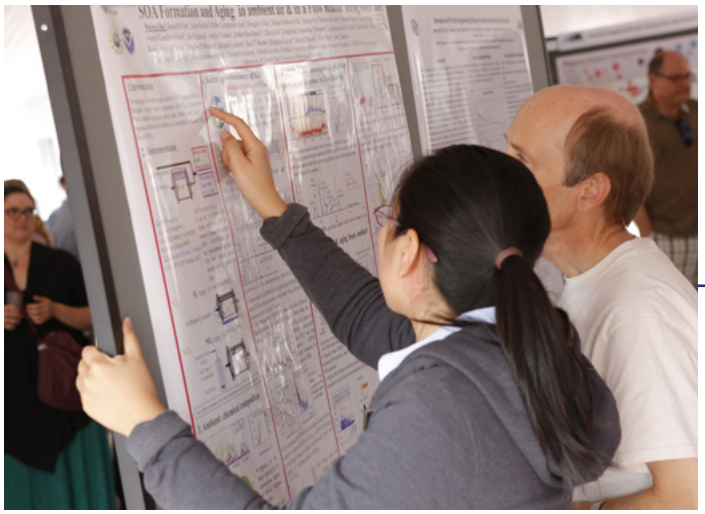
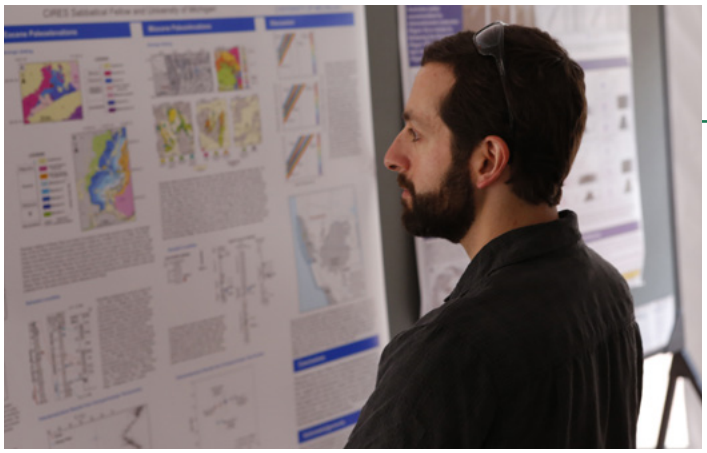
CIRES

Rendezvous 2015

Glenn Miller Ballroom, UMC • Friday, May 1 • 11:30 am





CIRES Annual Science Symposium

Hosted by

CMC
CIRES MEMBERS' COUNCIL

email: memberscouncil@cires.colorado.edu

Come celebrate innovation, performance, and outstanding science with your CIRES colleagues!

New this year! Poster abstracts are now available online.
Click or go here for access: ciresevents.colorado.edu/rendezvous/poster-abstracts

CIRES Rendezvous 2015

May 1, 2015

University Memorial Center (UMC)

PROGRAM

Poster hanging time: 7:30 am – 11:00 am, Friday, May 1 (UMC Terrace & Aspen Rooms)

Check in: 11:00 am – 11:25 am (UMC Glenn Miller Ballroom)

Luncheon: 11:30 am – 1:30 pm (UMC Glenn Miller Ballroom)

- CIRES Director's State of the Institute Address
- Awards
- Q & A with CIRES Director

Poster session: 1:30 pm – 4:30 pm (UMC Terrace & Aspen Rooms)

Administration (Orange)
Center for Science and Technology Policy Research (Light Blue)
Cryospheric and Polar Processes Division (Purple)
Education Outreach Program (Yellow)
Weather and Climate Dynamics Division (Royal Blue)
Environmental Chemistry Division (Green)
Environmental Observations, Modeling and Forecasting Division (Red)
Western Water Assessment (Silver)
CIRES Graduate Students Association Association (Light Green)

From the CIRES Director

Dear Colleagues,

I am pleased to welcome you to this year's Rendezvous, CIRES' annual science symposium, hosted by our CIRES Members Council. This is one of my favorite CIRES events, as it showcases the diversity and excellence of your research, and represents an opportunity to take stock of how much we have accomplished over the year, and continue to accomplish year after year. It is an opportunity to come together and celebrate our achievements, celebrate the achievements of our colleagues, learn about the great work that we do at CIRES, and build bridges to colleagues who may be down the hall or down the street.

