



# Welcome



Credit: NASA/GSFC/SDO

## SOLAR ENERGETIC PARTICLES SOLAR MODULATION AND SPACE RADIATION



*NEW OPPORTUNITIES IN THE AMS-02 ERA*

**OCTOBER 18 - 24, 2015  
HONOLULU, HAWAII**

<https://indico.cern.ch/event/390724/>

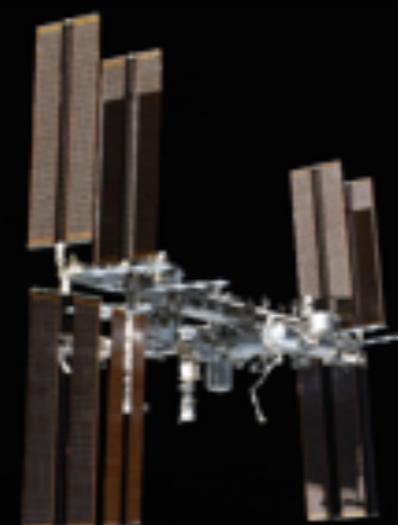
### **Committee**

*Mirko Boezio  
Martin A Lee  
Marius Potgieter  
Eddie Semones  
Allan Tylka  
Ilya Usoskin*

### **Local Organizer**

*Veronica Bindi*

Solar Energetic Particles  
Solar Observations  
Solar Flares and Coronal Mass Ejections  
Solar Modulation of Galactic Cosmic Rays  
Cosmic Rays Propagation in Heliosphere  
Earth's Magnetosphere  
Geomagnetic Cutoff  
Space Radiation Environment



*Veronica Bindi, UH Manoa*



# Motivations behind this Workshop

- **SEP acceleration** at high energies and their **propagation** through the heliosphere are not well understood and still a matter of debate.
- **Solar modulation** and transport of **different species of GCRs** inside the heliosphere recently have been significantly improved, however a lot of work still needs to be done.
- **Space weather** provides crucial information but forecast and predictions are still very challenging.
- GCR and SEPs pose a significant **radiation risk for people and technology in space**, thus it is becoming increasingly important to understand the space radiation environment.
- **New manned missions** to Mars and the solar system are receiving increasing attention, not only from the scientific community, but also from society and the media.



# Goals of the workshop



- Facilitate interactions and strengthen collaborations between the fields of **heliophysics, astroparticles and space radiation.**
- Foster a deeper understanding within each discipline by sharing knowledge across fields.
- Provide an opportunity to contribute to science across fields in an unanticipated way, as is often the case preceding new discoveries.
- Strengthen the connections and build new links among experts in these fields.



# Committee, organizers and special support



## Committee:



M. Boezio



M. Lee



M. Potgieter



E. Semones



A. Tylka



I. Usoskin

## Location:





# Committee, organizers and special support



## Committee:



M. Boezio



M. Lee



M. Potgieter



E. Semones



A. Tylka



I. Usoskin

## Local Organizers:



C. Consolandi



C. Corti



J. Hoffmann



S. Rocchi



K. Whitman



# Participants

- 57 registered participants
- 53 submitted abstracts
- 41 talks
- 11 posters

I am very happy for your participation in this workshop and for being an important part of this community.

