

### **Welcome to CEDAR 2022**

- We are committed to providing a safe, open and inclusive workshop environment for everybody. Be kind, respectful, and present in all your interactions.
- All participants are expected to follow the Code of Conduct https://cedarscience.org/codeof-conduct
- You can report any concern using one of the listed options in the Code of Conduct or contact Michelle McCambridge (mmccamb@ucar.edu).



**Enjoy the meeting** 

#### **CEDAR Information**



### **Agenda**

https://cedarscience.org/2022-cedar-workshop-agenda



### Sli.do can be used in the plenary session

https://app.sli.do/event/5qywCGUVQ6K8tRUBB85Q9X



#### Slack

https://cedarscience.slack.com/ssb/redirect

Use the helpdesk on slack, get information about CEDAR

# CEDAR supports DYNAMIC

- CEDAR community letter in support of the DYNAMIC mission was sent to NASA on June 14, 2022
- □ The letter was signed by 120 colleagues from 52 institutions, 18 states, and 10 countries
- Many thanks for your enthusiastic support of DYNAMIC!

# CEDAR supports GDC

- CEDAR community has prepared a letter of endorsement of the GDC mission
- □ By June 19, the letter is signed by 90 colleagues
- Please read and consider signing: https://docs.google.com/document/d/1khh1kVnIT d6f-Ffg\_2dBXPqrS-sgJ8R2/edit?

## Building DEI Landscape in CEDAR



Building a safe space: Code of conduct

Continuing a dialogue: DEI happy hour and workshop

Supporting those impacted by war and violence

Anti-racism literacy

Imposter feelings and stereotype threat

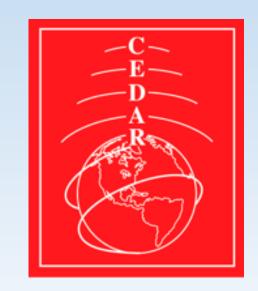
Microaggression training

More transparency: Double-blind proposal and review process

Student and early-career opportunities

Supporting women and minorities

Sunday 15:45 - 16:05	Active allyship in STEM
Sunday 19:00 - 20:00	Student DEI happy hour
Monday 08:55 - 09:15	Equal Opportunity? The legal inequality of public education & its relationship to the STEM fields
Thursday 13:30 - 15:30	Continuing to evolve: DEI (Diversity, Equity, and Inclusion) in CEDAR



\*\*\*If interested in joining the CEDAR DEI Task Force please contact: Lindsay Goodwin (<a href="mailto:lindsaygoodw@gmail.com">lindsaygoodw@gmail.com</a>), Mack Jones (<a href="mailto:mcarthur.jones@nrl.navy.mil">mcarthur.jones@nrl.navy.mil</a>, or Julio Urbina (<a href="mailto:jvu1@psu.edu">jvu1@psu.edu</a>) to discuss getting involved!\*\*\*



## **Equitable Letters for Space Physics**

Resources for writing better recommendation and nomination letters with the space physics community

https://equitableletterssp.github.io/ELSP/

#### **Our Mission**

Encouraging merit-based recommendations and nominations in the space physics community by providing resources and reviews.

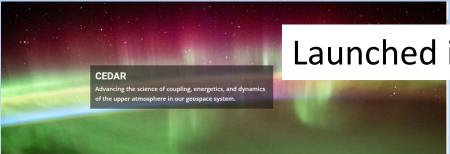
#### **Our People**

- Dr. Angeline G. Burrell, Ionospheric Researcher (Exec. Dir.)
- Dr. John Coxon, Northumbria University, Magnetospheric Researcher
- Dr. Alexa Halford, NASA Goddard Space Flight Center, Magnetospheric Researcher
- Dr. McArthur Jones Jr., Upper Atmospheric Researcher
- Dr. Kate Zawdie, Ionospheric Researcher

Please upload/send your letter for review as a text, .docx, or .pdf file to equitable.space.letters@gmail.com. Though we aim for a fast turn-around, nominal review times are 1 month.

