Paper 10723-123

Time: 5:30 PM - 7:30 PM

Author(s): Youbin Mo, Nicholas Keller, Douglas E. Smith, Univ. of California, San Diego (United States)

[Add To My Schedule](#) **Maximum force generated by the phage phi29 DNA packaging motor assessed by optical tweezers measurements**

Paper 10723-124

Time: 5:30 PM - 7:30 PM


Author(s): Mounir Fizari, Nicholas Keller, Douglas E. Smith, Univ. of California, San Diego (United States)

[Add To My Schedule](#) **Direct measurement of negative light pressure by means of PTBs nanonewton force facility**

Paper 10723-127

Time: 5:30 PM - 7:30 PM


Author(s): Daniel Nies, Vladimir Nesterov, Physikalisch-Technische Bundesanstalt (Germany); Oleg V. Belai, Institute of Automation and Electrometry of the Siberian Branch of RAS (Russian Federation); Jürgen Kirchhoff, Sebastian Bütetfisch, Michael Müller, Physikalisch-Technische Bundesanstalt (Germany)

[Add To My Schedule](#) **Optical manipulation in hollow-core fibers**

Paper 10723-129

Time: 5:30 PM - 7:30 PM

Author(s): Zhenghao Ding, Univ. Wien (Austria), Univ. of Waterloo (Canada); Markus Rademacher, Maxime Debiossac, Nikolai Kiesel, Markus Aspelmeyer, Univ. Wien (Austria); Taehyun Yoon, Michal Bajcsy, Univ. of Waterloo (Canada)

[Add To My Schedule](#) **TUESDAY 21 AUGUST**[Show All Abstracts](#)

Session 7: Radiation Pressure, Tractor Beams, and Solar Sails

Tuesday 21 August 2018
8:00 AM - 10:20 AM
Location: Conv. Ctr. Room 30C


Session Chair: [Gabriel C. Spalding](#), Illinois Wesleyan Univ. (United States)

The Abraham-Minkowski momentum controversy for a linear magneto-dielectric medium

Paper 10723-27

Time: 8:00 AM - 8:20 AM

Author(s): Michael E. Crenshaw, U.S. Army Aviation & Missile Research, Development & Engineering Ctr. (United States)


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Energy, linear momentum, and angular momentum exchange between an electromagnetic wave-packet and a small particle

Paper 10723-28

Time: 8:20 AM - 8:40 AM

Author(s): Masud Mansuripur, College of Optical Sciences, The Univ. of Arizona (United States)


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Robust optical tractor beam realized by long-ranged, broadband, and broad angle optical pulling force

Paper 10723-29

Time: 8:40 AM - 9:00 AM

Author(s): Xiao Li, Hong Kong Baptist Univ. (Hong Kong, China); Jun Chen, Shanxi Univ. (China); Zhifang Lin, Fudan Univ. (China); Jack Ng, Hong Kong Baptist Univ. (Hong Kong, China)


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Radiation pressure on microcantilevers and for solar sail applications *(Invited Paper)*

Paper 10723-30

Time: 9:00 AM - 9:30 AM

Author(s): Jeremy N. Munday, Univ. of Maryland, College Park (United States)


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Verification of radiation pressure on a diffraction grating

Paper 10723-31

Time: 9:30 AM - 9:50 AM

Author(s): Ying-Ju Chu, Rochester Institute of Technology (United States); Eric Jansson, The Charter School of Wilmington (United States); Grover A. Swartzlander, Rochester Institute of Technology (United States)


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Mechanical characterization of planar springs for compact radiation pressure power meters *(Invited Paper)*

Paper 10723-32

Time: 9:50 AM - 10:20 AM

Author(s): Alexandra B. Artusio Glimpse, Ivan Ryger, Paul Williams, Kyle Rogers, Daniel Rahn, Andrew Walowitz, John Lehman, National Institute of Standards and Technology (United States)

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Coffee Break 10:20 AM - 10:50 AM

