OSA Incubator Generation, Propagation & Detection of Light Beams Carrying Orbital Angular Momentum

8-10 August 2018
OSA Headquarters, Washington, DC USA

HOSTED BY:
Brandon Cochenour, Naval Air Warfare Center Aircraft Division, United States
Eric Johnson, Clemson University, United States
Peter Morrison, Office of Naval Research, United States
Linda Mullen, Naval Air Warfare Center Aircraft Division, United States

AGENDA

Wednesday 8 August 2018

Afternoon	Arrival/Hotel Check-in Hotel Palomar, 2121 P Street, NW
18:00	Welcome Dinner Leziz, 2016 P Street, NW

Thursday 9 August 2018

8:00	Breakfast & Poster Set-up OSA Headquarters, 2010 Massachusetts Ave, NW
8:30	**Welcome** Elizabeth Nolan, The Optical Society
8:45	**Program Overview and Goals** Hosts
9:00	**OAM Sensing, Communication & Propagation in Free-space: Anticipated Needs & Requirements** Peter Morrison, Office of Naval Research, United States
9:20	**OAM Sensing, Communication & Propagation Underwater: Anticipated Needs & Requirements** Mike Wardlaw, Office of Naval Research, United States
9:40	Coffee Break & Poster Time

TOPIC 1: Propagation & Interaction with Media

10:00 Propagation Dynamics of Twisted Light in Free-Space and Submersed Optical Links
Martin Lavery, University of Glasgow, United Kingdom

10:20 Vortex Beans in Atmospheric Turbulence
Greg Gbur, University of North Carolina at Charlotte, United States

10:40 Measurements of OAM in Distributed Volume Turbulence
Darryl Sanchez, US Air Force Research Lab, Directed Energy, United States

11:00 Propagating High Energy Laser Vortex Beams
Shermineh Rostami Fairchild, University of Central Florida, CREOL, United States

11:20 Moderated Discussion

12:20 Lunch (provided) & Poster Time

Topic 2: Devices & Fabrication

13:20 Higher Order Bessel Beams Integrated in Time and Space (HOBBITS) for Maritime Applications
Eric Johnson, Clemson University, United States

13:40 Generation & Detection of Tunable Orbital Angular Momentum in Polarization-Maintaining Optical Fiber
Juliet Gopinath, University of Colorado at Boulder, United States

14:00 Photonic Lanterns for OAM Generation & Detection
Rodrigo Amezcua Correa, University of Central Florida, CREOL, United States

14:20 Generating, Encoding, Amplifying & Detecting OAM Using Fibers
Siddharth Ramachandran, Boston University, United States

14:40 Moderated Discussion

15:40 Coffee Break & Poster Time

Topic 3: Communications

16:00 High Capacity Optical Communications Using OAM
Alan Willner, University of Southern California, United States

Thursday 9 August 2018, continued

16:20 Modulation, Propagation, and Fundamental Limits
Akbar Sayeed, National Science Foundation, United States

16:40 Measuring Multiplexed OAM Modes with Convolutional Neural Networks
Abbie Watnik, US Naval Research Lab, United States

17:00 Moderated Discussion

18:00 Dinner
Bistro, Bistro, 1727 Connecticut Ave NW

Friday 10 August 2018

8:00 Breakfast & Poster Time
OSA Headquarters, 2010 Massachusetts Ave, NW

TOPIC 4: Sensing & Imaging

8:30 Making Use of the Physical Properties of Optical Vortices
Grover Swartzlander, Rochester Institute of Technology, United States

8:50 OAM and Lidar Remote Sensing
Mike Lieber, Ball Aerospace & Technologies, United States

9:10 Optical Vortices for Laser Sensing and Communications in the Ocean
Brandon Cochenour, Naval Air Warfare Center, United States

9:30 Structured Wavefronts for Optical Sensing
Aristide Dogariu, University of Central Florida, CREOL, United States

9:50 Transfer of Optical OAM to Electrons: Experiment vs Theory
Andrei Afanasev, The George Washington University, United States

10:00 Moderated Discussion

11:00 Coffee Break & Poster Time

11:20 Final Discussion & Next Steps

12:00 Lunch (provided) & Poster Time

14:00 Adjournment