If you are interested in being a reviewer, please contact us at equitable.space.letters@gmail.com.

## New CEDAR website - cedarscience.org



Launched in February 2022

#### Who We Are

The Coupling, Energetics, and Dynamics of Atmospheric Regions (CEDAR) is a Program fund the National Science Foundation's Atmospheric and Geospace Sciences Division with a miss understand the fundamental properties of the space-atmosphere interaction region; identi

We need pictures of your science



#### **CEDAR Students**

Students are a vital part of CEDAR. Two student representatives are on the CEDAR scientific steering committee providing the student perspective and ensuring that student's ideas are heard and acted upon. During the yearly CEDAR workshop CEDAR students organize a student workshop day for and with students. The CEDAR students lead social and networking events at the CEDAR workshop to build a community. Approximately a third of the CEDAR workshop participants are students. Students can apply for travel and housing support to attend the CEDAR workshop, which is supported by NSF. To support students with dependent care responsibility and allow them to fully participate in the CEDAR workshop CEDAR offers dependent care grants.

#### **EDAK Annual Workshop**

annual CEDAR workshop, which started as a grassroots initiative in 1986, provides the community an opportunity to self-organize and exchange ideas. With CEDAR's phasis on fostering new ideas, providing a safe space for all participants, and a strong educational component, CEDAR has become the intellectual engine of aeronomy.

WORKShan includes community arganized breakout workshape as well as grand challenge workshape nector exection with a ctudent nector competition, a student day

Resource page is under development & needs community input



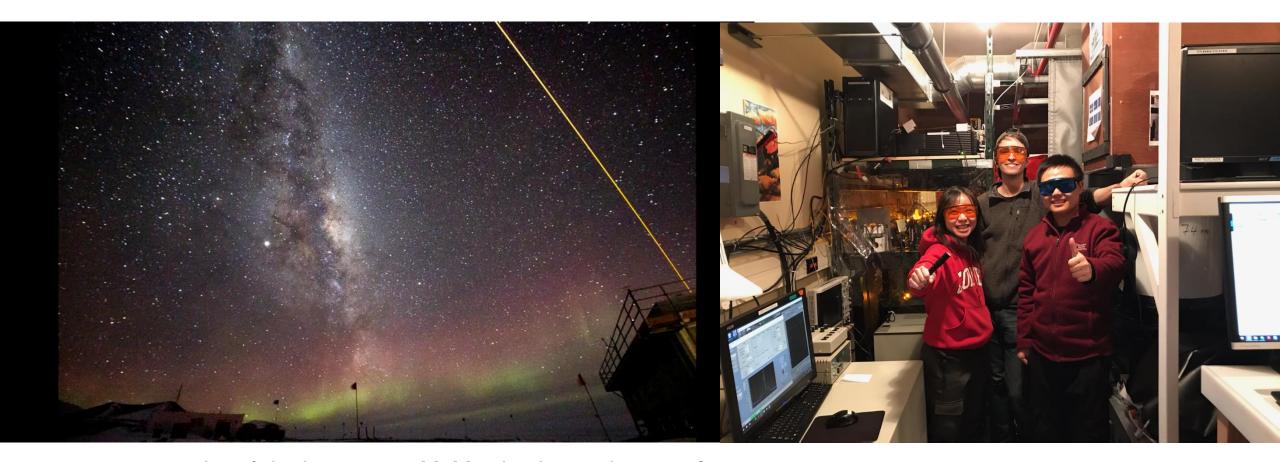
#### Resources

(This page is under development.)