Session 8: Reactive Optical Matter

Tuesday 21 August 2018
10:50 AM - 12:40 PM
Location: Conv. Ctr. Room 30C

Session Chair: [Masud Mansuripur](#), College of Optical Sciences, The Univ. of Arizona (United States)

Reactive optical matter: non-reciprocal force-powered nano-swimmers and negative optical torque *(Invited Paper)*

(Canceled)

Paper 10723-33

Time: 10:50 AM - 11:20 AM


Author(s):

Probing stability of optical matter chains by polarization modulation **(Conference Presentation)**

Paper 10723-34

Time: 11:20 AM - 11:40 AM

Author(s): Fan Nan, Zijie Yan, Clarkson Univ. (United States)


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Analysis of the dynamics of electric dipoles in fluctuating electromagnetic fields

Paper 10723-35

Time: 11:40 AM - 12:00 PM

Author(s): Manuel I. Marqués, Jorge Luis-Hita, Víctor López, Univ. Autónoma de Madrid (Spain); Nuno de Sousa, Donostia International Physics Ctr. (Spain); Luis Froufe-Perez, Frank Sheffold, Univ. de Fribourg (Switzerland); Juan José Sáenz, Donostia International Physics Ctr. (Spain)


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Optical binding and transverse forces in a pancake trap

Paper 10723-36

Time: 12:00 PM - 12:20 PM

Author(s): Daniel Losowyj, Vassili Demergis, Ernst Ludwig Florin, The Univ. of Texas at Austin (United States)


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Optical binding of two rotating microparticles levitated in vacuum

Paper 10723-37

Time: 12:20 PM - 12:40 PM

Author(s): Yoshihiko Arita, Univ. of St. Andrews (United Kingdom); Ewan Wright, The Univ. of Arizona (United States); Kishan Dholakia, Univ. of St. Andrews (United Kingdom)

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Exhibition/Lunch Break 12:40 PM - 2:30 PM

Session 9: High-Sensitivity Detectors II

Tuesday 21 August 2018

2:30 PM - 4:30 PM

Location: Conv. Ctr. Room 30C


Session Chair: David C. Moore, Yale Univ. (United States)

Solid-state laser cooling of optically levitated particles

Paper 10723-39

Time: 2:30 PM - 2:50 PM

Author(s): Demi St. John, Philip J. T. Woodburn, David P. Atherton, Charles W. Thiel, Zeb Barber, Wm. Randall Babbitt, Montana State Univ. (United States)


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Pure nanodiamonds for levitated optomechanics in vacuum (Conference Presentation) *(Invited Paper)*

Paper 10723-40

Time: 2:50 PM - 3:20 PM

Author(s): Angelo C. Frangeskou, The Univ. of Warwick (United Kingdom); A. T. M. Anishur Rahman, The Univ. of Warwick (United Kingdom), Univ. College London (United Kingdom); Laia Gines, Soumen Mandal, Oliver A. Williams, Cardiff Univ. (United Kingdom); Peter F. Barker, Univ. College London (United Kingdom); Gavin W. Morley, The Univ. of Warwick (United Kingdom)

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Coffee Break 3:20 PM - 3:50 PM

Infrared induced photo-dynamics of NV centres in optically trapped nanodiamond

Paper 10723-41

Time: 3:50 PM - 4:10 PM

Author(s): Lachlan Russell, The Univ. of New South Wales (Australia); Jean-Philippe Tetienne, David Simpson, The Univ. of Melbourne (Australia); Peter Reece, The Univ. of New South Wales (Australia)

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An apparatus for optical levitation of microspheres in high vacuum with rotational control

Paper 10723-42

Time: 4:10 PM - 4:30 PM

Author(s): Fernando Monteiro, Sumita Ghosh, Elizabeth C. van Assendelft, David C. Moore, Yale Univ. (United States)

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Session 10: Optofluidic Biological Studies

Tuesday 21 August 2018

4:30 PM - 5:40 PM

Location: Conv. Ctr. Room 30C

Session Chair: [Steven L. Neale](#), Univ. of Glasgow (United Kingdom)