CIRES is a leading research organization on the CU-Boulder campus, in the state of Colorado, and in the nation. We can show impressive statistics with regard to our funding, publications, citations, etc., but at the end of the day, CIRES is about people. It is about talented people doing important research that ultimately benefits humankind. I encourage you to take this opportunity to learn about the work your colleagues are doing and to step back and appreciate the fact that we are so much more than a research institute; the work we do makes lives better, and we should all be proud of that.

So I invite you to enjoy Rendezvous, socialize with friends, make new friends, and celebrate all we do.

Sincerely,

Waleed Abdalati
CIRES Director

2014 Career Track Promotions

Promoted to:

Senior Administrative Associate
Jennifer Bell
Marc Cloninger
Linda Pendergrass
Gretchen Richard

Associate Scientist II
Heidi McCann
Stuart Reed
Matthew Smith

Associate Scientist III
Danielle Austin
Eric James
Brian Lerner
Jeffrey Peischl
Jesse Varner
Anthony Veale

Senior Associate Scientist
Gary Bates
Ruth Duerr
Geary Layne
Richard Marchbanks
Roy Miller
David Neufeld
Donna Scott

Research Scientist II
Patrick Alken
Sean Davis
Gijs de Boer
Tzu-Wei Fang
Mariangel Fedrizzi
Mimi Hughes
Takanobu Yamaguchi

Research Scientist III
Karl Froyd
Shari Gearheard
Wentao Huang
Tomoko Matsuo
Carrie Morrill
Steven Peckham

Years of Service (as of December 31, 2014)

5 Years of Service
Ravan Ahmadov
Patrick Alken
Danielle Austin
Lisa Booker
Maxwell Boykoff
Jeffrey Deems
Cecelia DeLuca
Andrea Dietz
Tzu-Wei Fang
Christopher Golden
Birgit Hassler
Eric Hintsa
Teri Hoyer
Geary Layne
Jeffrey Lukas
Paul Madden
Sarah McCoy
Evan McQuinn
Kenneth Moran
George Mungov
Sylvia Murphy
Robert Oehmke
Joseph Olson
Philip Pegion
Anne Perring
Juan Rodriguez
Elizabeth Russell
Shan Sun
Silverio Vasquez
Nicholas Wagner
Matthew Wandishin
Daniel Webster

10 Years of Service
Jane Beitler
Lone Hansen
Gloria Hicks
Reginald Hill
Jonathan Kofler
Susan Lynds
Stefan Maus
Yelena Pichugina
Alysha Reinard
Matthew Shupe
Stefan Tulich
Laurel Watts

15 Years of Service
Elisabeth Andrews
Andrew Barrett
David Costa
Andrey Grachev
Christopher Harrop
David Nance
Bruce Raup
Michon Scott
Harald Stark
Charles Wilson
Wayne Winkler

20 Years of Service
Renea Ericson
Dale Hurst
Darren Jackson
Chesley McColl
Irina Petropavlovskikh
Catherine Rasco
James Scott
Tatiana Smirnova
Christopher Williams

25 Years of Service
Kenneth Aikin
Robert Bauer
Prashant Sardeshmukh
Mark Serreze
Lesley Smith
Ranajit Talukdar

2015 CIRES Outstanding Performance Awards: Science and Engineering

CRITERIA 1: *Development of new scientific, engineering and/or software tools or models directly resulting in novel research valuable to CIRES and the wider scientific community.*
CRITERIA 2: *Uncommon initiative, resourcefulness, and/or scientific creativity conducting research with potential to expand or change the direction of a particular field or discipline.*
CRITERIA 3: *Participation in collaborative and/or multidisciplinary research that engages a broader cross-section than the nominee's typical scientific or engineering community.*

Takanobu Yamaguchi, in NOAA ESRL's Chemical Sciences Division, for his work on aerosol-cloud interactions and their impact on climate change. Specifically, Yamaguchi adapted the Weather Research and Forecasting (WRF) model to be capable of running large-eddy simulations, and critically, he made his code available freely to the research community. Researchers from NOAA ESRL, the Rosenstiel School of Marine and Atmospheric Science (University of Miami), the Pacific Northwest National Laboratory (Department of Energy) and dozens of other institutions around the world have downloaded and used this code in their work.

More broadly, Dr. Yamaguchi's modeling expertise and analytic skills have allowed improved modeling and understanding of aerosol-cloud interactions. He has done important work on cloud-top entrainment-mixing, the "Achilles heel" of many climate models; on interpolations that enable coarse grid models to generate cloud fields that are similar to much more expensive fine grid models; and has compared model output to observations to rigorously evaluate and improve models.