## Position announcements

### **Human Wanted**

for hazardous journey, small wages, bitter cold, long months of complete darkness, constant challenges. Safe return doubtful, honor and recognition in event of success



9-12 months of deployment to McMurdo, Antarctica as winter-over
Job duties: Watching Skies, Running Lasers, Collecting the Best Data
Contacting Professor Xinzhao Chu, CU-Boulder, xinzhao.chu@Colorado.edu

## **NSF CEDAR Project**

## A Whole-Atmospheric Perspective on Connections between Intra-Seasonal Variations in the Troposphere and Thermosphere

P.I., F. Gasperini (OSS) Co-I., A. Maute (NCAR/HAO)

Looking for one undergraduate or graduate student for two 2-month experiences at OSS/NCAR during the Summer/Fall 2022 & 2023

#### **PROJECT OBJECTIVES**

- a. Provide observational evidence of correlative connections between intra-seasonal variability in the troposphere, mesosphere, and thermosphere.
- b. Characterize and quantify the intra-seasonal variability in the thermosphere due to global-scale waves excited in the tropical troposphere.
- c. Identify potential connections with the MJO, QBO, and ENSO.





## VIRGINIA TECH.

### PhD Fellowships in Geospace Data Analytics at Virginia Tech

The Department of Electrical and Computer Engineering at Virginia Tech has funding available for students to enroll in its PhD program and conduct research in the emerging area of geospace data analytics. Successful applicants will work with faculty in the Center for Space Science and Engineering Research (Space@VT) to conduct fundamental research on space weather specification and forecasting using globally distributed ground- and space-based datasets and numerical simulations. Outstanding candidates with advanced computer programming skills and academic backgrounds in physics or engineering are encouraged to respond. An advertisement with complete application details has been distributed via CEDAR email. Interested students can contact or look for Dr. Mike Ruohoniemi (mikeruo@vt.edu) to discuss the positions informally at this workshop, from Tuesday onwards.



# Post-Doctoral Position U.S. Naval Research Laboratory



NRL Space Science Division, Washington, DC is looking for a motivated, post-doctoral research associate with an interest in the development and test of space-flight hardware, especially for CubeSat applications

#### Multiple opportunities in the NRL SSD:

- UV remote sensor development, test and analysis of the ionosphere/thermosphere
- GPS RO sensor development and test
- Miniaturized in situ IT sensor test & development
- Orbital debris detector test & development
- Thermospheric winds research with the NASA ICON MIGHTI team

Positions available through National Research Council (NRC) Research Associateship Program

- Application deadline 1 August (every 3 months)
- Must be US Citizen or US Permanent Resident
- For more info: http://sites.nationalacademies.org/pga/rap

See Bruce Fritz in person at the Wednesday CEDAR Poster Session (ITIT-12) for more details, or email bruce.fritz@nrl.navy.mil

#### **Equal Employment Opportunity:**

The United States government does not discriminate in employment on the basis of race, color, religion, sex (including pregnancy and gender identity), national origin, political affiliation, sexual orientation, marital status, disability, genetic information, age, membership in an employee organization, retaliation, parental status, military status or other non-merit factor.

PARTICIPATING AGENCIES - NRL

Participating Agencies NRL Opportunities List

Opportunity

Search Opportunities

Search Opportunities

RAP Home Apply Now Opportunity at Naval Research Laboratory (NRL)

#### **Climate of Earth's Upper Atmosphere**

https://nrc58.nas.edu/RAPLab10/Opportunity/Opportunity.aspx?LabCode=6 4&ROPCD=641589&RONum=B7887

