

**Symposium on Photonics Science and Technology  
2018 Fitzpatrick Institute for Photonics (FIP) Annual Meeting**

*March 12-13, 2018, Duke University*

**ADVANCE PROGRAM AGENDA**

**Monday, March 12, 2018 (Fitzpatrick Center) – Morning Session**

8:00-9:00 am **Registration**

9:00-9:05 **Introduction**

**Tuan Vo-Dinh**, Director of the Fitzpatrick Institute for Photonics, R. Eugene and Susie E. Goodson Professor of Biomedical Engineering and Professor of Chemistry, Duke University

**Opening Welcome Address**

9:05-9:15 **Sally Kornbluth**, Provost and James B. Duke Professor of Pharmacology and Cancer Biology, Duke University

9:15-9:25 **Ravi Bellamkonda**, Vinik Dean, Pratt School of Engineering, Duke University

9:25-9:40 **Tuan Vo-Dinh**, Director of the Fitzpatrick Institute for Photonics, R. Eugene and Susie E. Goodson Professor of Biomedical Engineering and Professor of Chemistry, Duke University

*In Celebration of THE INTERNATIONAL DAY OF LIGHT*



9:40-10:20 **Symposium Keynote**

**Steven Chu**, 1997 Nobel Laureate in Physics  
Former Secretary of Energy  
William R. Kenan, Jr. Professor of Humanities and Sciences, Professor of Physics and Molecular & Cellular Physiology Stanford University

10:20-10:30 **FIP Award Presentation – 2018 Pioneer in Photonics Award**

10:30-10:50 **COFFEE BREAK**

10:50-12:00 **Session 1: Special Topic – *From Microscopy to Nanoscopy: Unveiling Matters and Living Systems***

**Chair: Adam Wax**, Professor of Biomedical Engineering, Duke University

10:50- 11:20 **Invited Lecture**

**Ji-Xin Cheng**, Moustakas Chair Professor in Photonics and Optoelectronics, Department of Electrical and Computer Engineering, Department of Biomedical Engineering, Boston University

11:20- 11:40 **Warren Warren**, Chair of the Department of Physics, James

B. Duke Professor of Chemistry, Professor of Radiology, Biomedical Engineering, and Physics, Duke University

11:40-12:00 **G. Allan Johnson**, Charles E. Putman University Professor of Radiology, Duke School of Medicine

12:00-1:30 pm **LUNCH BREAK** (Lunch provided)

**Poster Session** (No presenters at this time)

Posters are on exhibit in the Atrium area of the Fitzpatrick Center

**Monday, March 12, 2018 (Fitzpatrick Center) - *Afternoon Session***

1:30-3:10 **Session 2: Special Topic – *From Microscopy to Nanoscopy: Unveiling Matters and Living Systems***

**Chair: David Smith**, James B. Duke Professor of Electrical and Computer Engineering, Duke University

1:30-2:00 **Invited Lecture**

**Peter So**, Professor of Mechanical Engineering and Biological Engineering, Massachusetts Institute of Technology

2:00-2:30 **Invited Lecture**

**Laura Waller**, Ted Van Duzer Endowed Associate Professor, Director of Computational Imaging Lab, Division of Electrical Engineering, University of California, Berkeley

2:30-2:50 **Joseph Izatt**, Michael J. Fitzpatrick Professor of Engineering, Duke University, and Professor of Ophthalmology,  
Duke University School of Medicine

2:50-3:10     **Sina Farsiu**, Associate Professor, Biomedical Engineering, Duke University, and Professor of Ophthalmology,  
Duke University School of Medicine

3:10-3:20     **COFFEE BREAK**

3:20-4:20     **Session 3: *Advanced Photonic Technologies and Systems I***  
**Chair: Katherine J. Franz**, Chair, Department of Chemistry and Alexander Hehmeyer Professor of Chemistry, Duke University

3:20-3:40     **Tony Jun Huang**, Professor in the Department of Mechanical Engineering and Materials Science, Duke University

3:40-4:00     **David Katz**, Nello L. Teer, Jr. Professor of Biomedical Engineering, Duke University and Professor in Obstetrics and Gynecology, Duke University School of Medicine