Manoj Nair in NOAA ESRL's National Geophysical Data Center, for three significant geomagnetic innovations in 2014, related to tsunami detection, crowd sourcing of Earth's magnetic field, and the World Magnetic Model. In the first case, Nair led a group that demonstrated that magnetometers could detect tsunamis in real-time—something that's been long speculated because the movement of electrically conductive seawater through the geomagnetic field can induce electric fields.

Nair also led the development of the CrowdMag app, a citizen science application that enables scientists to gather data from the cheap digital magnetometers embedded in smart phones. These data have the potential to help scientists better map Earth's magnetic field, critical for navigation, understanding space weather impacts, and even understanding our planet's core. Finally, Nair was a major contributor to the updated 2015 World Magnetic Model, the official representation of Earth's large-scale magnetic field, updated every five years and used by NATO, the U.S. and UK militaries, and in countless civilian applications requiring precision navigation.

Jeff Peischl in NOAA ESRL's Chemical Sciences Division, for his work measuring greenhouse gases (CO_2, CH_4, and N_2O) from airborne and ground-based mobile platforms, and for analysis to better understand the sources and implications of those emissions. Peischl has taken on increasingly responsible roles in CSD, moving from instrument lead to serving as de facto or actual principal investigator on several recent missions aimed at understanding the climate and air quality impacts of various types of activities: oil and gas development and agriculture, in particular.

Peischl was lead author of a paper identifying the sources of high levels of atmospheric methane in the Los Angeles Basin, reconciling a discrepancy that long frustrated atmospheric experts. He was lead on another paper showing that methane emissions from three large shale gas fields in the United States are on line with federal estimates. He was also a leader in work showing that methane emissions from rice cultivation in California were underestimated by about a factor of three, and that there were unintended climate change impacts of rice straw burning practices intended to minimize air quality issues. This award recognizes Peischl for an extraordinarily productive couple of years.

2015 CIRES Outstanding Performance Awards: Service

CRITERIA 1: *Implementation of a creative or innovative idea, device, process, or system that aids in research, teaching, or outreach at CIRES.*
CRITERIA 2: *Development or improvement of a service that increases the efficiency, quality, or visibility of scientific research or outreach.*
CRITERIA 3: *Providing a service that promotes or inspires excellence and dedication to research performed at CIRES or in the wider community.*

Chris Golden in NOAA ESRL's Global Systems Division, for his work developing a user interface for the National Weather Service's "Hazard Services." Golden is the primary developer of an experimental and extremely useful tool that promises to help weather forecasters work more efficiently and collaboratively during times when hazards loom, such as floods.

The Hazard Services application on AWIPS II (the National Weather Service Advanced Weather Interactive Processing System), is designed to streamline forecaster workflow by combining functions of three legacy applications. Golden's primary responsibility has been in designing the user interface, and he has done so with uncommon creativity, resourcefulness and leadership. This has included extensive collaboration with forecasters in diverse regions of the country; Golden has responded to their input, reshaping the interface and developing tools and efficiencies that help forecasters get the word out quickly about potential hazards.

Ann Weickmann in NOAA ESRL's Chemical Sciences Division, for developing innovative software and hardware solutions for data acquisition, processing and control of lidar instrumentation. Weickmann engineered auxiliary control units that let scientists and engineers operate lidar systems hundreds or thousands of miles away. Her work opened up new research applications and allowed for more efficient support of field campaigns, including the collection of data critical for decisions such as fly/no fly during aircraft campaigns.

Weickmann's work enabled lidar systems to scan in such a way it can gather ozone measurements very close to the ground, overcoming a "blind zone" issue that typically precludes gathering such close-to-the-surface data. Her engineering and software systems have also let researchers remotely change lidar scan configurations in real-time, based on observations reported online, to best achieve experiments' goals. This ability is unique to CIRES and NOAA.

Jeff Johnson, Michael Burek, Alysha Reinard, Michele Cash, Tom DeFoor, Richard Grubb and Ratina Dodani in NOAA's Space Weather Prediction Center (SWPC), for their work developing the Ground Processing System for the NOAA space weather satellite Deep Space Climate Observatory (DSCOVR). This team's work saved the government $5 million and enables swift delivery of critical space weather data to diverse users: Power plant operators, air traffic controllers, satellite operators and precision GPS users in surveying, oil drilling, deep sea activities, and agriculture.