#### Location

Naval Research Laboratory, DC, Space Science

RO# Location

64.15.89.B7887 Washington, DC 203755321

#### **Advisers**

name email phone

Emmert, John T john.emmert@nrl.navy.mil 202.767.0467

McArthur "Mack" Jones Jr. mcarthur.jones@nrl.navy.mil 202-767-6317

#### **Description**

The climate of the upper atmosphere (above ~50 km) is studied using a wide variety of contemporary and historical measurements of temperature, composition, and winds. We are interested in the systematic response of the thermosphere and mesosphere to (1) long- and short-term variations in radiative forcing (solar and terrestrial) and in solar wind and magnetospheric energy inputs, (2) anthropogenic composition changes, and (3) the climate and meteorology of the lower atmosphere. This research involves thorough statistical analysis of large and diverse data sets, characterization of significant geophysical variations and mutual biases among the data sets, development of comprehensive empirical models with appropriate physical constraints, assimilation of the data into the models, validation of the models, and comparison with first-principles physics models. A key aspect of the program is the continued development of NRLMSIS, the most comprehensive empirical model of atmospheric temperature and composition and HWM, the only global empirical model of atmospheric winds. These models are used extensively by the scientific and engineering communities in diverse applications such as atmospheric remote sensing, prediction of atmospheric drag on satellites, atmospheric gravity wave research, and ionospheric modeling.

#### Keywords:

Upper atmosphere; Climate; Thermosphere; Mesosphere; Empirical models; Data analysis; Data assimilation; Space weather;

#### **Eligibility**

<u>Citizenship:</u> Open to U.S. citizens and permanent residents

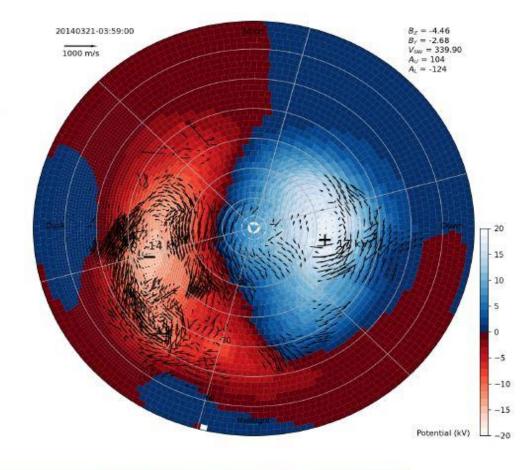
<u>Level:</u> Open to Postdoctoral applicants

#### **Stipend**

Base Stipend	Travel Allotment	Supplementation
\$87,198.00	\$3,000.00	

## SuperDARN PostDoc at Penn State

Postdoc position in the Department of Meteorology and Atmospheric Science at The Pennsylvania State University. The department operates the SuperDARN radar on Kodiak Island, Alaska, King Salmon, Alaska, McMurdo Station, Antarctica, and South Pole Station, Antarctica. We seek an energetic individual to carry out research using observations from the network. In addition the successful candidate will take part in ongoing hardware and software developments for the radar systems, would be expected to assist with the day-to-day operation of the radars including development of new modes of operation, and assist users of SuperDARN data. The position requires Ph. D. in physics or electrical engineering or related field, a background in data analysis, and will require travel to the radar sites including those in Antarctica. Preference will be given to applicants with experimental experience in radio or radar systems, and background in magnetospheric physics or ionospheric/thermospheric physics.



Contact Bill Bristow (wab5217@psu.edu)





#### CENTER FOR

# GEOSPACE STORYS

Transforming the understanding and predictability of space weather

INNOVATE

EMPOWER

DISCOVER

#### We are hiring

- Postdoc positions @ JHU/APL (modeling & data analytics)
- Postdoc @ UCLA (Ionosphere/plasmasphere modeling, Prof. Roger Varney)
- Graduate students @
  - VT (Profs. Mike Ruohoniemi & Lenny Smith)
    Rice U (Prof. Toffoletto)

Contact: slava.merkin@jhuapl.edu

JOHNS HOPKINS APPLIED PHYSICS LABORATORY / NATIONAL CENTER FOR ATMOSPHERIC RESEARCH / RICE UNIVERSITY UNIVERSITY OF CALIFORNIA, LOS ANGELES / SYNTEK TECHNOLOGIES / UNIVERSITY OF NEW HAMPSHIRE / VIRGINIA TECH



Post Doctoral Fellow - Space Plasmas
Data Analyti...

