## Heldfest Symposium Program

**Location:** Frick Chemistry Lab/Taylor Auditorium

### Day 1: Monday October 29, 2018

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Speakers</th>
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<tbody>
<tr>
<td>8:10</td>
<td>Shuttle to leave Hyatt for venue</td>
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<tr>
<td>8:30-9:00</td>
<td><strong>Breakfast</strong></td>
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<tr>
<td>9:00-9:05</td>
<td>Welcome &amp; Outline of the Symposium Themes</td>
<td>David Neelin, Sarah Kang, Tapio Schneider and Stephan Fueglistaler</td>
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<tr>
<td>9:05-9:20</td>
<td>An appreciation</td>
<td>V. Ramaswamy</td>
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<tr>
<td>9:20-9:50</td>
<td>The Internal Dynamics of Hadley Cells</td>
<td>Brian Hoskins</td>
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<td>9:50-10:10</td>
<td>The Role of Teleconnections and Wave Breaking in Climate Change</td>
<td>Steven Feldstein</td>
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<tr>
<td>10:10-10:30</td>
<td>Understanding the Zonal Circulation Response to Climate</td>
<td>Gang Chen</td>
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<td>10:30-11:00</td>
<td>Break</td>
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<tr>
<td>11:00-11:30</td>
<td>Eddy Momentum flux, eddy-driven jet-scale overturning circulation</td>
<td>Sukyoung Lee</td>
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<td>11:30-11:50</td>
<td>Using the Moist Static Energy Budget to Understand the Seasonality</td>
<td>Tiffany Shaw</td>
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<td>11:50-12:10</td>
<td>Large-scale Tropical Eddy Momentum Transport</td>
<td>Pablo Zurita-Gotor</td>
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<td>12:00-12:30</td>
<td>Mechanism of Future Spring Drying in the Southwest U.S. in CMIP5 Models</td>
<td>Mingfang Ting</td>
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<td>12:30-1:30</td>
<td>Lunch</td>
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<tr>
<td>1:30-1:45</td>
<td>[An appreciation from NOAA]</td>
<td>Gary Matlock</td>
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<tr>
<td>1:45-2:15</td>
<td>Atmospheric Circulation as a Source of Uncertainty in Climate-Change Projections</td>
<td>Ted Shepherd</td>
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<td>2:15-2:35</td>
<td>Modeled and Observed Multidecadal Variability in the North Atlantic Jet Stream and its Connection to Sea Surface Temperatures</td>
<td>Isla Simpson</td>
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<td>2:35-2:55</td>
<td>Oversensitivity of Climate Models to External Forcing</td>
<td>Prashant Sardeshmuk</td>
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<td>2:55-3:20</td>
<td>Break</td>
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<tr>
<td>3:20-3:40</td>
<td>Mechanisms Linking Polar Warming with Midlatitude Jet-Streams</td>
<td>Elizabeth Barnes</td>
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<td>3:40-4:00</td>
<td>Toward Understanding Regional Hydroclimate Change: Insights from Moist Static (MSE) Budget Analysis</td>
<td>Yi Ming</td>
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<td>4:00-4:20</td>
<td>Tropical Climate Response to One-Hemisphere Subpolar Thermal Forcing</td>
<td>Sarah Kang</td>
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<td>4:40-5:10</td>
<td>The Dynamical Response of Clouds to Aerosol Forcing</td>
<td>Brian Soden</td>
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<td>5:30</td>
<td>Shuttle to leave venue for Hyatt</td>
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<td>6:00-10:00</td>
<td>Symposium Reception and Dinner at Hyatt</td>
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<td>Breakfast</td>
<td>Session Chair – Gabriel Vecchi</td>
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<td>9:00-9:30</td>
<td>The Madden-Julian Oscillation</td>
<td>Kerry Emanuel</td>
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<td>9:30-9:50</td>
<td>A Study of Convective Clouds in Radiative Convective Equilibrium Simulated by GFDL FV3 Based Cloud Resolving Model</td>
<td>Ming Zhao</td>
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<td>9:50-10:20</td>
<td>Tropical cyclones and global warming</td>
<td>Adam Sobel</td>
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<tr>
<td>10:20-10:50</td>
<td>Break</td>