DSCOVR provides near real-time data that allows for SWPC to issue warnings, which users rely on for decision-support to save infrastructure. In a worst case, a storm on Earth can occur within 15 minutes of being observed with DSCOVR, so the satellite requires a robust and efficient ground processing system that ensures the data will get to the forecasters quickly. This team provided such a system, under budget. In fact, the very first data from the satellite flowed into the system on February 18 and the processing system instantly returned data processed accurately and within four seconds of the observation being made on the spacecraft.

CIRES Medals

CIRES scientists are often integral to NOAA award-winning science and engineering teams but cannot be given certain federal awards, such as the prestigious Department of Commerce Silver and Bronze medals. The CIRES Director recognizes the extraordinary achievements of CIRES scientists working in partnership with federal colleagues.

CIRES Silver Medal for scientific/engineering achievement, 2015

Xiao-Wei Quan and **Jon Eischeid**, CIRES scientists in ESRL's Physical Sciences Division, were part of a NOAA team honored with a DOC Silver Medal for an outstanding scientific assessment of the origins of the 2012 Central Great Plains Drought. Precipitation deficits in May to August 2012 were the most extreme since official measurements began in 1895, eclipsing the driest summers of 1934 and 1936 that occurred at the height of the Dust Bowl. By early September, nearly half the contiguous United States was experiencing unprecedented severe drought that official seasonal forecasts in April 2012 did not anticipate. The assessment of causes has helped to identify pathways for improved predictions of future drought events.

The DOC Silver Medal is the second highest honor granted by the U.S. Secretary of Commerce. Awards are given for "exceptional performance characterized by noteworthy or superlative contributions that have a direct and lasting impact within the Department." NOAA recipients included researchers in ESRL's Physical Sciences Division, the Climate Program Office, and the National Weather Service.

CIRES Bronze Medal for superior performance, 2015

Shilpi Gupta, **Hilary Peddicord**, and **Beth Russell**, CIRES staff in ESRL's Global Systems Division, were part of a NOAA team honored with a DOC Bronze Medal for achieving the 100th worldwide installation of Science On a Sphere®. SOS is a room-sized, global display system that uses computers and video projectors to display planetary data onto a six-foot-diameter sphere, analogous to a giant animated globe. Images of swirling atmospheric storms, climate change, and ocean temperature can be shown on the sphere to explain environmental processes, which can be complex, in a way that is intuitive and captivating.

The DOC Bronze Medal is the highest award granted by the Under Secretary of Commerce for Oceans and Atmosphere, and recognizes exceptional work that furthers NOAA's goals or missions. NOAA recipients were from the Office of Education, the ESRL Global Systems Division, and the ESRL Director's Office.

CIRES Technology Transfer Award, 2015

Colm Sweeney, **Anna Karion**, **Tim Newberger**, and **Sonja Wolter**, CIRES scientists in ESRL's Global Monitoring Division, collaborated with NOAA's Pieter Tans to develop AirCore, a revolutionary technology for collecting air continuously from 100,000 ft. to the surface with exceptional data resolution. Tans received a NOAA Technology Transfer Award, which recognizes NOAA scientific, engineering, and technical employees for achievements that are developed further as commercial applications, or that advance the transfer of NOAA science and technology to U.S. businesses, academia, other government, and non-government entities.

The George C. and Joan A. Reid Endowed Scholarship Fund

Thomas ("Tommy") Detmer, who recently defended his PhD with William Lewis, Jr. is this year's recipient of the George C. and Joan A. Reid Award. Made possible by the Reids' generous contribution to an endowed scholarship fund, the Reid Award celebrates intellectual contributions to CIRES and leadership within the broader University of Colorado Boulder community.