***I want personally thank you all for increasing the quality of this workshop with your participation!***

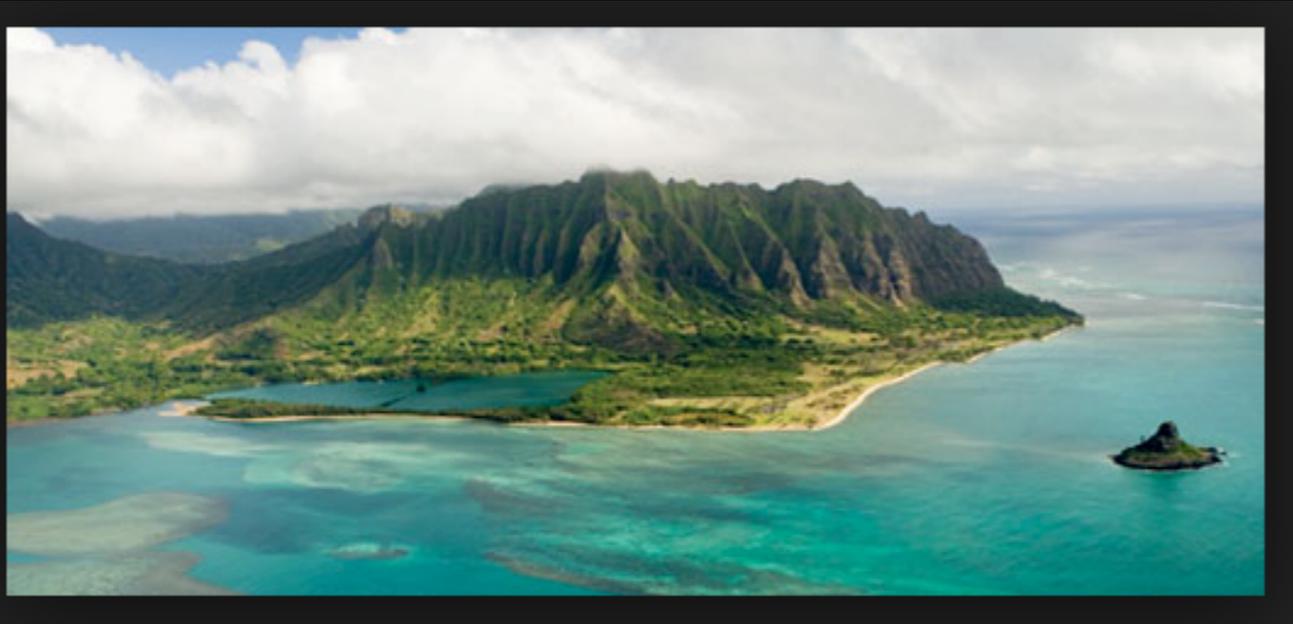


# Schedule



	Monday Oct 19		Tuesday Oct 20	Wed. Oct 23 FREE DAY	Thursday Oct 22		Friday Oct 23
<b>7:30 - 8:45</b>	Breakfast Buffet + Registration	<b>7:30 - 8:45</b>	Breakfast Buffet + Registration	<b>7:30 - 8:45</b>	Breakfast Buffet	<b>7:30 - 8:45</b>	Breakfast Buffet
<b>AM</b>	<b>Chair: V. Bindi - UH Manoa</b>	<b>AM</b>	<b>Chair: M. Lee - UNH</b>	<b>AM</b>	<b>Chair: M. Potgieter - NWU</b>	<b>AM</b>	<b>Chair: M. Boezio - INFN</b>
<b>8:45 - 8:55</b>	Welcome - V. Bindi - UH Manoa	<b>8:45 - 9:35</b>	J. Richardson - MIT	<b>8:45 - 9:35</b>	M. Lee - U. New Hampshire	<b>8:45 - 9:35</b>	M. Pesce Rollins - INFN Pisa
<b>8:55 - 9:10</b>	Welcome - V. Syrmos - UH Manoa	<b>9:35 - 10:25</b>	K. Sakai - NASA GSFC	<b>9:35 - 10:25</b>	D. Caprioli - Princeton	<b>9:35 - 10:25</b>	G. Share - U. Maryland
<b>9:10 - 9:50</b>	V. Bindi - UH Manoa	<b>10:25 - 10:40</b>	Coffee	<b>10:25 - 10:40</b>	Coffee	<b>10:25 - 10:40</b>	Coffee
<b>9:50 - 10:35</b>	M. Potgieter - NWU South Africa	<b>AM</b>	<b>Chair: M. Lee - UNH</b>	<b>AM</b>	<b>Chair: M. Potgieter - NWU</b>	<b>AM</b>	<b>Chair: M. Boezio - INFN</b>
<b>10:35 - 10:50</b>	Coffee	<b>10:40 - 11:25</b>	M. Boezio - INFN Trieste	<b>10:40 - 11:25</b>	D. Smart - Air Force Res Lab	<b>10:40 - 11:25</b>	V. Petrosian - SLAC
<b>10:50 - 11:00</b>	Group photo	<b>11:25 - 12:10</b>	I. Usoskin - U. Oulu	<b>11:25 - 12:10</b>	P. Makela - Catholic Univ. of America	<b>11:25 - 12:10</b>	V. Pierrard - Ins. Aér. Spat. Belgique
<b>AM</b>	<b>Chair: V. Bindi - UH Manoa</b>	<b>12:10 - 2:00</b>	<b>Lunch</b>	<b>12:10 - 2:00</b>	<b>Lunch</b>	<b>12:10 - 2:00</b>	<b>Lunch</b>