<td>Session Chair – S. George Philander</td>
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<tr>
<td>10:50-11:10</td>
<td>Stochastic Model Hierarchies for Moist Processes</td>
<td>David Neelin</td>
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<tr>
<td>11:10-11:30</td>
<td>Radiative-Convective Equilibrium with Varied Surface Wetness (Expanding our Model Hierarchy for Convection and Climate)</td>
<td>Tim Cronin</td>
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<td>11:30-11:50</td>
<td>Secular Change over Continental and Polar Regions: The Mechanics of Surface Warming</td>
<td>Sumant Nigam</td>
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<td>11:50-12:10</td>
<td>Interactions between Clouds and Circulation in the Tropics and Extratropics</td>
<td>Dargan Frierson</td>
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<td>12:10-12:30</td>
<td>Water vapor and tropical-extratropical interactions in warm climates</td>
<td>Olivier Pauluis</td>
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<td>12:30-1:30</td>
<td>Lunch</td>
<td>Session Chair – Noboru Nakamura</td>
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<td>1:30-2:00</td>
<td>Hadley Cells in Various Regimes</td>
<td>Geoff Vallis</td>
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<td>2:00-2:20</td>
<td>An observational perspective of the tropical radiative-convective equilibrium in a changing climate</td>
<td>Stephan Fueglistaler</td>
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<td>2:20-2:40</td>
<td>Fast and slow components of the extratropical atmospheric circulation response to CO2 forcing</td>
<td>Paulo Ceppi</td>
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<td>2:40-3:00</td>
<td>Stratocumulus Surprises in Warm Climates</td>
<td>Tapio Schneider</td>
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<td>3:00-3:30</td>
<td>Break</td>
<td>Session Chair – James Carton</td>
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<tr>
<td>3:30-3:50</td>
<td>Sensitivity of Tropical Cyclones to the Treatment of Radiative Transfer in GCM Simulations with Uniform Thermal Forcing</td>
<td>Tim Merlis</td>
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<td>3:50-4:10</td>
<td>Using Machine Learning to Parameterize Moist Convection: Potential for Simulations of Climate, Climate Change, and Extreme Events</td>
<td>Paul O’Gorman</td>
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<td>4:10-4:30</td>
<td>Climate Sensitivity and the Ocean: Solving a CM4 Puzzle</td>
<td>Michael Winton</td>
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<td>4:30-4:50</td>
<td>Understanding Deep Ocean Circulation Changes Between the Present and the Last Glacial Maximum through a Model Hierarchy</td>
<td>Malte Jansen</td>
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<td>4:50-5:20</td>
<td>Pre-Poster session 1 min. madness</td>
<td>Poster presenters</td>
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<td>5:30-7:30</td>
<td>Reception and poster session</td>
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<td>Tropical Convective Clouds and Climate</td>
<td>Dennis Hartmann</td>
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<td>9:30-9:50</td>
<td>Equatorial wave dynamics and the general circulation of</td>
<td>Ray Pierrehumbert</td>
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<td>tide-locked exoplanets (remote presentation)</td>
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<td>9:50-10:10</td>
<td>On the Complications of Simplified Models</td>
<td>Saravanan</td>
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<td>10:10-10:30</td>
<td>Touring the Landscape of Earth System Model Development</td>
<td>Paul Kushner</td>
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<td>11:00-11:30</td>
<td>Self-aggregation of shallow moist convection</td>
<td>Chris Bretherton</td>
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<td>11:30-12:00</td>
<td>A theory for some robust properties of marine boundary</td>
<td>Bjorn Stevens</td>
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<td>layers and their response to forcing</td>
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<td>The tension between climate dynamics and model development</td>
<td>Isaac Held</td>
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<td>1:30-2:15</td>
<td>Discussion</td>
<td>Led by Isaac Held</td>
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<td>2:15-2:20</td>
<td>Thanks and closing</td>
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