Joan and George Reid

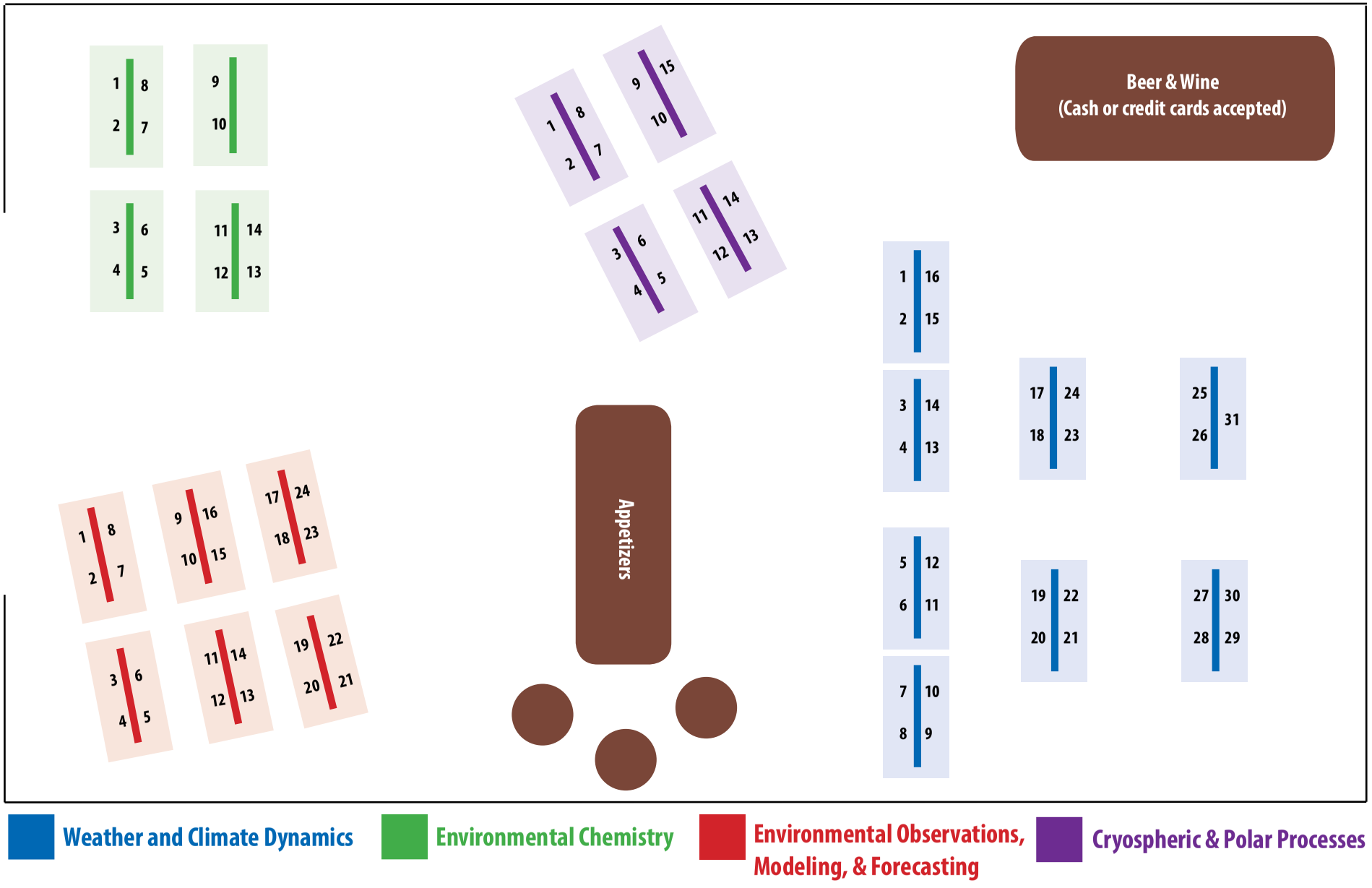
George Colvin Reid (1929–2011) was an eminent atmospheric scientist who pioneered research into critical environmental issues such as stratospheric ozone depletion and global climate change. Always a progressive thinker, he was one of the initial four fellows who founded the Cooperative Institute for Research in Environmental Sciences in 1968. Joan A. Reid was one of the first women to enroll in the University of Colorado School of Law. She spent most of her career with the nonprofit Rocky Mountain Mineral Law Foundation, and was a frequent community volunteer, an avid outdoorsperson, and with her husband George, an inveterate world traveler.


Tommy Detmer

Detmer has demonstrated exceptional scholarship in his research and is dedicated to the Boulder academic community. He began his academic career at the University of Colorado Boulder, graduating summa cum laude with a degree in Environmental Studies. As a doctoral candidate, he received an NSF GK-12 Fellowship and a prestegious CIRES Graduate Student Award. As a Ph.D. student, he served as co-chair of the CIRES Graduate Association for more than four years, during which he has grown and transformed the organization. Detmer has also been recognized for his contributions to other organizations across the CU-Boulder community. Has received the Ecology and Evolutionary Biology TA Award (2011), served as the elected student to the Eco/Evo Curriculum Development Committee, and has volunteered for many ancillary community outreach activities, including the NOAA Ocean Sciences Bowl, the Boulder Valley School District Science Symposium, and the National Geographic and Rocky Mountain National Park Bio Blitz. Detmer embodies the standards of excellence that George and Joan Reid demonstrated through their own lives.