<b>11:00 - 11:45</b>	M. Shea - Air Force Res Lab	<b>PM</b>	<b>Chair: J. Hoffman - UH Manoa</b>	<b>PM</b>	<b>Chair: I. Usoskin - U. Oulu</b>	<b>PM</b>	<b>Chair: T. Martin - MIT</b>
<b>11:45 - 12:10</b>	P. Evenson - U. Delaware	<b>2:00 - 2:45</b>	S. Schael - RWTH Aachen	<b>2:00 - 2:30</b>	P. Kuhl - U. Kiel	<b>2:00 - 2:20</b>	E. Semones - NASA JSC
<b>12:10 - 2:00</b>	<b>Lunch</b>	<b>2:45 - 3:15</b>	N. Tomassetti - IN2P3	<b>2:30 - 3:00</b>	G. de Nolfo - NASA GSFC	<b>2:20 - 2:40</b>	R. Rios - NASA JSC
<b>PM</b>	<b>Chair: A. Tylka - NASA</b>	<b>3:15 - 3:45</b>	P. Sauter - U. Geneva	<b>3:00 - 3:30</b>	A. Bruno - U. Bari	<b>2:40 - 3:25</b>	J. Norbury - NASA Langley
<b>2:00 - 2:45</b>	C. Cohen - CALTEC	<b>3:45 - 4:30</b>	<b>Poster Session</b>	<b>3:30 - 3:45</b>	<b>Coffee</b>	<b>3:25 - 3:40</b>	<b>Coffee</b>
<b>2:45 - 3:30</b>	G. Zank - U. Alabama Huntsville	<b>PM</b>	<b>Chair: M. Paniccia - U. Geneva</b>	<b>PM</b>	<b>Chair: I. Usoskin - U. Oulu</b>	<b>PM</b>	<b>Chair: V. Bindi - UH Manoa</b>
<b>3:30 - 4:15</b>	<b>Poster Session</b>	<b>4:30 - 4:50</b>	C. Consolandi - UH Manoa	<b>3:45 - 4:05</b>	K. Whitman - UH Manoa	<b>3:40 - 4:00</b>	M. Christl - NASA MSFC
<b>PM</b>	<b>Chair: A. Tylka - NASA</b>	<b>4:50 - 5:10</b>	C. Corti - UH Manoa	<b>4:05 - 4:25</b>	R. Fisher - NASA GSFC	<b>4:00 - 4:20</b>	D. Hassler - Inst. Astro. Spat. Orsay
<b>4:15 - 5:00</b>	D. Baker - U. Colorado	<b>5:10 - 5:30</b>	R. Munini - U. Trieste	<b>4:25 - 4:45</b>	P. V. Doetinchem - UH Manoa	<b>4:20 - ...</b>	Open discussion and Final remarks
<b>5:00 - 5:45</b>	I. Richardson - U. Maryland	<b>5:30 - 6:00</b>	D. Maurin - IN2P3	<b>4:45 - 5:05</b>	J. Ryan - U.N.H.		
				<b>5:05 - 5:25</b>	O. C. St Cyr - NASA GSFC		
				<b>7:00 - 10:00</b>	<b>Social Dinner</b>		