Biological waveguides of light

Paper 10723-43

Time: 4:30 PM - 4:50 PM

Author(s): Anna S. Bezryadina, Univ. of California, San Diego (United States), San Francisco State Univ. (United States); Rekha Gautam, Josh Lamstein, San Francisco State Univ. (United States); Tobias Hansson, Univ. du Québec (Canada); Benjamin Wetzels, Institut National de la Recherche Scientifique

(Canada), Univ. du Québec (Canada); Roberto Morandotti, Institut National de la Recherche Scientifique (Canada), Univ. du Québec (Russian Federation), ITMO Univ. (China); Zhigang Chen, San Francisco State Univ. (United States), Nankai Univ. (China)


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Recent progress in waveguide-based on-chip particle trapping and manipulation (Conference Presentation) (Invited Paper)

Paper 10723-45

Time: 4:50 PM - 5:20 PM

Author(s): Holger Schmidt, Mahmud Rahman, Yucheng Li, Univ. of California, Santa Cruz (United States); Matthew Stott, Aaron Hawkins, Brigham Young Univ. (United States)


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Controlled optical manipulation of particles within a buried microfluidic network (Conference Presentation)

Paper 10723-44

Time: 5:20 PM - 5:40 PM

Author(s): Lynn Paterson, Anusha Keloth, Heriot-Watt Univ. (United Kingdom); Melanie Jimenez, Univ. of Glasgow (United Kingdom); Ajoy K. Kar, Heriot-Watt Univ. (United Kingdom)

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Session 11: Interrogating Single Bio-Molecules and Nano-Components

Tuesday 21 August 2018

5:40 PM - 7:00 PM

Location: Conv. Ctr. Room 30C


Session Chair: Md. Mahmudur Rahman, Univ. of California, Santa Cruz (United States)

Axial scanning method for single biomolecule optical imaging combined with tweezers (Conference Presentation)

Paper 10723-46

Time: 5:40 PM - 6:00 PM

Author(s): Jong-Bong Lee, Minhyeok Chang, Jungsic Oh, Pohang Univ. of Science and Technology (Korea, Republic of)


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Optical trapping of nanoparticles and proteins with resonant coaxial nanoapertures using 8-nm gaps (Conference Presentation)

Paper 10723-47

Time: 6:00 PM - 6:20 PM

Author(s): Daehan Yoo, Univ. of Minnesota, Twin Cities (United States); Gurunatha K. Laxminarayana, Univ. of Victoria (Canada); Daniel Mohr, Han-Kyu Choi, Univ. of Minnesota, Twin Cities (United States); Reuven Gordon, Univ. of Victoria (Canada); Sang-Hyun Oh, Univ. of Minnesota, Twin Cities (United States)


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Enabling nanoscale detection of longitudinal and transverse chirality in photo-induced force microscopy using structured light (Conference Presentation)

Paper 10723-48

Time: 6:20 PM - 6:40 PM

Author(s): Mohammad Albooyeh, Mohammad Kamandi, Mohsen Rajaei, Jinwei Zeng, H. K. Wickramasinghe, Filippo Capolino, Univ. of California, Irvine (United States)


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Regulation of a viral packaging motor's grip on DNA studied with optical tweezers

Paper 10723-49

Time: 6:40 PM - 7:00 PM

Author(s): Douglas Smith, Mariam E. Ordyan, Univ. of California, San Diego (United States)

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OTOM Conference Photo

Tuesday 21 August 2018

7:00 PM - 7:30 PM

All Optical Trapping and Micromanipulation conference participants are encouraged to gather for a group photo at the end of the day.

OTOM Conference Dinner

Tuesday 21 August 2018

7:30 PM - 10:00 AM

Conference attendees are welcome to enjoy dinner together. Visit conference room for details.