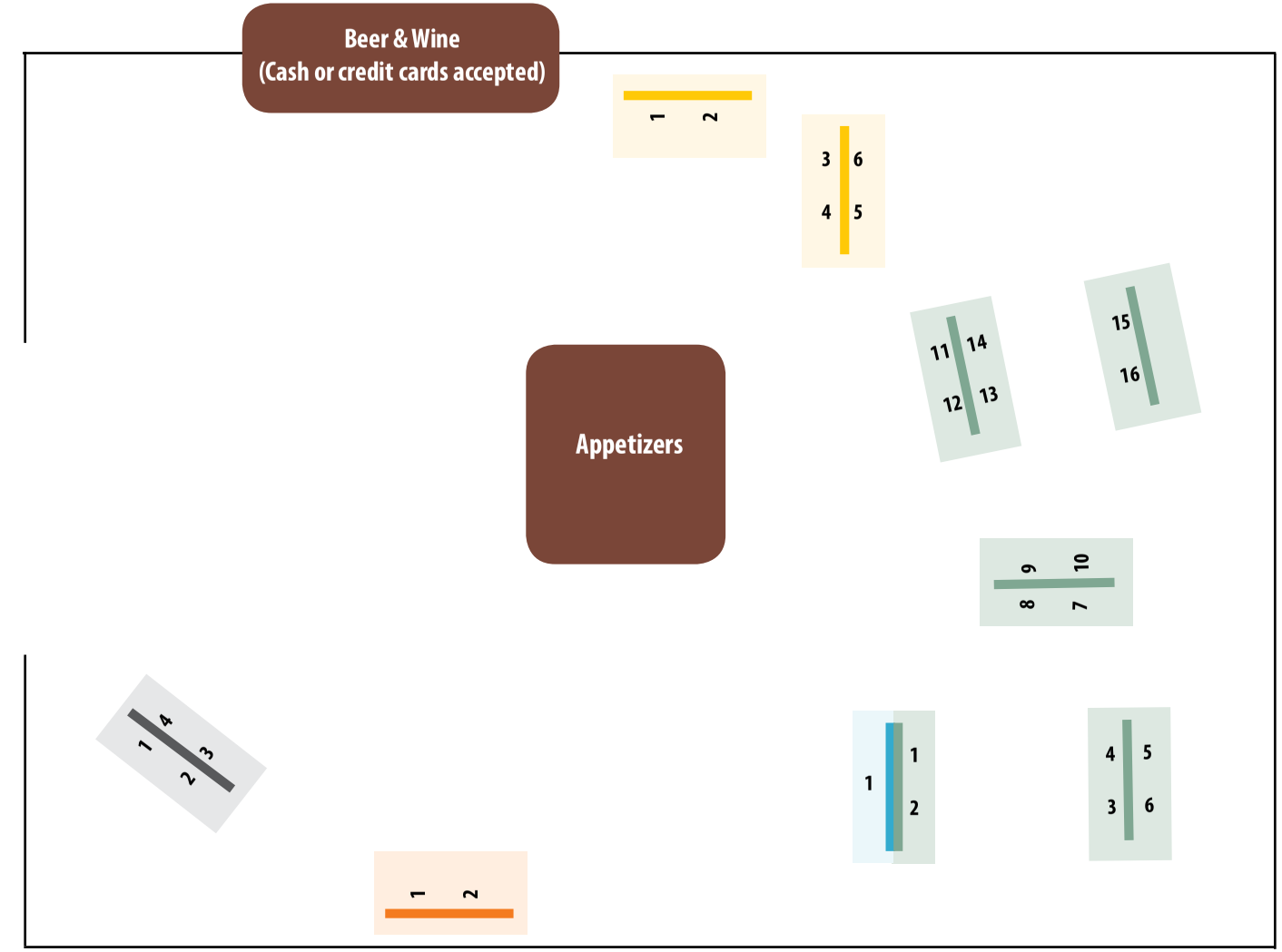
CIRES 2015 Rendezvous Poster Session Floorplan
UMC Terrace Pavilion

See poster abstracts here: ciresevents.colorado.edu/rendezvous/poster-abstracts



CIRES 2015 Rendezvous Poster Session Floorplan
UMC Aspen Room

See poster abstracts here: ciresevents.colorado.edu/rendezvous/poster-abstracts



Western Water Assessment

Administration

Center for Science & Technology Policy Research

CIRES Graduate Association Competition

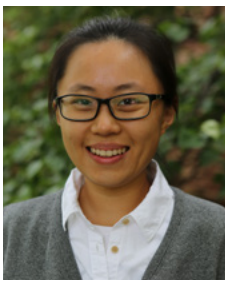
Education and Outreach

CIRES Visiting Fellows

CIRES sponsors a prestigious Visiting Fellows program, inviting up to 15 scientists a year to join the thriving community of research scientists in Boulder, Colorado. Visiting Fellowships are for two groups of professionals: postdoctoral researchers and faculty on leave or sabbatical.