# Wednesday Free Day!!!

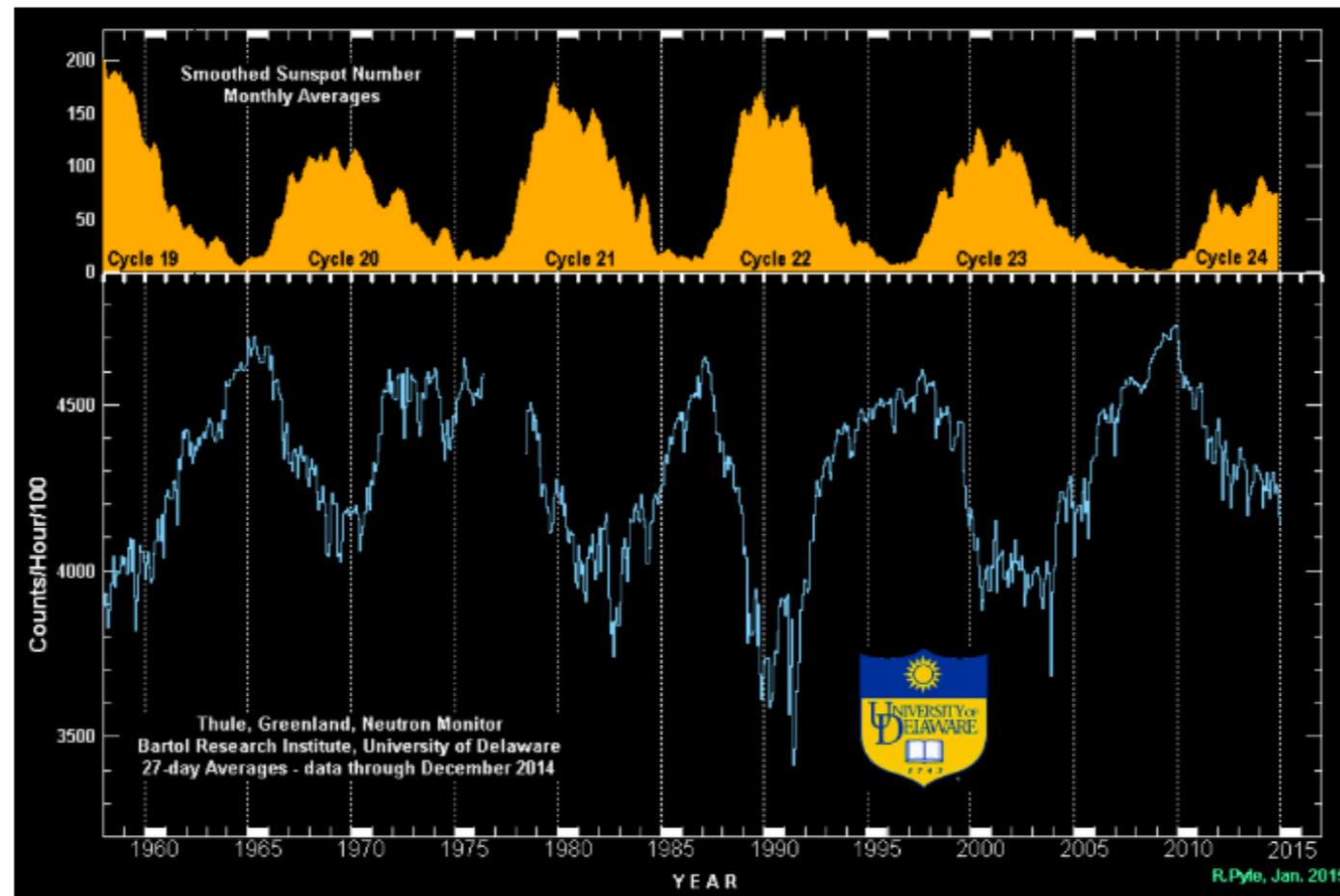




# Partner Workshop



J. Clem



J. Ryan

## Neutron Monitor Community Workshop Current and Future State of the Neutron Monitor Network

October 24-25, 2015  
Queen Kapiolani Hotel  
Honolulu, HI

### Organizers:

James M. Ryan ([james.ryan@unh.edu](mailto:james.ryan@unh.edu) , 603-862-3510)  
Space Science Center, University of New Hampshire

John Clem ([clem@bartol.edu](mailto:clem@bartol.edu) , 302-831-4354)  
Bartol Research Institute, Department of Physics and Astronomy, University of Delaware