careers.jhuapl.edu



Post Doctoral Fellow - Space Plasmas Theory and S...

careers.jhuapl.edu

# Federal Position at NOAA Space Weather Prediction Center (application period begins July/August 2022)

#### **Space Weather Prediction Testbed Lead**

A government Physical Scientist position (GS-13/GS-14) at the NOAA Space Weather Prediction Center in Boulder, CO is expected to be posted this summer. This position will be responsible for shepherding predictive SWx capabilities across the gap between research and operations toward advancing the nations SWx forecasting skill. With a Research-to-Operations (R2O) focus, this scientist will facilitate improvements to the models, observations, and capabilities supporting space weather forecasting through the new Space Weather Prediction Testbed. This is a "permanent" position, meaning it comes with civil service tenure after a one-year probation period. Job application and details will be posted on USAJobs.

For more information or questions about the position, please talk to Tzu-Wei Fang during the CEDAR workshop. To get updates regarding the timeline for the posting of this position, please contact Michele Cash <a href="mailto:michele.cash@noaa.gov">michele.cash@noaa.gov</a>

# Ionospheric Positions in CIRES CU Boulder at NOAA Space Weather Prediction Center

### 1. Space Weather / Ionosphere-Thermosphere Research Scientist

To advance SWPC's ability to predict the dynamics and response of the ionosphere and atmosphere to space weather as it pertains to impacts on communication, navigation, and satellite drag applications.

https://jobs.colorado.edu/jobs/JobDetail/?jobId=39319

### 2. Space Weather / Ionosphere Data Scientist

To evaluate the influence of commercial radio occultation data on the quality of SWPC ionospheric models, products, and services.

https://jobs.colorado.edu/jobs/JobDetail/?jobId=39768

# For more information or questions, please talk to Tzu-Wei Fang during the CEDAR workshop or contact

Tim Fuller-Rowell tim.fuller-rowell@noaa.gov

Hazel Bain hazel.bain@noaa.gov

# Today's program

#### Monday, June 20, 2022

Wioliday, Julic 20, 2022					
Time CDT	Agenda	Presenter / Convener	Room		
8:00 - 9:35	Plenary (in-person & streamed)	Chair: Endawoke Yizengaw	Onyx Ballroom		
8:00 - 8:10	Welcome	Larisa Goncharenko (CSSC chair, MIT)	Onyx Ballroom		
8:10 - 8:55	CEDAR Prize lecture: Reading the Aurora: A tool for Interconnections	Larry Lyons (UCLA)	Onyx Ballroom		
8:55 - 9:15	Equal Opportunity? The legal inequality of public education & its relationship to the STEM fields	Tehama Lopez Bunyasi (George Mason University) virtual	Onyx Ballroom		
9:15 - 9:35	Science Highlight I	Thomas Immel (U. California, Berkeley)	Onyx Ballroom		
9:35 - 10:00	Break				
10:00 - 12:00	12:00 New capabilities for studying equatorial aeronomy and space weather David Hysell (Cornell)	David Hysell (Cornell)	Topaz 2		
	CEDAR and Climate Change (in-person & virtual option)	Susan Nossal (U. Wisconsin, Madison)	Topaz 1		
	Grand Challenge-A: Coordinated Ground and Space-based Observations of the Ionosphere-Thermosphere System		Onyx Ballroom		
	Dynamics of the Thermosphere-ionosphere System During Geomagnetic Storms and Non-storms	Qian Wu (HAO/NCAR)	Topaz 3		
12:00 - 13:30	Lunch on your own				
12:10 - 13:15	Student lunch		Onyx Ballroom		

