

# OSA Incubator: Metamaterial Films for In-Space Propulsion by Radiation Pressure

7-9 October 2018

Washington, DC USA

HOSTED BY:

Grover Swartzlander, Rochester Institute of Technology, United States

Les Johnson, NASA Marshall Space Flight Center, United States

Nelson Tabiryan, BeamCo, United States

## AGENDA

### Sunday 7 October 2018

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Afternoon           Arrival/Hotel Check-in  
                                  Hotel Palomar, 2121 P Street, NW

18:00                Welcome Dinner  
                                  OSA Headquarters, 2010 Massachusetts Ave, NW

### Monday 8 October 2018

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8:00                 Breakfast  
                                  OSA Headquarters, 2010 Massachusetts Ave, NW

8:30                 Welcome  
                                  *Elizabeth Rogan, CEO, OSA*

8:45                 Program Overview and Goals  
                                  *Grover Swartzlander, Rochester Institute of Technology*

### The Big Picture on In-Space Propulsion

9:10                 Solar Sailing  
                                  *Bruce Betts, Planetary Society, United States*

9:30                 Polarization Gratings  
                                  *Nelson Tabiryan, Beamco, United States*

9:50                 Beamed  
                                  *Harry Atwater, California Institute of Technology, United States*

10:10                Dielectric Metafilms  
                                  Vladimir Shalaev, Purdue University, United States

- 10:30 Coffee Break
- Panel Presentations and Discussions**
- 11:00 Sailcraft Mission  
*Panelists: Les Johnson, NASA, United States  
Nathan Barnes, L'Garde, United States*
- 11:20 Moderated Discussion: Sailcraft Mission
- 11:50 Radiation Pressure on a Solar or Laser Driven Sailcraft  
*Panelists: Bruce Betts, Planetary Society, United States  
Peter Klupar, Breakthrough Initiatives, United States  
Edward Montgomery, Mont. Tech, LLC, United States*
- 12:10 Moderated Discussion: Radiation Pressure on a Solar or Laser Driven Sailcraft
- 12:40 Lunch, provided
- 13:40 Metamaterial Films  
*Panelists: Wei-Ting Chen, Harvard University, United States  
Rajesh Menon, University of Utah, United States  
Vladimir Shalaev, Purdue University, United States  
Nelson Tabiryan, Beamco, United States*
- 14:00 Moderated Discussion: Metamaterial Films
- 14:30 **Breakout Session Introductions (approx. 13 minutes each)**
- 15:10 Coffee Break
- 15:40 Breakout Session Time
- Inner Solar System (Near Sun & Near Earth) Mission  
*Leader: Ben Diedrich, Dynamic Concepts, Inc., United States*
- Outer Solar System & Beyond Mission  
*Leader: Darren Garber, NXTRAC, United States*
- Laser-Light Driven Sail Mission  
*Leader: Peter Klupar, Breakthrough Initiatives, United States*
- 18:00 Dinner  
Bistrot du Coin, 1738 Connecticut Ave NW

## Tuesday 9 October 2018

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- 8:00 Breakfast  
OSA Headquarters, 2010 Massachusetts Ave, NW
- 8:30 Space Environment Requirement  
*Panelists: Harry Atwater, California Institute of Technology, United States  
James Moore, Nexolve, United States  
Joe Minow, NASA, United States*
- 8:50 Moderated Discussion: Space Environment Requirement
- 9:30 Coffee Break
- Breakout Group Reports & Full Discussion**
- 10:00 Inner Solar System (Near Sun & Near Earth) Mission  
*Leader: Ben Diedrich, Dynamic Concepts, Inc., United States*
- 10:40 Outer Solar System & Beyond Mission  
*Leader: Darren Garber, NXTRAC, United States*
- 11:20 Laser-Light Driven Sail Mission  
*Leader: Peter Klupar, Breakthrough Initiatives, United States*
- 12:00 Final Discussions & Next Steps  
*Incubator Hosts*
- 13:00 Lunch, provided
- 14:00 Adjourn