WEDNESDAY 22 AUGUST

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Session 12: Tutorial on Optical Tweezers Microheology

Wednesday 22 August 2018
8:00 AM - 9:30 AM
Location: Conv. Ctr. Room 30C


Session Chair: [H. Daniel Ou-Yang](#), Lehigh Univ. (United States)

Optical tweezers microrheology: from the basics to novel techniques and applications (Conference Presentation) *(Invited Paper)*

Paper 10723-50

Time: 8:00 AM - 9:30 AM

Author(s): Rae M. Robertson-Anderson, Univ. of San Diego (United States)

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Session 13: Microrheological Probes and Studies

Wednesday 22 August 2018
9:30 AM - 10:30 AM
Location: Conv. Ctr. Room 30C


Session Chair: Rae M. Robertson-Anderson, Univ. of San Diego (United States)

Active microrheology using a two-particle system coupled by hydrodynamic interactions in optical tweezers

Paper 10723-51

Time: 9:30 AM - 9:50 AM

Author(s): Shuvojit Paul, Randhir Kumar, Ayan Banerjee, Indian Institute of Science Education and Research Kolkata (India)

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Optical tweezers and cationic quantum dots to study rheological properties and membrane electrical charges in red blood cells

Paper 10723-52

Time: 9:50 AM - 10:10 AM

Author(s): Fabiano Crisafulli, Diógenes Moura, Carinna Nunes de Lima, Tiago Souza, Yandilla Silva, Marcos de Oliveira, Univ. Federal de Pernambuco (Brazil); Diego Silva, Univ. Federal do Vale do São Francisco (Brazil); Beate Santos, Univ. Federal de Pernambuco (Brazil); Carlos Lenz Cesar, Univ. Federal do Ceará (Brazil); Renato de Araujo, Adriana Fontes, Univ. Federal de Pernambuco (Brazil)


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Spatial distributions of pericellular stiffness in natural extracellular matrices are dependent on cell-mediated proteolysis and contractility

Paper 10723-53

Time: 10:10 AM - 10:30 AM

Author(s): Mark Keating, Abhishek Kurup, Univ. of California, Irvine (United States); Martha Alvarez-Elizondo, Technion-Israel Institute of Technology (Israel); Alex Levine, Univ. of California, Los Angeles (United States); Elliot Botvinick, Univ. of California, Irvine (United States)

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Coffee Break 10:30 AM - 10:55 AM

Session 14: Using the Photonic Toolbox to Study Cells and Their Organelles

Wednesday 22 August 2018
10:55 AM - 11:55 AM
Location: Conv. Ctr. Room 30C


Session Chair: Ashley R. Carter, Amherst College (United States)

Bacterial stress monitoring with an optical 1D microcavity (Conference Presentation)

Paper 10723-54

Time: 10:55 AM - 11:15 AM

Author(s): Manon Tardif, Commissariat à l'Énergie Atomique (France); Rita Therisod, Ecole Polytechnique Fédérale de Lausanne (Switzerland); Emmanuel Picard, Pierre R. Marcoux, Commissariat à l'Énergie Atomique (France); Victor Gaude, Ctr. National de la Recherche Scientifique (France); Jean-Baptiste Jager, Commissariat à l'Énergie Atomique (France); Romuald Houdré, Ecole Polytechnique Fédérale de Lausanne (Switzerland); Emmanuel Hadji, Commissariat à l'Énergie Atomique (France); David Peyrade, Ctr. National de la Recherche Scientifique (France)

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Studies of biflagellated microalgae adhesion using an optical trap system

Paper 10723-55

Time: 11:15 AM - 11:35 AM

Author(s): Beatriz A. Juarez-Alvarez, Ctr. de Investigación Científica y de Educación Superior de Ensenada B.C. (Mexico); Veneranda G. Garces, Pacifica Photonics (Mexico); Beatriz Cordero-Esquivel, Ctr. de Investigación Científica y de Educación Superior de Ensenada B.C. (Mexico); Gabriel C. Spalding, Illinois Wesleyan Univ. (United States); Kevin A. O'Donnell, Ctr. de Investigación Científica y de Educación Superior de Ensenada B.C. (Mexico), Pacifica Photonics (Mexico)


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Optical super resolution localization to measure deflections of an array of nanowires: application to acquisition of bacterial adhesion force map