## Monday PM

13:30 - 15:30	Current Status and Needs For 21st Century Thermospheric Dynamics and Chemistry Measurements: The 2019-2022 Thermospheric Winds SWOT Analysis	Patrick Dandenault (Johns Hopkins U.)	Topaz 2
	Grand Challenge-B: Coordinated Ground and Space-based Observations of the Ionosphere-Thermosphere System	Katelynn Greer (LASP)	Onyx Ballroom
	Data Science and Open Science in CEDAR: Data Science and Open Science in action in CEDAR	Ryan McGranaghan (Orion Space Solutions)	Topaz 3
15:30 - 16:00	Break		
15:30 - 18:00	Community Science Enabled by the upcoming GDC mission (in-person & virtual option)	Jeff Thayer (U Colorado, Boulder)	Onyx Ballroom
16:00 - 18:00	Mesosphere-ionosphere-thermosphere-atmosphere dynamic coupling during geomagnetically active periods	Romina Nikoukar (Johns Hopkins U./ Applied Physics Laboratory)	Topaz 2
18:00 - 20:00	GEM-CEDAR Joint Workshop - Mesoscale drivers of the nightside transition region: ionospheric and magnetotail evaluations	Gareth Perry (New Jersey Institute of Technology)	Onyx Ballroom
18:30 - 20:00	CSSC dinner		Topaz 3

# Today's workshops

## New capabilities for studying equatorial aeronomy and space weather

## Agenda

10:00-12:00 Topaz 2

- 1. Danny Scipión, new Jicamarca radar capabilities
- 2. Fabiano Rodrigues, AMISR14 observations at Jicamarca
- 3. Rob Pfaff, Possibilities for a sounding rocket campaign in Peru
- 4. Tzu-Wei Fang, Equatorial ionospheric forecasting
- 5. Sevag Derghazarian, High Altitude Echoes in the Inner Plasmasphere: New Observations
- 6. Enrique Rojas, Machine learning approaches to predicting ionospheric structures
- 7. Jorge L. Chau, MLT observations using SIMONe at Jicamarca and Piura
- 8. Cesar Valladares, Expansion of the LISN network and new HF receivers

### **CEDAR and Climate Change** (in-person & virtual option)

CEDAR and Climate Change, Monday, June 20th, 10 AM - noon

10:00-12:00 Topaz 1

Join in-person or virtual via Zoom. The Zoom link will be posted on the CEDAR slack channel #2022-cedarworkshop-updates. You can also email the conveners above to request the link.

10:00 - 10:10 Welcome and overview

10:10 – 10:25 Long-term trends over Jicamarca: Analyzing ionosonde and coherent backscatter data, Kike (Enrique) Rojas Villaba, Cornell University

10:25 - 10:40 Ionospheric climate trends/changes measured by incoherent scatter radars, Shunrong Zhang, MIT Haystack

10:40 - 10:55 Upper Atmosphere 20th and 21st Century Changes from Whole Atmosphere Community Climate Model - eXtended (WACCM-X) Simulations, Joe McInerney, National Center for Atmospheric Research

10:55 – 11:10 Long-term trends in diurnal vertically-propagating atmospheric tides within the mesosphere and lower thermosphere from 1980 to 2020, McArthur Jones, Naval Research Laboratory

11:10 - 11:27 Tales from a Greenhouse Gas Auditor, Kenneth Davis, Penn State University (invited and online)

11:27 – 11:45 Opportunities to Advocate for Science Policy, Brittany Webster, American Geophysical Union (invited and online)

11:45 - 11:58 Questions & Discussion

11:58 - noon Wrap-up

# Grand Challenge-A: Coordinated Ground and Space-based Observations of the Ionosphere-Thermosphere System

## Agenda 10:00-12:00 Onyx ballroom

All times are in Central Daylight Time (UTC -5)

MORNING

10:00-10:05 Welcome and Introduction

10:05-10:20 Richard Eastes

10:20-10:35 Rob Pfaff "Sounding Rocket Observations of Electric Fields, Currents, Plasma Density, and Neutral Winds During Enhanced Meridional Currents in the Afternoon Dynamo in Conjunction with the ICON satellite"