PRESENTING:
Linyin Cheng
Brian McDonald
Catrin Mills
Twila Moon

NOT PRESENTING:
Emanuel Gloor
Gesa Luedecke
Hans Osthoff
Valery Yudin
Gregory Houseman
Youchanan Kushnir



Linyin Cheng

Postdoctoral
Ph.D., University of California, Irvine
PROJECT: Frameworks for Assessing Non-Stationary Spatio-Temporal Climatic Extremes
SPONSOR: Balaji Rajagopalan

Climate change and variability are likely to affect physical and hydrometeorological conditions and to interact with, and possibly exacerbate, ongoing environmental change. Therefore, there exists a strong need to study extreme weather and climate events across different spatio-temporal scales and to understand their frequency and intensity, which is important for public safety, societal management and policy. My research focuses on analyzing climatic extremes including:

1. modeling non-stationarity processes in space and time;
2. modeling concurrent and consecutive extremes and their dependencies.
3. Current statistical models are designed for modeling the dependence between two sets of extremes that may or may not have occurred at the same time. Furthermore, current models cannot assess joint occurrence of an extreme event with a moderate departure from the mean whose combination could lead to an extreme climatic condition (e.g., extreme heat wave combined with a moderate drought). However, the combination or sequences of climate extreme events may have a significant impact on the ecosystem and society, though the individual events involved may not be severe extremes themselves;developing statistical models, beyond a simple parametric model adjusted for a correlation range and process smoothness, to account for complicated spatial dependence structures. This is important since geophysical processes tend to have a multi-scale character in space.

POSTER ABSTRACT: Current Effects of Human-induced Climate Change on California Drought

The failure of three consecutive rainy seasons since 2011 has produced severe California moisture deficits reducing agricultural productivity and depleting ground water. Aggravated by record surface air temperatures, the concern is that this drought may be symptomatic of human-induced change, and that a new normal of dryness is emerging that will soon rival the worst droughts since 1000 AD. How has human-induced climate change affected California drought risk? Here we apply observations and model experimentation to characterize this drought employing metrics that synthesize drought duration, cumulative precipitation deficit, and soil moisture depletion. Our model simulations show that climate change since the late 19th Century induces both increased annual precipitation and increased surface temperature over California, consistent with prior studies. As a result, droughts defined using bivariate indicators of precipitation and 10-cm soil moisture become more frequent because shallow soil moisture responds most sensitively to increased evaporation driven by warming. However, when using 1-m soil moisture as co-variate, droughts become less frequent because deep soil moisture responds most sensitively to increased precipitation. The results illustrate different land surface responses to anthropogenic forcing at this time with return periods for severe droughts either increasing or decreasing about 10% depending on drought metric.

Brian McDonald

Postdoctoral
Ph.D., University of California, Berkeley
PROJECT: Assessing long-term trends in U.S. air quality and impacts on human health and climate change
SPONSOR: Joost de Gouw

Brian McDonald will be collaborating with Michael Trainer's Regional Chemical Modeling Group. Significant progress has been made in improving U.S. air quality since enactment of the Clean Air Act. However, linking observed air quality changes in the atmosphere to specific policy initiatives has been challenging, primarily due to large uncertainties and errors that exist in emission inventories. It is important to get both air quality and emission models correct so that next generation policies can be designed effectively, to protect human health and mitigate global climate change.

POSTER ABSTRACT: Long -Term Trends in Mobile Source Emissions and Urban Air Quality

Mobile sources are a major urban emitter of carbon dioxide (CO_2), and other co-emitted species including carbon monoxide (CO), nitrogen oxides (NO_X), black carbon (BC), and volatile organic compounds (VOCs). We present long-term changes in mobile source emissions and corresponding changes in U.S. urban air quality, with an emphasis on precursors to ozone (O_3) and organic aerosol (OA) formation.