Paper 10723-56

Time: 11:35 AM - 11:55 AM

Author(s): Aldeliane M. da Silva, Univ. Estadual de Campinas (Brazil); Prasana K. Sahoo, Univ. of South Florida (United States); Alessandro Cavalli, Technische Univ. Eindhoven (Netherlands); Alessandra A. de Souza, Ctr. APTA Citros Sylvio Moreira (Brazil), Instituto Agronômico (Brazil); Erik P. A. M. Bakkens, Technische Univ. Eindhoven (Netherlands); Vitor B. Pelegati, Hernandes F. Carvalho, Univ. Estadual de Campinas (Brazil); Carlos L. Cesar, Univ. Federal do Ceará (Brazil); Richard Janissen, Kavli Institute of Nanoscience Delft (Netherlands), Technische Univ. Delft (Netherlands); Monica A. Cotta, Instituto de Física "Gleb Wataghin" (Brazil), Univ. Estadual de Campinas (Brazil)

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Exhibition/Lunch Break 11:55 AM - 1:25 PM

Session 15: Near-Field Manipulation, Plasmonic Traps, and Auxiliary Tools

Wednesday 22 August 2018

1:45 PM - 3:25 PM


Location: Conv. Ctr. Room 30C

Session Chair: [Reuven Gordon](#), Univ. of Victoria (Canada)**Holographic plasmonic tweezing for dynamic trapping and manipulation** *(Invited Paper)*

Paper 10723-57

Time: 1:45 PM - 2:15 PM

Author(s): Preston Huft, Joshua Kolbow, Jonathan Thweatt, John J. McCauley, Nathan C. Lindquist, Bethel Univ. (United States)


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Three-dimensional measurement of the helicity-dependent forces on a Mie particle *(Invited Paper)*

Paper 10723-58

Time: 2:15 PM - 2:45 PM

Author(s): Federico Capasso, Harvard John A. Paulson School of Engineering and Applied Sciences (United States)

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Chiral sensitive metalens tailored plasmonic traps *(Conference Presentation)*

Paper 10723-59

Time: 2:45 PM - 3:05 PM

Author(s): Yuquan Zhang, Xianyou Wang, Yanmeng Dai, Changjun Min, Xiacong Yuan, Shenzhen Univ. (China)


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Auxiliary tools for optomechanical manipulation

Paper 10723-60

Time: 3:05 PM - 3:25 PM

Author(s): Ivan I. Shishkin, Tel Aviv Univ. (Israel), ITMO Univ. (Russian Federation); Hanan Markovich, Hani Barhom, Roman Noskov, Yael Roichman, Pavel Ginzburg, Tel Aviv Univ. (Israel)

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Coffee Break 3:25 PM - 3:50 PM

Session 16: Trapping at Extremes ("Gonzo Trapping")

Wednesday 22 August 2018

3:50 PM - 5:30 PM

Location: Conv. Ctr. Room 30C


Session Chair: Justin Bruce Peatross, Brigham Young Univ. (United States)

Deposition of levitated charged nanoparticles on a substrate using an electrostatic lens

Paper 10723-62

Time: 3:50 PM - 4:10 PM

Author(s): Joyce E. Coppock, Ian McAdams, Jacob Murphy, Samuel Kleuter, Jose Hannan, Bruce Kane, Univ. of Maryland, College Park (United States)


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Investigation of mechanical torque applied by electron vortex beams in a liquid cell

Paper 10723-63

Time: 4:10 PM - 4:30 PM

Author(s): Alice Greenberg, Univ. of Oregon (United States); Hannah DeVylidere, Linfield College (United States); Jordan Pierce, Benjamin McMoran, Univ. of Oregon (United States)


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Optical trapping of dielectric particles in superfluid helium

Paper 10723-64

Time: 4:30 PM - 4:50 PM


Author(s): Yosuke Minowa, Xi Geng, Masaaki Ashida, Osaka Univ. (Japan)

[Add To My Schedule](#) **Laser acceleration of absorbing particles and their role in inducing early materials failure (Conference Presentation) (Invited Paper)**