10:35-10:50 Phil Erickson "Joint ICON - Millstone Hill Conjunction Experiments: An Example of Coordinated Observations"

10:50-11:05 Jim Clemmons

11:05-11:20 Jens Oberheide "Ionospheric tidal weather from COSMIC-2: Imprints of SSW and Madden-Julian Oscillation"

11:20 - 11:35 Qian Wu

11:35-11:50 Discussion

## <u>Dynamics of the Thermosphere-ionosphere System</u> <u>During Geomagnetic Storms and Non-storms</u>

### Agenda

10:00-12:00Topaz 3

10:00-10:15 **Deepak Karan**: Effects of 2020 September Geomagnetic Storms in the Nighttime Equatorial Ionization Anomaly (EIA) and EPBs as Observed by the GOLD Mission

10:15-10:30 **Mack Jones:** Understanding nighttime ionospheric depletions associated with sudden stratospheric warmings in the American sector

10:30-10:45 Manbharat Dhadly: TAD/TIDs

10:45-11:00 Chaosong Huang: Ionospheric response to 20 Nov 2003 storm.

11:00-11:15 **Xuguang Cai** (presented by Liying Qian): Nighttime Dynamics and Electrodynamics Revealed by the EIA Observed by GOLD.

11:15-11:30 **Onyinye Nwankwo**: Investigating the impact of geomagnetic storm over the ionosphere-thermosphere system of subauroral/midlatitude region using ISR observations and GOCE measurements

11:30-11:45 **Qingyu Zhu**: Impact of soft electron precipitation on the thermospheric neutral density during geomagnetic storms.

11:45-12:00 Group discussion

#### Agenda

Title: Status & Needs For Modern Thermospheric Dynamics & Chemistry Measurements

Monday, June 20th; 1:30 - 3:30 (Austin; Central Daylight Time); Room: Topaz 2

13:30-15:30 Topaz 2

Format: 6 discussions over 2 hours; Each (talk + Q&A) will last 20 minutes, max.

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1:30 - 1:50 - 1 - Jens Oberheide (Clemson U), 'Vertical Coupling by Solar Semidiurnal Tides in the Thermosphere From ICON/MIGHTI Measurements<sup>12</sup>

1:50 - 2:10 - 2 - Wenbin Wang (UCAR), 'The Effects of IMF By on the Middle Thermosphere During a Geomagnetically "Quiet" Period at Solar Minimum'

2:10 - 2:30 - 3 - Cosme Alexandre Figueiredo (INPE), 'Asymmetric Development of Equatorial Plasma Bubbles Observed at Geomagnetically Conjugate Points Over the Brazilian Sectors'

2:30 - 2:50 - 4 - Andrew Pepper (Clemson U), 'Mesoscale Spatial Variability of Lower Thermospheric Winds During the Anomalous Transport Rocket Experiment'

2:50 - 3:10 - 5 - Joe Huba (Syntek), 'Generalized Rayleigh-Taylor Instability: Ion Inertia, Acceleration Forces, and E Region Drivers'

3:10 - 3:30 - 6 - Jonathan Makela (U of Illinois), Asti Bhatt (SRI), Brian Harding (Berkeley/SSL), 'Early results from a distributed array of small instruments (DASI): Winds and Waves in the Mesosphere'

# Grand Challenge-B: Coordinated Ground and Space-based Observations of the Ionosphere-Thermosphere System

## Agenda 13:30-15:30 Onyx ballroom

All times are in Central Daylight Time (UTC -5)

MORNING

10:00-10:05 Welcome and Introduction

10:05-10:20 Richard Eastes

10:20-10:35 Rob Pfaff "Sounding Rocket Observations of Electric Fields, Currents, Plasma Density, and Neutral Winds During Enhanced Meridional Currents in the Afternoon Dynamo in Conjunction with the ICON satellite"

