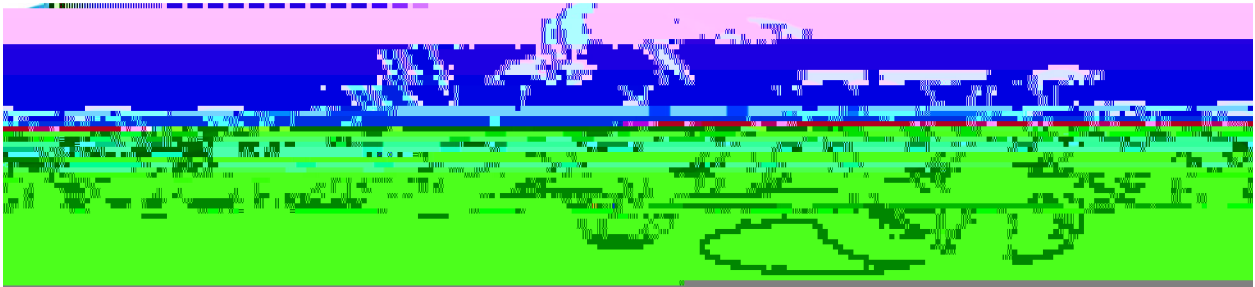


# **16<sup>th</sup> Ionospheric Effects Symposium**

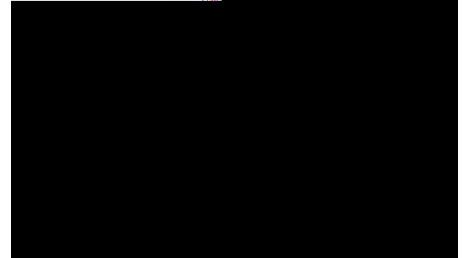
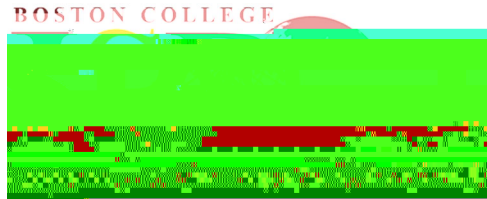
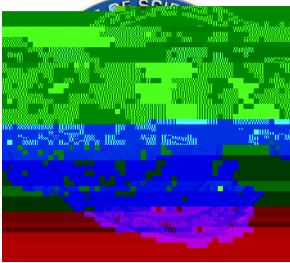


Bridging the gap between applications and  
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**9-11 May, 2023**

**The Hilton Alexandria Old Town,  
1767 King Street, Alexandria VA, 22314**

# Sponsors



## Scientific Organizing Committee

Keith Groves, Boston College (Chair)

Paul Bernhardt, Geophysical Institute, Univ. of Alaska Fairbanks

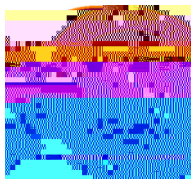
Jonah Colman, Air Force Research Laboratory

Anthea Coster, MIT Haystack Observatory

Bruce Fritz, Naval Research Laboratory

Dima Paznukhov, Boston College

## Local Organizing Committee



Keith Groves, Kathleen Kraemer, Andrea Murphy, Sean O'Connell,  
Daneille Berzinis, Bonnie Delay, Boston College Institute for  
Scientific Research

# **Logistics**

**REGISTRATION DESK**

## PRESENTATIONS

Presentations must be turned in ahead of time in order to be loaded onto the conference computers, preferably by email to [ies@bc.edu](mailto:ies@bc.edu) or [Kathleen.kraemer@bc.edu](mailto:Kathleen.kraemer@bc.edu); thumbdrives & CDs acceptable;

