Keck Northeast Astronomy Consortium

Symposium 2018

Middlebury College
Ripton & Middlebury, Vermont
Friday & Saturday, September 28 & 29, 2018
Schedule

Friday, September 28, 2018
Bread Loaf Mountain Campus

3pm – 6pm  Check-In & Registration
            Bread Loaf Inn Lobby & Lounge

6pm – 7pm  Reception
            Bread Loaf Inn Blue Room & Porch

7pm – 9pm  Remarks & Banquet
            Bread Loaf Inn Dining Room

9pm – 10pm  Dessert Social & Stargazing
              Bread Loaf Barn

9pm – 10pm  Faculty Discussion
              Treman

Overnight
            Bread Loaf Mountain Campus
            Bread Loaf Inn, Maple, Birch, Treman, & Frothingham

Saturday, September 29, 2018
Bread Loaf Mountain Campus

6am – 6:30am  Light Refreshments
              Bread Loaf Inn Dining Hall

6:30am – 8am  Breakfast & Check-Out
              Bread Loaf Inn Dining Hall & Lobby

8am – 8:45am  Transit
              Bread Loaf Inn to McCardell Bicentennial Hall
## Schedule

**Saturday, September 29, 2018**  
*McCardell Bicentennial Hall, Middlebury Campus*

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<tr>
<td>8:45am - 10am</td>
<td>Opening Remarks &amp; Session I</td>
<td><em>McCardell Bicentennial Hall 216</em></td>
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<td>10am - 10:15am</td>
<td>Poster Introductions</td>
<td><em>McCardell Bicentennial Hall 216</em></td>
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<td>10:15am - 10:45am</td>
<td>Posters &amp; Refreshments</td>
<td><em>McCardell Bicentennial Great Hall &amp; Discovery Court</em></td>
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<tr>
<td>10:45am - 12pm</td>
<td>Session II</td>
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<td>12pm - 12:15pm</td>
<td>Photographs</td>
<td><em>McCardell Bicentennial Great Hall &amp; Discovery Court</em></td>
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<tr>
<td>12:15pm - 1:45pm</td>
<td>Lunch</td>
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<td>12:30pm - 1:30pm</td>
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<td>12:45pm - 1:30pm</td>
<td>Lunchtime Breakout Sessions</td>
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<td>1:45pm - 3pm</td>
<td>Session III</td>
<td><em>McCardell Bicentennial Hall 216</em></td>
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<td>3pm - 3:30pm</td>
<td>Posters &amp; Refreshments</td>
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<td>3:30pm - 4pm</td>
<td>Session IV &amp; Closing Remarks</td>
<td><em>McCardell Bicentennial Hall 216</em></td>
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<td>4pm - 4:30pm</td>
<td>Light Refreshments</td>
<td><em>McCardell Bicentennial Great Hall &amp; Discovery Court</em></td>
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Student Research Presentations

Session I

Honey I Shrunk the Heliosphere! Using Hubble to Look Back at the Sun’s Historical Trajectory Through the Local Interstellar Medium
Hunter Vannier, Wesleyan

Do Chaos, Domes, Pits, and Spots Contribute to Changing Morphology of Europa’s Ridges?
Karla Núñez, Middlebury

Determining the Viability of KELT Exoplanet Candidates
Aidan Pidgeon, Dickinson; Bailey Piotrowski, Vassar

An Updated Catalog of Cool Dwarf Targets for the Transiting Exoplanet Survey Satellite Using Gaia DR2 Parallaxes
Jay Chittidi, Vassar

Session II

A Kinematically Unbiased Sample of Candidate Nearby Young Stars
Matthieu Chalifour, Swarthmore

Multi-Epoch Spectroscopy of DQ Tau, V826 Tau, and UZ Tau E
Jocelyne Andrade, Colgate; Rhys Manley, Swarthmore; Allison Quintana, Wesleyan; Nicole Tan, Wellesley

Deriving Temperature Distributions and Mass-Loss Rates from Shocks in Massive Stars’ Winds
Graham Doskoch, Swarthmore

Measuring the Mass of a Brown Dwarf in the Debris Disk of HD 206893
David Vizgan, Wesleyan

Determining the Evolutionary Status of the Disk Surrounding HD 166191
Diego Garcia, Middlebury
Student Research Presentations

Session III

Searching for Intermediate Mass Black Holes in Nearby Dwarf Galaxies
Benjamin Martinez, Wesleyan

Sadie Coffin, Middlebury; Karina Cooper, Swarthmore

From Einstein to Chandra: An Exploration of Highly Variable AGN
Gilberto Garcia, Wesleyan

“Dark Fluid” Cosmology
David Robinson, Swarthmore

Correlation Function and Redshift Distortion of the Matter Power Spectrum
Kayla Nowak, Lycoming

Session IV

Saturation Correction and Standard Normalization Techniques for Isotopic Abundance Analysis
Ethan Lopes, Williams

