

2016 SDO Workshop Agenda

(as of Oct. 13, 2016)

Sunday, Oct. 16

- 5:00 pm **On-site Registration and Check-In Opens**
- 5:30 pm – 7:00 pm **2016 SDO Workshop – Welcoming Reception**
Sheraton Burlington Hotel: G's Restaurant
An excellent opportunity to connect with your colleagues early in the week! Complimentary hors d'oeuvres and cash bar.

Monday, Oct. 17

- 7:00 am **On-site Registration and Check-In Opens – Diamond Ballroom Foyer**
- 7:30 am – 8:30 am **Breakfast – Diamond Ballroom**
- 8:30 am – 9:00 am **W. Dean Pesnell, SDO Project Scientist, Welcome and Meeting Overview**
- 9:00 am – 9:30 am **Phil Scherrer, SDO/HMI PI, SDO/HMI Overview of Recent Findings**

Session: Motions Inside the Sun

Session Chair: Charles Baldner, Stanford University

- 9:30 am – 10:00 am **Ariane Schad (Invited Speaker), Measuring Flows in the Solar Interior: Current developments, results, and outstanding problems**
- 10:00 am – 10:45 am **Poster Break – See separate listing of posters**
- 10:45 am – 11:00 am **Rudolf Komm, Subsurface Zonal and Meridional Flows from SDO/HMI**
- 11:00 am – 11:15 am **Ruizhu Chen, A Comprehensive Time-Distance Measurement of Deep Meridional Flow and its Temporal Variation**
- 11:15 am – 11:30 am **Mark Rast, The Amplitude of the Deep Solar Convection and the Origin of the Solar Supergranulation**
- 11:30 am – 11:45 pm **Sushanta Tripathy, Magnetoseismology of Active Regions using Multi-Wavelength Observations from SDO**

Session: Motions Near and Above the Solar Surface Captured in the SDO Era

Session Chair: Aimee Norton, Stanford University

- 11:45 am – 12:15pm **David Jess (Invited Speaker), Motions Near and Above the Solar Surface Captured in the SDO Era**
- 12:15 pm – 1:30 pm **Lunch – Diamond Ballroom**
- 1:30 pm – 1:45 pm **James McAteer, Inferring Magnetic Fields and Electron Densities from Coronal Seismology**
- 1:45 pm – 2:00 pm **Hope Thackray, Trapped Modes of a Cylindrical Waveguide in the Sun's Corona**

- 2:00 pm – 2:15 pm **Leon Ofman**, *Coronal and Flare Diagnostic with SDO/AIA-discovered Fast MHD Wave Trains in Active Regions*
- 2:15 pm – 2:30 pm **David Long**, *Measuring the Magnetic Field of a Trans-Equatorial Loop System using Coronal Seismology*
- 2:30 pm – 2:45 pm **Viggo Hansteen**, *Ellerman Bombs and IRIS Bombs; In the photosphere and above*
- 2:45 pm – 3:00 pm **Wei Liu**, *Joint SDO and IRIS Observations of a Novel, Hybrid Prominence-Coronal Rain Complex*
- 3:00 pm – 3:15 pm **Tongjiang Wang**, *Determination of Transport Coefficients from Flare-Excited Standing Slow-Mode Waves Observed by SDO/AIA*
- 3:15 pm – 3:30 pm **Junwei Zhao**, *Determining Ray Paths of Upward Propagating Helioseismic Waves above Sunspots from the Photosphere to Corona*
- 3:30 pm – 4:15 pm **Poster Break** – See separate listing of posters

