

National Aeronautics and Space Administration



Early Stage Technology Workshop

Astrophysics and Heliophysics
March 3-4, 2015

Boeing Regional Headquarters-Crystal City
929 Long Bridge Drive
Arlington, VA 22202

Welcome!

The purpose of the Early Stage Technology Workshop series seeks to enable the NASA technology pipeline by expanding the potential infusion pathways for Space Technology Mission Directorate (STMD)-funded research. The objective is to generate an improved awareness, interest and more complete understanding of promising low TRL technologies that are ripe for continued maturation both internally within NASA, as well externally to other government agencies, industry and academia.

This Early State Technology Workshop will focus on the dynamic work under way in the areas of Astrophysics and Heliophysics. Approximately 20 technologists will present during the Workshop representing the STMD programs such as Small Business Innovation Research, Space Technology Research Grants, the Center Innovation Fund, and NASA Innovative Advanced Concepts.

By participating in this Workshop, you will have the unique opportunity to listen and engage with NASA technologists who seek partnerships that can further innovation in space exploration and science. We are anticipating attendees to include NASA representatives, staff from other Federal offices as well as industry partners and universities.

Through STMD, the nation invests in a broad range of technologies with the potential for a transformative payoff. STMD's investments provide foundational technologies that will enable key NASA Missions.

Web Stream

This event will be web streamed live at:

<https://new.livestream.com/viewnow/spacetech>

Additional Information

Upon completion of event, all conference presentation and taping of this event can be found at www.nasa.gov/spacetech along with additional information on our mission directorate.

Stay connected with NASA Space Technology Mission Directorate at:

https://twitter.com/NASA_Technology

<https://www.facebook.com/NASATechnology>

Follow the conversation:

#321Techoff

#NASATech

A special Thank You to Boeing for hosting our event.

March 3, 2015 Agenda

8:30am–9:00am

Introduction

9:00am–9:30am

Neil Goldsman

Silicon Carbide Deep Ultraviolet Detectors

9:30am–10:00am

Kevin Newman

*Achromatic Phase Shifting Mask for High Performance PIAA
Coronagraphy*

10:00am–10:30am

David Broadway

X-ray optical thin film development at MSFC

10:30am–11:00am

Kimberly Ennico Smith

Configurable Aperture Space Telescope

11:00am–12:30pm

Lunch

12:30pm–1:00pm

Jason Hogan

Gravitational Wave Detector

1:00pm–1:30pm

Abhay Joshi

*Low-Noise, UV-to-SWIR Broadband Photodiodes for Large-Format
Focal Plane Array Sensors*

1:30pm–2:00pm

Jarrold Vaillancourt

Infrared focal plane arrays based on quantum wells and superlattices

2:00pm–2:30pm

Seth Meeker & Ben Mazin

Coronagraphic Planet Finding with Energy Resolving Detectors

2:30pm–3:00pm

Kelsey Morgan

Developing Transition Edge Sensors for New Space-Based Applications

3:00pm–3:30pm

Chris Walker

10M Sub-Orbital LBR

3:30pm–4:00pm

Ed Wollack

Meta-Materials for Precision Millimeter and Sub-millimeter Astrophysical Imaging Applications

4:00pm–4:30pm

Q&A, Closing Remarks

5:00pm–7:00pm

Networking Social Event

Double Tree by Hilton Crystal City

300 Army Navy Dr. Arlington, VA 22202

Windows Over Washington

14th floor, North Tower

March 4, 2015 Agenda

8:30am–9:00am

Introduction

9:00am–9:30am

Joey Costa

Maniaurizable, High Performance, Fiber-Optic Gyroscopes for Small Satellites

9:30am–10:00am

Paul Bierden

Enhanced Reliability MEMS Deformable Mirrors for Space Imaging Applications

10:00am–10:30am

Paul Pinsukanjana

High Quantum Efficiency Type II SLS FPAs for Space-Based Applications

10:30am–11:00am

Susan Troiler-McKinstry

Integrated Control Electronics for Adjustable X-ray Optics

11:00am–12:30pm

Lunch

12:30pm–1:00pm

Mike Tsay & Vlad Hruby

Iodine RF Ion Thruster Development

1:00pm–1:30pm

Matt Shaw

Waveguide-Integrated MKIDs for On-Chip High-Resolution Near-Infrared Spectrometers

1:30pm–2:00pm

Geoff Burhnam

High Performance Spatial Filter Array Based on Single Mode Fiber Bundle

2:00pm–2:30pm

Johananan Codona

Wavefront Control for High Performance Coronagraphy on Segmented and Centrally Obscured Telescopes

2:30pm–3:00pm

Mark Lake & Bruce Davis

An Outrigger Component for a Deployable Occulter System

3:00pm–3:30pm

Q&A, Closing Remarks

4:00pm

Adjourn



TECHNOLOGY DRIVES EXPLORATION