The Development of an Electrostatic Probe for a Miniature Ion Thruster Internal Discharge Chamber
Chloe Shi, Wellesley
Student Research Presentations

Posters

Likelihood Analysis of Gamma Ray Emission from the Massive Star Cluster Westerlund 1
Katie Chapman, Colgate

Comparisons of the Seismic Properties of the Sun During Solar Cycles 23 and 24
Diego Espino, Middlebury

Imaging Green Pea Galaxies
Nicole Ford, Williams

High Precision Photometry of Faint White Dwarf Stars from K2 Data
Michael Henderson, Wesleyan

Characterizing the Orbital Dynamics of Protoplanetary Disks in Binary Systems
Aaron Hersch, Swarthmore

How Old Are These Green Peas?
John Inoue, Williams

Images and Analysis of the Great American Eclipse
Christian Lockwood, Williams

EDGES: Radial Star Formation Histories of NGC4143 and UGC07639
Jacob Pilawa, Colgate
Student Research Presentations

Posters

*Models and Observations of the Crater Modification Sequence on the Moon and Mars*
Hallie Pimperl, Wellesley; Emma Chickles, Wellesley

*The Timescales of the Optical Variability of Blazar OJ 287*
Lekshmi Rajagopal, Colgate; Eric Roels, Colgate; Rishi Lohar, Colgate; Jacob Pilawa, Colgate

*Gamma-Ray Bursts: Probes of the Early Universe*
Alina Sabyr, Colgate

*Black Hole Imaging with Space-Based Telescopes*
Maura Shea, Wellesley

*Conducting Exoplanet Transit Follow-Up Observations for KELT at Swarthmore College’s Peter van de Kamp Observatory*
Erin Snoddy, Swarthmore

*Sloshing Galaxies in the Most Massive Gravitationally Bound Structures in the Universe*
Janel Williams, Wellesley

*Williams College Expedition to the Willamette Valley, Oregon, to Observe the 2017 Total Solar Eclipse: Meteorological Measurements and Analysis*
Ross Yu, Williams; Christian Lockwood, Williams
Lunchtime Breakout Sessions

*Applying to Graduate School and What to Expect in the First Year*
**Seth Redfield, Wesleyan**
Associate Professor of Astronomy, Department of Astronomy
Principal Investigator, Keck Northeast Astronomy Consortium REU Site
McCordell Bicentennial Hall 104

*Communicating Science*
**Kristina Punzi, Wellesley**
Instructor in Astronomy Laboratory & Observatory Manager, Department of Astronomy
Astronomy Ambassador, American Astronomical Society
McCordell Bicentennial Hall 219

*Equity and Inclusion in Astronomy*
**Colette Salyk, Vassar**
Assistant Professor of Astronomy, Department of Physics & Astronomy
McCordell Bicentennial Hall 220

*Bayesian Statistics and Markov Chain Monte Carlo*
**Kevin Flaherty, Williams**
Lecturer in Astronomy & Observatory Supervisor, Department of Astronomy & Department of Physics
McCordell Bicentennial Hall 338
Moderators

Session I

Eric Jensen, Swarthmore
Professor of Astronomy, Department of Physics & Astronomy

Session II

Meredith Hughes, Wesleyan
Assistant Professor of Astronomy, Department of Astronomy

Session III

Seth Redfield, Wesleyan
Associate Professor of Astronomy, Department of Astronomy
Principal Investigator, Keck Northeast Astronomy Consortium REU Site

Session IV

Eilat Glikman, Middlebury
Assistant Professor of Physics & P. Frank Winkler Fellowship in Physics,
Department of Physics
Remarks

Banquet

Debbie Elmegreen, Vassar
Professor of Astronomy on the Maria Mitchell Chair, Department of Physics & Astronomy
President Elect, International Astronomical Union

Opening

Pat Manley, Middlebury
Professor of Geology, Department of Geology, & Director of the Sciences

Closing

Eilat Glikman, Middlebury
Assistant Professor of Physics & P. Frank Winkler Fellowship in Physics, Department of Physics
Notes & Acknowledgments

Please consult the Proceedings for additional information regarding non-presenting co-authors and research advisors.

The stargazing event is weather permitting.

The symposium organizers would like to recognize the tireless and invaluable contributions of Middlebury College staff.

This Symposium is supported in part by National Science Foundation award AST 1559865.
The Keck Northeast Astronomy Consortium comprises astronomy faculty and students at eight small liberal arts colleges and universities in the northeast. Their goals are to promote astronomy research among their students and to foster faculty and student interaction among the eight campuses. They sponsor a student exchange program each summer and a student research symposium each fall.

Although originally funded by the W. M. Keck Foundation beginning in 1990, they are now funded by the National Science Foundation, under their Research Experiences for Undergraduates (REU) program.

Each fall students and faculty from the Keck Northeast Astronomy Consortium Research Experiences for Undergraduates (REU) program and the member schools gather together for a student research symposium.

Middlebury
Physics

Middlebury
Science & Mathematics

Mittelman Observatory