4:00-4:20     **Michael Gehm**, Associate Professor, Department of Electrical and Computer Engineering, Duke University

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4:30-6:00     **POSTER SESSION & RECEPTION**  
**Presenters will be at posters from 4:30-5:00pm**  
Posters are exhibited in the Atrium area of the Fitzpatrick Center

***FIP SYMPOSIUM COCKTAIL RECEPTION  
in the Atrium area of the Fitzpatrick  
Center (Heavy hors d'oeuvres will be  
served)***

**Tuesday, March 13 (Fitzpatrick Center) – *Special Morning Session Workshop***

10:00- 12:00pm      **Session 4: *Special Workshop - Introduction to the Advanced Instrumentation Resources at Duke University***  
**Program Committee Chairs:**  
**Warren S. Warren**, Chair of the Department of Physics and James B. Duke Professor of Physics, Chemistry, Radiology and Biomedical Engineering, Duke University  
**Nan Jokerst**, Associate Dean for Strategic Initiatives of the Pratt School of Engineering, and J.A. Jones Professor of Electrical and Computer Engineering, Duke University

10:00- 10:40am      ***Overview Presentations of Program Coordinators: Cryo-Electron Microscopy System***  
**Mark D. Walters**, Director, Shared Materials Instrumentation Facility (SMIF), Duke University

***Advanced Light Imaging and Spectroscopy (ALIS)***  
**Martin Fischer**, Associate Research Professor in the Department of Chemistry and Physics, Duke University

***High Intensity Gamma-Ray Source (HIGS)***  
**Ying K. Wu**, Professor of Physics, Duke University

***Duke Light Microscopy Core Facility***  
**Lisa Cameron**, Director of the Duke Light Microscopy Core Facility, Duke University

10:40-12:00pm      **Lab Tours** (Meet outside Schiciano Auditorium at  
10:40am)

***Cryo-EM System***  
***Advanced Light Imaging and Spectroscopy (ALIS)***  
***High Intensity Gamma-Ray Source (HIGS)***

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12:00-1:30 pm **LUNCH BREAK** (Lunch provided)

**Poster Session** (No presenters at this time)  
Posters are exhibited in the Atrium area of the Fitzpatrick Center

**Tuesday, March 13 (Fitzpatrick Center) - Afternoon Session**

1:30-3:20pm **Session 5: Special Topic – From Microscopy to Nanoscopy: Unveiling Matters and Living Systems**

**Chair: Gleb Finkelstein**, Professor of Physics, Duke University

1:30-2:00 **Invited Lecture**

**Laura Fabris**, Associate Professor, Department of Materials Science and Engineering, Rutgers University

2:00-2:30 **Invited Lecture**

**Tatyana Smirnova**, Associate Professor, Department of Chemistry, North Carolina State University

2:30-3:00 **Invited Lecture**

**Susan Trammell**, Associate Professor, Department of Physics and Optical Science, University of North Carolina at Charlotte

3:00-3:20

**Bruce Klitzman**, Associate Professor of Surgery, Duke University School of Medicine, and Associate Professor of Biomedical Engineering and Assistant Research Professor of Cell Biology, Duke University

3:20-3:40 **COFFEE BREAK**

3:40-4:50 **Session 6: Advanced Photonic Technologies and Systems**

**Chair: Heileen Hsu-Kim**, Mary Milus Yoh and Harold L. Yoh, Jr., Associate Professor of Civil and Environmental Engineering, Duke University

3:40-3:50 **Poster Award Winners Announced**

3:50-4:10

**Maiken Mikkelsen**, James N. and Elizabeth H. Barton Associate Professor of Electrical and Computer Engineering, Associate Professor, Department of Physics and Department of Mechanical Engineering and Materials Science, Duke University

4:10-4:30 **Adrienne Stiff-Roberts**, Associate Professor,  
Department of Electrical and Computer Engineering,  
Duke University

4:30-4:50 **Paolo Maccarini** Assistant Research Professor,  
Department of Biomedical Engineering, Duke  
University and Assistant Professor, Department of  
Anesthesiology, Duke University School of Medicine

4:50-5:00 Closing Remarks

5:00pm **SYMPOSIUM ADJOURNS**