Session: Atmospheric Dynamics and Sources of the Solar Wind

Session Chair: Meng Jin, Lockheed Martin – Solar and Astrophysics Lab

- 4:15 pm – 4:45 pm **Jon Linker (Invited Speaker)**, *Are Dynamical Sources Essential for the Production of the Ambient Solar Wind?*
- 4:45 pm – 5:00 pm **Spiro Antiochos**, *The Source of the Slow Wind and the Origin of its Dynamics*
- 5:00 pm – 5:15 pm **Roberto Lionello**, *The Thermodynamics of Coronal Jets and Their Contribution to the Solar Wind*
- 5:15 pm – 5:30 pm **Bart van der Holst**, *Model of the Global Corona Powered by Alfvén Wave Turbulence: a Validation Study*
- 5:30 pm – 5:45 pm **Mehmet S. Yalim**, *A New Characteristic Boundary Condition Formulation for a Data-Driven Magnetohydrodynamic Model of Global Solar Corona Using SDO Vector Magnetogram Data*
- 5:45 pm – 6:00 pm **Manuel Luna**, *Large-Amplitude Oscillations in Prominences*
- 6:00 pm Adjourn for the day – Dinner on your own

Tuesday, Oct. 18

- 7:30 am – 8:30 am **Breakfast** – *Diamond Ballroom*
- 8:30 am – 9:00 am **Mark Cheung, SDO/AIA PI**, *The SDO/AIA Science Investigation: Scientific Discoveries, Status Report and New Developments*

Session: Studies of Solar Eruptive Events (SEEs) (*session continues on Thursday*)

Session Chair: Mark Cheung, Lockheed Martin – Solar and Astrophysics Lab

- 9:00 am – 9:30 am **Mark Linton (Invited Speaker)**, *Modeling the Energization and Eruption of Flux Ropes and Sheared Arcades*
- 9:30 am – 9:45 am **Erika Palmerio**, *Prediction of In-situ Magnetic Structure of Flux Ropes from Coronal Observations*
- 9:45 am – 10:00 am **Matthias Rempel**, *3D MHD Simulation of a Solar Flare*
- 10:00 am – 10:45 am **Poster Break** – See separate listing of posters

- 10:45 am – 11:15 am **Ying Li (Metcalf Lecture)**, *Direct Imaging of a Classical Solar Eruptive Flare*
 11:15 am – 11:30 am **Ryan Milligan**, *Quasi-Periodic Pulsations in Hydrogen Emission During Solar Flares*
 11:30 am – 11:45 am **Ya Wang**, *High Resolution He I 10830 Angstrom Narrow-band Imaging of an M-Class Flare*
 11:45 am – 12:00 pm **Xudong Sun**, *Unexpectedly Strong Lorentz-Force Impulse Observed During a Solar Eruption*

12:00 pm – 1:30 pm

Lunch, followed by an award winning documentary

“The Northern Lights – A Magic Experience”

Directed by Pål Brekke and Fredrik Broms, this short film takes you on a breathtaking journey through space, showing beautiful time-lapse sequences of the northern lights. Perfect complement with dessert!



1:30 pm – 1:45 pm

Rachel Hock-Mysliwicz, *Towards a Physics-Based Flare Irradiance Model*

1:45 pm – 2:00 pm

Tom Woods, *New Solar Soft X-Ray (SXR) Spectral Irradiance Measurements Bridge the SDO and RHESSI Spectral Gap to Study Flare Energetics*

2:00 pm – 2:15 pm

Markus Aschwanden, *The Global Energetics of Solar Flares and CMEs*

2:15 pm – 2:30 pm

James Mason, *The New SDO/EVE Coronal Dimming Catalog*

2:30 pm – 3:30 pm

Poster Break – See separate listing of posters

Session: The Sun as a Star

Session Chair: Charles Baldner, Stanford University

3:30 pm – 4:00 pm

Anne-Marie Broomhall (Invited Speaker), *Seismology tools for studying the solar-stellar connection*

4:00 pm – 4:15 pm

Jennifer van Saders, *Placing the Sun in Stellar Context: Rotation, Magnetism, and Aging Dynamos*

4:15 pm – 4:30 pm

Sylvain Korzennik, *Temporal Changes of pModes Properties Derived from Nearly 20 Year of Observations*