10:35-10:50 Phil Erickson "Joint ICON - Millstone Hill Conjunction Experiments: An Example of Coordinated Observations"

10:50-11:05 Jim Clemmons

11:05-11:20 Jens Oberheide "Ionospheric tidal weather from COSMIC-2: Imprints of SSW and Madden-Julian Oscillation"

11:20 - 11:35 Qian Wu

11:35-11:50 Discussion

### Community Science Enabled by the upcoming GDC mission

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Final Agenda:
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CEDAR (CDT/HST) Timeline

~15:30-18:00 Onyx ballroom

15:30/10:30 GEM Discussion

30 min - EZIE, TRACERS, AMPERE Next

16:00/11:00 CEDAR / GEM Joint Workshop

10 min CEDAR Session-Introduction: Yue Deng

20 min GDC overview: Doug Rowland

15 min GDC related Q&A – moderator: Shun-Rong Zhang

10 min GEM Speaker 1: Emma Spanswick "Leveraging GDC overflights over Canada"

5 min GEM Speaker 2: Jo Baker "SuperDARN measurement synergy with GDC"

5 min GEM Speaker 3: Doga "GEM Focus Group input on addressing GDC Science"

10 min CEDAR Speaker 1: Astrid Maute

10 min CEDAR Speaker 2: Phil Erickson

17:30/12:30 CEDAR Continues/GEM Session Ends

25 min Open Discussion: Future GEM/CEDAR GDC Synergy – moderator: Katie Greer

5 min Closing Summary: Bishop

18:00/13:00 CEDAR Session Ends

#### **Comments & Chats**

Post in the GDC-Community Slack workspace channel # cedar-gem-2022-gdc-workshop.

The GDC-Community workspace can be found at:

https://join.slack.com/t/gdc-community/shared\_invite/zt-1afbt5m7r-FmPZPjoLFrMNkPOQKFXBIw

# Mesosphere-ionosphere-thermosphere-atmosphere dynamic coupling during geomagnetically active periods

16:00-18:00 Topaz 2

#### Agenda

16:00-16:05 **Michael Wiltberger**: Using the Multiscale Atmosphere Geospace Model to understand the importance of meoscale features throughout Geospace

16:05-16:20 Xian Lu: Storm time AIM coupling with data assimilation

16:20-16:35 Qian Wu: Penetration electric field with MAGE and ICON

16:35-16:50 Rafael Luiz Araujo de Mesquita: EZIE Mission and the Observing System Simulation Experiment (OSSE)

16:50-17:05 Ningchao Wang: CME vs CIR effects on MLT temperature, TIMED/SABER data

17:05-17:20 **Xuguang Cai and Dong Lin** (presented by Wenbin) Storm effects on thermospheric composition and density during the SpaceX event: GOLD/Swarm observation and MAGE simulations

17:20-17:35 Haonan Wu: A nested grid modeling study of Tonga eruption during a magnetic storm

17:35-18:00 Group discussion

# **GEM-CEDAR** Joint Workshop - Mesoscale drivers of the nightside transition region: ionospheric and magnetotail evaluations

18:00-20:00 Onyx ballroom

MESO+CEDAR Joint: Monday, June 20, 1:00 - 3:00 pm HST (6:00-8:00pm CDT)

Phil Erickson - STEVE workshop updates and future plans

Lindsay Goodwin - Multipoint Observations of STEVE Precursors

Bharat Kunduri - An examination of magnetosphere-ionosphere-thermosphere coupling

during STEVE

Valerie Svaldi - High Latitude Ionospheric Electrodynamics during STEVE Events

Naomi Maruyama - Impact of substorm injections on Magnetosphere-Ionosphere coupling

Jun Liang - TBD

Carlos Martinis - SAR arcs & STEVE

Eric Donovan - Updates on TREx

Shasha Zou - Impact of the NTR on polar cap patch evolution

Nithin Sivadas - Current sheet scattering from the night-side transition regions and their

auroral signatures