*pdf or ppt(x) only*

**Morning sessions: 5:30 pm the day before your talk**

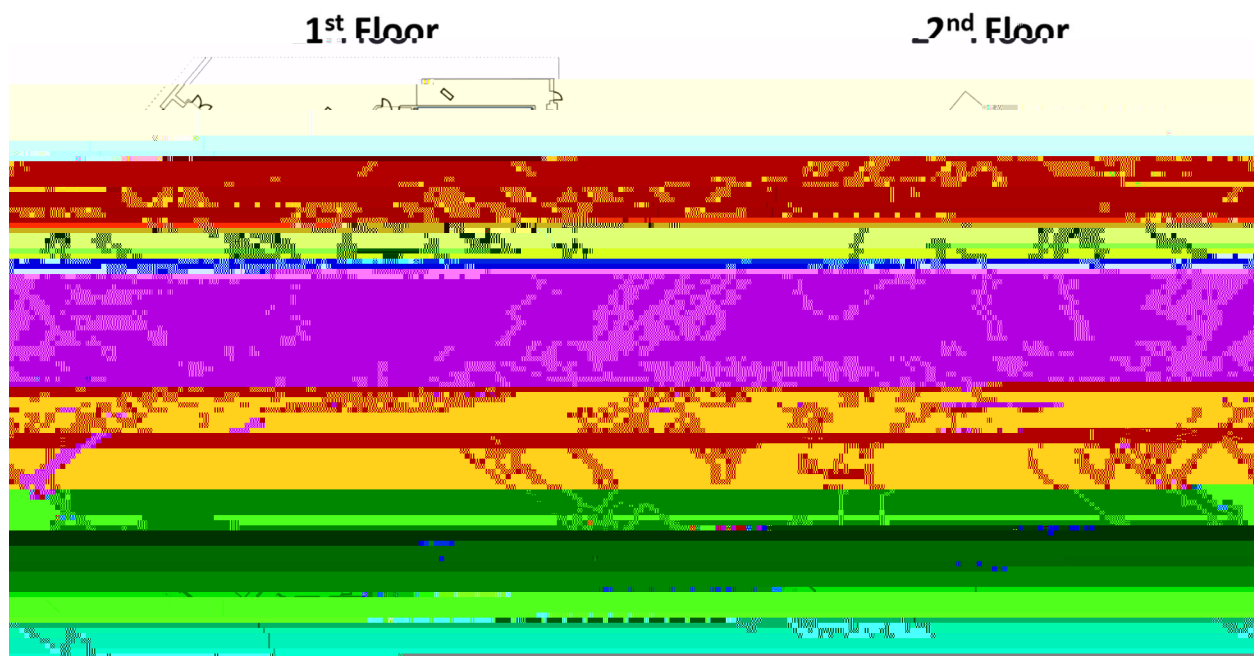
**Afternoon session: 10:15 am the day of your talk**