Sunset Dinner Cruise on Lake Champlain

- 4:45 pm Complimentary trolley shuttle begins
 5:10 pm Boarding begins – *Spirit of Ethan Allen*
5:30 pm Cruise departs – dinner buffet
 6:03 pm Sunset!
 7:30 pm Return to dock



Wednesday, Oct. 19

8:00 am – 9:00 am **Breakfast – Diamond Ballroom**

9:00 am – 9:30 am **Tom Woods, SDO/EVE PI**, *Overview of Key Results from SDO Extreme ultraviolet Variability Experiment (EVE)*

Session: Space Weather at the Earth and other Planets

Session Chair: Frank Eparvier, LASP/University of Colorado

9:30 am – 10:00 am **Christina Lee (Invited Speaker)**, *Influence of the Sun on the Space Weather Conditions: Cycle 24 Observations from 1 AU to Mars*

10:00 am – 10:15 am **Noe Lugaz**, *Successive CMEs, Particle Acceleration and Geo-Effective Events*

10:15 am – 10:30 am **Nariaki Nitta**, *Stealth CMEs and Stealthy Geomagnetic Storms*

10:30 am – 11:00 am **Poster Break – See separate listing of posters**

11:00 am – 11:30 am **Christina Kay (Metcalf Lecture)**, *Determining ICME Magnetic Field Orientation with the ForeCAT In-situ Data Observer*

11:30 am – 11:45 am **Thanassis Katsiyannis**, *The Discovery of an Electron Current at Earth's McIlwain L=6*

11:45 am – 12:00 pm **Smile ☺ Group Photo**



12:00 pm – 1:15 pm **Lunch – Diamond Ballroom**

Session: The Evolution of Active Regions

Session Co-Chairs: Matthias Rempel, High Altitude Observatory/NCAR, Boulder, CO

Andrés Muñoz-Jaramillo, Georgia State University, Atlanta, GA

1:15 pm – 1:45 pm **Lucie Green (Invited Speaker)**, *The Evolution of Active Regions*

1:45 pm – 2:00 pm **Robert Stein**, *Active Region Formation and Subsurface Structure*

2:00 pm – 2:15 pm **Hannah Schunker**, *Constraining the Common Properties of Active Region Formation using the SDO/HEAR Dataset*

2:15 pm – 2:30 pm **Feng Chen**, *Emergence of Magnetic Flux Generated in a Solar Convective Dynamo*

2:30 pm – 2:45 pm **Shin Toriumi**, *Properties and Developments of Flaring Active Regions*

2:45 pm – 3:45 pm **Poster Break – See separate listing of posters**

3:45 pm – 4:00 pm **Daniel Brown**, *Towards the Automatic Detection and Analysis of Sunspot Rotation*

4:00 pm – 4:15 pm **Andrew Walker**, *The Impact of Sunspot Rotation on Energetic Solar Flares*

4:15 pm – 4:30 pm **Ana Belén Griñón Marín**, *Filamentary Oscillations in the Penumbra of Sunspots*

4:30 pm – 4:45 pm **Clara Froment**, *Long-Period Intensity Pulsations as the Manifestation of the Heating Stratification and Timescale in Coronal Loops*

4:45 pm – 5:00 pm **Nicholeen Viall**, *Using SDO/AIA to Understand the Thermal Evolution of Solar Prominence Formation*

ECHO Lake Aquarium and Science Center

- 5:30 pm Complimentary trolley shuttle begins
6:00 pm Doors open at ECHO Center
(admission, generous hors d'oeuvres,
cash bar)
8:00 pm Reception ends