Paper 10723-65

Time: 4:50 PM - 5:10 PM

Author(s): Joseph J. Talghader, Tirtha Mitra, Univ. of Minnesota, Twin Cities (United States)

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THURSDAY 23 AUGUST[Show All Abstracts](#)

Session 17: Optical Manipulation of Matter Through Gaseous Media

Thursday 23 August 2018

8:00 AM - 9:00 AM


Location: Conv. Ctr. Room 30C

Session Chair: [Kishan Dholakia](#), Univ. of St. Andrews (United Kingdom)**Morphology and motion of single optically trapped aerosol particles from digital holography**

Paper 10723-67

Time: 8:00 AM - 8:20 AM


Author(s): Grégory David, Kivanç Esat, ETH Zurich (Switzerland); Ioannis Thanopoulos, TEI of Western Greece (Greece); Ruth Signorell, ETH Zurich (Switzerland)

[Add To My Schedule](#) **Anatomy of single airborne particle using laser-trapped submicron position-resolved temporal Raman spectra**

Paper 10723-68

Time: 8:20 AM - 8:40 AM

Author(s): Aimable Kalume, U.S. Army Research Lab. (United States); Chuji Wang, Mississippi State Univ. (United States); Joshua Santaripa, Sandia National Labs. (United States); Patricio Piedra, Yong-Le Pan, U.S. Army Research Lab. (United States)

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Session 18: Pick-and-Place and Hybrid Technologies

Thursday 23 August 2018

9:00 AM - 10:10 AM


Location: Conv. Ctr. Room 30C

Session Chair: [Rubén Ramos-García](#), Instituto Nacional de Astrofísica, Óptica y Electrónica (Mexico)**Maximum manipulation speeds of dielectric and metallic micro and nanoparticles (Conference Presentation)**

Paper 10723-70

Time: 9:00 AM - 9:20 AM


Author(s): Euan McLeod, Jeffrey E. Melzer, College of Optical Sciences, The Univ. of Arizona (United States)

[Add To My Schedule](#) **Assembly of mesoscopic to macroscopic particles with optoelectronic tweezers (OET) (Invited Paper)**

Paper 10723-71

Time: 9:20 AM - 9:50 AM

Author(s): Steven L. Neale, Univ. of Glasgow (United Kingdom)

[Add To My Schedule](#) **Hopping mechanism of particles and cells escaping from optoelectronic tweezer traps**

Paper 10723-72

Time: 9:50 AM - 10:10 AM

Author(s): Shuailong Zhang, Aaron Wheeler, Univ. of Toronto (Canada)

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Coffee Break 10:10 AM - 10:40 AM

Session 19: Novel Manipulation and Sorting and Active Matter

Thursday 23 August 2018

10:40 AM - 12:10 PM

Location: Conv. Ctr. Room 30C


Session Chair: [Steven L. Neale](#), Univ. of Glasgow (United Kingdom)

Controllable particle hopping in optofluidic lattice for antibody screening and binding efficiency measurement

Paper 10723-73

Time: 10:40 AM - 11:00 AM

Author(s): Yuzhi Shi, Sha Xiong, Nanyang Technological Univ. (Singapore); Y. Zhang, Nanyang Technological Univ. (China); Lip Ket Chin, Nanyang Technological Univ. (Singapore); Jiuwei Wu, Tianning Chen, Xi'an Jiaotong Univ. (China); Ai Qun Liu, Nanyang Technological Univ. (Singapore)


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Optical trapping and Gram type differentiation of living bacteria with 2D photonic crystal cavities (Conference Presentation)

Paper 10723-74

Time: 11:00 AM - 11:20 AM

Author(s): Rita Therisod, Ecole Polytechnique Fédérale de Lausanne (Switzerland); Manon Tardif, Univ. Grenoble Alpes (France), Institut Nanosciences et Cryogénie (France); Emmanuel Picard, Pierre R. Marcoux, Victor Gaude, Jean-Baptiste Jager, Emmanuel Hadji, David Peyrade, Univ. Grenoble Alpes (France); Romuald Houdré, Ecole Polytechnique Fédérale de Lausanne (Switzerland)