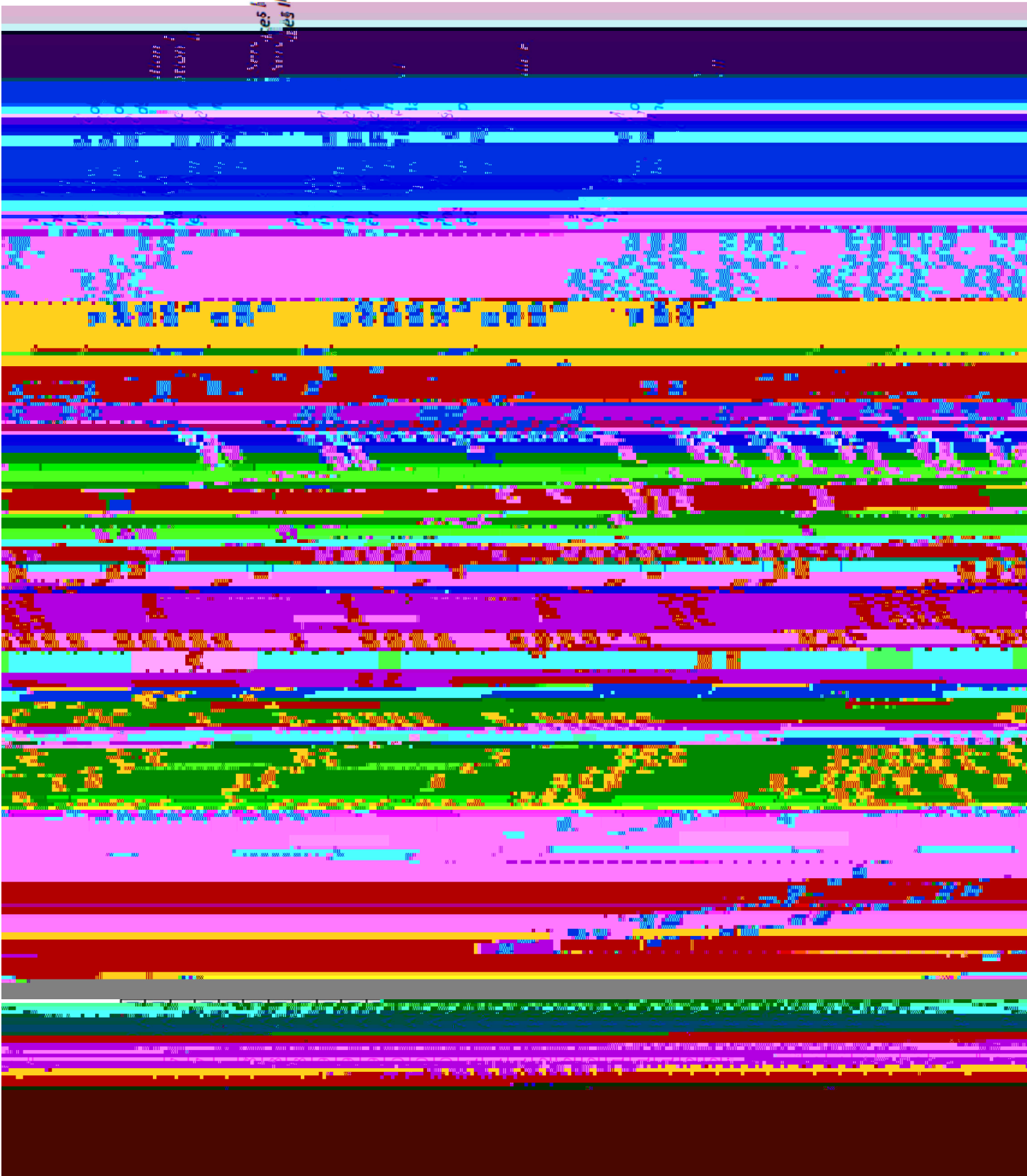
## SESSION LOCATIONS

The Plenary session on Tuesday morning and Track A sessions will be held in the Grand Ballroom on the 1<sup>st</sup> floor. Track B sessions will be held in the Potomac Ballroom, also on the 1<sup>st</sup> floor.

Weather permitting, the Ice-breaker reception will be in the Courtyard. Rain location TBD.

The Awards Luncheon (Wednesday) will be held in the Washington/Jefferson Room on the 2<sup>nd</sup> floor.





## TECHNICAL PROGRAM

**Monday, May 8**

**6-7:30 pm Registration Desk Open**

**Tuesday, May 9**

**07:00 Registration & light breakfast**

**08:00 Plenary Session – Agency Updates, Solar Cycle 25**

08:00	Welcome and Introduction	
08:15	Basic Research in Space Science at AFOSR	
08:30	Space Weather Activities at ONR	
08:45	NSF Geospace Sciences Funding Opportunities	<i>Tal...</i>
09:00	Ionospheric and Space Weather Activities at NASA	<i>James Spann</i>
09:15	Ionosphere Products and Services at the <b>Weather</b>	

*10:40 – 12:00 Parallel Science Sessions 1A & 1B*

**Track A will be in the Grand Ballroom and Track B will be in the Potomac Ballroom**

A Sessions – Grand Ballroom

B Sessions – Potomac

	<i>E. Ceren Eyiguler</i> , D. Danskin, A. D. Howarth, W. Holley, K. Pandey, R. G. Gillies, A. W. Yau, G. C. Hussey	<i>Sevag Derghazarian</i> , L. P. Goncharenko, S. R. Zhang, A. J. Coster, V. L. Harvey, C. Randall
14:20	Applications of a Novel Modular High Frequency Measurement Platform in Ionospheric Observation <i>Torsten Reuschel</i> , A. Kashchev, P. Trottier, T. Jayachandran	Modeling Plasmasphere Structure: Ducts and Irregularities <i>Joe Huba</i> , H. L.



## Wednesday, May 10

### 08:00 Registration & light breakfast

#### 4A HF Modeling and Measurements I Chair: Jonah Colman

08:40	The Incorporation of Near Real Time Ionospheric Propagation Information for Automated Link Establishment Based Communication Systems <i>William Batts, W. Furman, R. Buckley, J. Nieto</i>
09:00	A Vertically Resolved Model for Ionospheric Absorption of HF radio waves due to solar protons and X rays <i>Anton Goertz, C. Jeffery</i>
09:20	Automatic real time tool for

**10:20 – 11:40 Parallel Science Sessions 5A & 3B**

	<b>A Sessions – Grand Ballroom</b>		<b>B Sessions – Potomac Ballroom</b>
	5A: Scintillation & Propagation II Chair: Romina Nikoukar		3B: Lower Thermosphere & Sporadic E Chair: Kenneth Dymond