# Schedule Oct 24 and 25

		Schedule			
24-Oct	Saturday	Title		Speaker	Institution
8:30	8:45	Introduction		Jim Ryan / John Clem	University of New Hampshire / University of Delaware
8:45	9:15	Domestic perspective of NMs		John Bieber	University of Delaware
9:15	9:45	International perspective of NMs		Ilya Usoskin	University of Oulu
9:45	10:00	coffee break			
10:00	10:30	NASA CCMC/Space Weather	call in	Yihua Zheng	Goddard NASA
10:30	11:00	Micro-electronics and Single Event Upsets	call in	Mike Gordon	IBM
11:00	11:30	Air Crew Hazards and Safety	call in	Kyle Copeland	Federal Aviation Administration
11:30	12:00	Air Force Interests	call in	Stephen White	Air Force Research Laboratory
12:00	1:00	Lunch (Cater) / NM Operation Presentation		John Clem	University of Delaware
1:00	1:30	NOAA Space Weather		Doug Biesecker	NOAA
1:30	2:00	Neutron Monitor Connections to NASA space missions and science		Georgia deNolfo	Goddard NASA
2:00	2:30	Neutron Monitor Data Base		Christian Steigies	University of Kiel
2:30	3:15	Solar Modulation and the heliosphere / SEPs and Forbush		Randy Jokipii / Marty Lee	University of Arizona / University of New Hampshire
3:15	3:30	Coffee Break			
3:30	4:00	Use of Cosmic Ray Neutron Data in Nuclear Threat Detection and Some Other Applications		Paul Goldhagen	Department of Homeland Security
4:00	4:30	The Earth as a magnetic spectrometer		Alessandro Bruno	University of Bari
4:30	5:00	Low Earth Orbiting cosmic ray missions		Mirko Boezio	Istituto Nazionale di Fisica Nucleare
5:00	5:30	Neutron Monitor Innovations Past, Present and Future		Paul Evenson	University of Delaware
5:30	6:30	Discussion		Jim Ryan / John Clem	University of New Hampshire / University of Delaware
7:00		Dinner		Tiki Grill	
25-Oct	Sunday				
9:00	10:00	Summary of the Workshop / Letters of Support		Jim Ryan / John Clem	University of New Hampshire / University of Delaware
10:00	11:00	Draft Outline of the White paper		Jim Ryan / John Clem	University of New Hampshire / University of Delaware
11:00	12:00	Designate Key point and graphs. Solicit writing assignments for the paper		Jim Ryan / John Clem	University of New Hampshire / University of Delaware
12:00		End Workshop			



# Announcement Special Issue: *Advances in Space Research*

*"Solar Energetic Particles, Solar Modulation and Space Radiation:*

*New Opportunities in the AMS-02 Era"*

This special issue is open to all scientists from these three communities: **Solar Energetic Particles, Solar Modulation and Space Radiation** who may have an appropriate scientific paper related to **galactic cosmic rays and solar energetic particles**:

- acceleration and propagation in the Heliosphere and in the magnetosphere;
- influence on the radiation environment;
- recent advances in these fields through new data and theoretical models;
- prospects for future measurements.

# Announcement Special Issue: *Advances in Space Research*

Details about the paper submission are included in the workshop binder and on the ASR website:

- <http://ees.elsevier.com/asr/> (Advances in Space Research).
- **The deadline for submissions is 29 February 2016.**
- Questions: M. Shea and myself



***M. Shea***

ASR Co-Editor for  
Special Issues



**Let's make this meeting  
a very fruitful one!**



**I wish you a lovely stay in Hawaii!**

**Mahalo nui loa!**





# Vassilis Syrmos

University of Hawai'i

Vice President of Research and Innovation

He is leader and coordinator of systemwide research and innovation efforts at UH, including management and direction of UH's research support, technology transfer and many compliance functions.

Syrmos has previously served as the associate vice chancellor for research at the University of Hawai'i at Manoa, where he has worked on a range of projects including developing major research facilities.

Since 1991, he has been with the department of electrical engineering at UH Manoa, where he is a professor and where he served as associate dean of the College of Engineering.

Syrmos obtained his PhD at Georgia Institute of Technology in electrical engineering and a diploma in electrical engineering from Democritus University of Thrace, Greece.