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Matter motion by photoisomerization

(Canceled)

Paper 10723-75

Time: 11:20 AM - 11:40 AM


Author(s):

Optothermal manipulations of colloidal particles and living cells (Conference Presentation) (Invited Paper)

Paper 10723-77

Time: 11:40 AM - 12:10 PM

Author(s): Yuebing Zheng, The Univ. of Texas at Austin (United States)

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Exhibition/Lunch Break 12:10 PM - 1:30 PM

**Session 20:
Micro-Mechanics: Stretching and Compression**

Thursday 23 August 2018

1:30 PM - 2:10 PM

Location: Conv. Ctr. Room 30C


Session Chair: [Halina Rubinsztein-Dunlop](#), The Univ. of Queensland (Australia)

Study for cell deformability by optical manipulation

Paper 10723-78

Time: 1:30 PM - 1:50 PM

Author(s): Ji Young Moon, The Univ. of Sydney (Australia); Sebin Choi, Joon Sang Lee, Yonsei Univ. (Korea, Republic of)


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Atomic force microscopy combined with optical tweezers (AFM/OT): characterization of micro and nanomaterial interactions

Paper 10723-79

Time: 1:50 PM - 2:10 PM

Author(s): Krzysztof Zembrzycki, Tomasz Aleksander Kowalewski, Sylwia Pawlowska, Justyna Chrzanowska-Gizynska, Marcin Nowak, Mateusz Walczak, Filippon Pierini, Institute of Fundamental Technological Research (Poland)

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**Session 21:
Future Work for the OTOM Community**

Thursday 23 August 2018

2:10 PM - 5:10 PM

Location: Conv. Ctr. Room 30C


Session Chair: [Halina Rubinsztein-Dunlop](#), The Univ. of Queensland (Australia)

Helical microfibers created by photopolymerization with light fields possessing orbital angular momentum (Conference Presentation)

Paper 10723-80

Time: 2:10 PM - 2:30 PM

Author(s): Yoshihiko Arita, Univ. of St. Andrews (United Kingdom); Junhyung Lee, Shunsuke Toyoshima, Katsuhiko Miyamoto, Chiba Univ. (Japan); Paris Panagiotopoulos, Ewan Wright, College of Optical Sciences, The Univ. of Arizona (United States); Kishan Dholakia, Univ. of St. Andrews (United Kingdom); Takashige Omatsu, Chiba Univ. (Japan)


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Direct measurement of optical torque

Paper 10723-81

Time: 2:30 PM - 2:50 PM

Author(s): Franziska Strasser, Simon Moser, Monika Ritsch-Martel, Gregor Thalhammer, Medizinische Univ. Innsbruck (Austria)


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Atomic spectroscopy with the twisted photons

Paper 10723-82

Time: 2:50 PM - 3:10 PM

Author(s): Andrei Afanasev, The George Washington Univ. (United States); Carl E. Carlson, The College of William & Mary (United States)

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Coffee Break 3:10 PM - 3:40 PM

Holographic optogenetic neural interfaces: from fundamentals to precise behavioral modulation (*Invited Paper*)

Paper 10723-83

Time: 3:40 PM - 4:10 PM

Author(s): Shy Shoham, NYU Langone Medical Ctr. (United States)


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Microscopic engine powered by critical demixing

Paper 10723-85

Time: 4:30 PM - 4:50 PM

Author(s): Falko Schmidt, Göteborgs Univ. (Sweden), Bilkent Univ. (Turkey), Univ. Leipzig (Germany); Agnese Callegari, Göteborgs Univ. (Sweden); Frank Cichos, Univ. Leipzig (Germany); Giovanni Volpe, Göteborgs Univ. (Sweden), Bilkent Univ. (Turkey)

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Ultrasensitive force detection and fundamental physics with optically trapped nanospheres

(Canceled)

Paper 10723-86

Time: 4:50 PM - 5:10 PM

Author(s):