Generation of Realizations of

10:20

**12:00 – 13:40: Awards Luncheon & Keynote Lecture (Washington/Jefferson, 2<sup>nd</sup> floor)**

**Keynote Lecture:**  
**JWST's First Look at the Universe**  
*Dr. Macarena Garcia Marin, JWST Deputy Project Scientist*

**13:40 – 15:20 Parallel Science Sessions 6A & 4B**

	<b>6A: Scintillation &amp; Propagation II</b> <b>Chair: Dallin Smith</b>	<b>4B: Optical Remote Sensing</b> <b>Chair: Morris Cohen</b>
13:40	Sporadic E and GNSS Scintillation  <i>Theodore Beach</i>	The Experiment for Characterizing the Lower Ionosphere and Prediction Sporadic E (ECLIPSE) Missions: Instruments to Study the Dynamics of the Lower Ionosphere <i>Kenneth Dymond, A. C. Nicholas, B. A. Fritz, S. A. Budzien, A. W. Stephan, C. M. Brown, E. J. Wagner, M. R. Burleigh, D. P. Drob</i>
14:00	A study of the relative dynamics of ionospheric irregularities and GPS satellites on receiver tracking performance from a low latitude station in the Indian longitudes <i>Ashik Paul, T. Biswas</i>	Detrending GOLD EUV Data to Reveal Equatorial Plasma Bubble Structures  <i>Rezy Pradipta, K. Groves, C. Huang</i>
14:20	Estimation of Ionospheric Scintillation Index S4 from Rate of Change of Total Electron Content Index (ROTI) in Low Latitudes <i>Teddy Surco Espejo, C. Carrano, K. Groves, T. Beach</i>	The Variable Voltage Ion Protection Experiment (VVIPRE): Thermospheric and Ionospheric Remote Sensing from the ISS  <i>Scott Budzien, K. Dymond, B. Fritz, A. Nicholas, A. Stephan,</i>

**15:40 – 17:00 Parallel Science Sessions 7A & 5B**

	<b>7A: Active Experiments &amp; Radar Chair: Natasha Jackson Booth</b>	<b>5B: Storm Effects Chair: Anthea Coster</b>
15:40	Using the Ionosphere to Amplify Whistlers and EMIC Waves from Ground Transmitters for Reduction of Radiation Belt Particle Populations <i>Paul Bernhardt, M. Hua, J. Bortnik, O. Ma, V. Harid, M. Golkowski, A. Howarth</i>	The Onset and Development of Nitric Oxide Production During ICME Driven Storms  <i>Kevin Delano, D. Oliveira, E. Zesta</i>
16:00	Reviving High Speed Releases using Sounding Rockets and the Space Measurements of A Rocket Released Turbulence (SMART) Experiment <i>Carl Siefring, G. Ganguli, G. Gatling, J. Coombs, C. Crabtree, A. Fletcher, W. Amatucci, C. Netwall, N. Falcone, W. Ferrell, R. Holzworth, M. McCarthy</i>	Global Responses of Equatorial/Low Latitude Ionosphere to CME driven and CIR driven Geomagnetic Storms  <i>Andrew Akala, Y. Otsuka, O. J. Oyedokun, J. Umunna</i>
16:20	HF scattering of ocean waves using HAARP  <i>Stanley Briczinski, J. Coombs, C. Siefring, P. Bernhardt, M. Sletten, M. McCarrick, A. Howarth, H. G. James</i>	Monitoring High Latitude HF Absorption using Space Based Lightning Measurements  <i>Michael Peterson, C. Jeffery</i>
16:40	Development of an Autonomous RF System that exploits SuperDARN Signals for Bistatic Radar Imaging of High Resolution Ionospheric Structures near HAARP  <i>Christopher Jeffery, X. M. Shao, A. Beveridge, I. Cummings, G. Cunningham, C. Fallen, B. Haynes, E. Lay, E. Nelson, J. Reisner, J. Rushton</i>	Gradient drift instability and decameter ionospheric irregularities at the edge of polar holes  <i>Scott Thaller, J. Hughes, G. Crowley, R. Coe</i>

## Thursday, May 11

**08:00 Registration & light breakfast**

**8A: Assimilative and Coupled Models    Chair: Sean Elvidge**

08:40	Assimilative Modeling of the Ionospheric Layers <i>Victoriya Forsythe, S. McDonald, D. Kuhl, B. Fritz, K. Diamond</i>
09:00	Data Assimilative Ionospheric Profile Specification Using