Thursday, Oct. 20

8:00 am – 9:00 am **Breakfast – Diamond Ballroom**

Session: Solar Magnetic Variability and the Solar Cycle

Session Chair: W. Dean Pesnell, NASA / GSFC

- 9:00 am – 9:30 am **Andrés Muñoz-Jaramillo (Invited Speaker)**, *Advances on Our Understanding of Solar Cycle Propagation and Predictability*
- 9:30 am – 9:45 am **Nat Gopalswamy**, *The Complex Solar Polarity Reversal during Cycle 24*
- 9:45 am – 10:00 am **David Hathaway**, *Unraveling the Complexity of the Evolution of the Sun's Photospheric Magnetic Field*
- 10:00 am – 10:15 am **Ron Moore**, *Babcock Redux: An Amendment of Babcock's Schematic of the Sun's Magnetic Cycle*
- 10:15 am – 11:30 am **Poster Break – See separate listing of posters**
- 11:30 am – 11:45 am **Ilpo Virtanen**, *Photospheric Magnetic Fields in Six Magnetographs*
- 11:45 am – 12:00 pm **Luca Bertello**, *Impact of Magnetic Carrington Synoptic and Spatial Variance Maps in Modeling of the Corona and Solar Wind*
- 12:00 pm – 12:15 pm **Axel Brandenburg**, *Two-scale Analysis of Solar Magnetic Helicity*
- 12:15 pm – 12:30 pm **Leif Svalgaard**, *Variation of EUV Matches that of the Solar Magnetic Field*
- 12:30 pm – 2:00 pm **Lunch, followed by an award winning documentary**
“The Northern Lights – A Magic Experience”
Directed by Pål Brekke and Fredrik Broms, this short film takes you on a breathtaking journey through space, showing beautiful time-lapse sequences of the northern lights. Perfect complement with dessert!



Session: Studies of Solar Eruptive Events (SEEs) (session continued from Tuesday)

Session Chair: Mark Cheung, Lockheed Martin – Solar and Astrophysics Lab

2:00 pm – 2:30 pm	Jack Carlyle (Metcalf Lecture) , <i>Mass Diagnostics of Eruptive Filament Material</i>
2:30 pm – 2:45 pm	Barbara Thompson , <i>Dynamic Mapping of Prominence Activity</i>
2:45 pm – 3:00 pm	Daniel Nóbrega-Siverio , <i>The Cool Surge Following Flux Emergence in a Radiation-MHD Experiment</i>
3:00 pm – 3:15 pm	Klaus Galsgaard , <i>Mini-CME Eruptions in a Flux Emergence Event in a Coronal Hole Environment</i>
3:15 pm – 3:30 pm	Rui Liu , <i>What Produce Energetic Flares with X-Shaped Ribbons on the Outskirts of Solar Active Region?</i>
3:30 pm – 3:45 pm	Eric Buchlin , <i>Energetic Characterisation and Statistics of Solar Coronal Brightenings</i>
3:45 pm – 4:00 pm	Stephen Brown , <i>Doppler Speeds of the Hydrogen Lyman Lines in Solar Flares from EVE</i>

Closing Summary and Discussion

4:00 pm – 5:00 pm **W. Dean Pesnell**

Join us for the eight “Mini-Workshops” offered Friday morning!

Friday, Oct. 21 – Mini Workshops (registration not required)

7:30 am – 8:30 am **Breakfast – Ballroom Foyer**

8:30 am – 10:00 am Options:

- ***SunPy: Bridging from IDL to Python***, Leaders: Michael Kirk and Jack Ireland
- ***Thermal Diagnostics with SDO/AIA (Part I)***, Leader: Mark Cheung
- ***EUV Instrument Calibration and Data Inter-Comparisons***, Leader: Andrew Jones
- ***Magnetic Data Calibration: Vector Field Working Group***, Leader: Aimee Norton

10:00 am – 10:30 am **Coffee Break**

10:30 am – 12:00 pm Options:

- ***SunPy: Solar Data Processing with Python***, Leaders: Michael Kirk and Jack Ireland
- ***Thermal Diagnostics with SDO/AIA (Part II)***, Leader: Mark Cheung
- ***Local Helioseismology Working Group***, Leader: Charles Baldner
- ***Solar Cycle 24 Prediction Retrospective***, Leader: W. Dean Pesnell