Catrin Mills

Postdoctoral
Ph.D., University of Illinois
PROJECT: Arctic meteorology and climate
SPONSOR: John Cassano and Mark Serreze

Catrin's research focuses on the relationship between day-to-day weather patterns in the Arctic and sea ice variability, using multiple tools, such as a pattern recognition tool called self-organizing maps (SOMs). She is also working with the Cassano research group to study the effects of Arctic change remotely, such as the role of enhanced Arctic sea ice loss on weather systems in the United States. Her research taps into potential predictive capabilities—highly useful for native Arctic communities and stakeholders. She is interested in studying the impacts of extreme weather events on society by using neural networks and other multivariate methods in order to create metrics that augment predictability of atmospheric phenomena and are tailored to user-needs.

POSTER ABSTRACT: The Temporal and Spatial Evolution of Atmospheric Responses to Changing Arctic Ice Cover in CCSM4

Catrin M. Mills, John J. Cassano, and Elizabeth N. Cassano

The rapidly diminishing Arctic sea ice cover impacts the overlying atmospheric state through changes in moisture and surface energy fluxes, and the spatial extent of this atmospheric response remains unclear and may even reach the mid-latitudes. Synoptic atmospheric responses to surface sensible heat flux anomalies over the Arctic Ocean during autumn (SON) in the present-day climate (1974 – 2005) of NCAR's Community Climate System Model, version 4 (CCSM4) are investigated. The self-organizing map (SOM) technique is used to characterize important daily running-weekly-mean surface heat flux anomaly patterns over the Arctic. The importance of the week-to-week persistence and spatial extent of the surface heat flux anomalies in forcing the atmospheric response is diagnosed by creating composites of atmospheric variables (such as 2-m temperature, sea level pressure, and geopotential height at 850, 500, and 250 hPa) for each heat flux pattern identified by the SOM technique from the Arctic to 20°N for each week, up to 12 weeks, in order to identify the temporal persistence required to force the remote atmospheric responses.

Twila Moon

Postdoctoral
Ph.D., University of Washington
PROJECT: Development and application of high-resolution velocity records for the Greenland Ice Sheet and Antarctic Peninsula
SPONSOR: Mark Serreze

Twila Moon is working with Ted Scambos, Mark Serreze, and others at the National Snow and Ice Data Center to create a new dataset to study how quickly ice is flowing on the Greenland Ice Sheet and the Antarctic Peninsula. Both polar regions have already experienced significant warming from climate change and are contributing to rising sea level around the globe. Warming is expected to continue. Understanding how warming will affect the ice sheets, however, remains difficult, in part because scientists don't have a complete understanding of how quickly ice sheets can change. Moon will be using satellite data and new software to map ice sheet velocity over weeks to months. She will also be using these new datasets to explore how the ice sheets interact with the ocean and sea ice and examine changes in water flow underneath the ice. The data will be a valuable resource for the research community as scientist continue to understand ice sheets in a warming world. Moon is happy to be returning to her roots in Colorado, but even more excited to meet and work with the many researchers in Boulder who are examining ice and climate.

POSTER ABSTRACT: Comprehensive spatiotemporal glacier and ice sheet velocity measurements from Landsat

Combining newly developed software with Landsat 8 image returns, we are producing broad-coverage ice velocity measurements on weekly to monthly scales across ice sheets and glaciers. Using new image-to-image cross correlation software, named PyCorr, we take advantage of the improved radiometric resolution of the Landsat 8 panchromatic band to create velocity maps with sub-pixel accuracy. Landsat 8's 12-bit radiometric resolution supports measurement of ice flow in uncrevassed regions based on persistent sastrugi patterns lasting weeks to a few months. We also leverage these improvements to allow for ice sheet surface roughness measurements. Landsat 8's 16-day repeat orbit and increased image acquisition across the Greenland and Antarctic ice sheets supports development of seasonal to annual ice sheet velocity mosaics with full coverage of coastal regions. We also create time series for examining sub-seasonal change with near real time processing in areas such as the Amundsen Sea Embayment and fast flowing Greenland outlet glaciers. In addition, excellent geolocation accuracy enables velocity mapping of smaller ice caps and glaciers, which we have already applied in Alaska and Patagonia. Finally, PyCorr can be used for velocity mapping with other remote sensing imagery, including high resolution WorldView satellite data.

CIRES MEMBERS' COUNCIL

Rendezvous 2015 is brought to you by your CIRES MEMBERS' COUNCIL (CMC) .The Council represents the interests of all CIRES members with respect to CIRES governance, scientific direction, and the day-to-day workplace environment. As a representative group made up of CIRES members, it is tasked with:

- Representing the concerns of the CIRES membership by bringing issues to the attention of the CIRES administration.
- Working to improve the lines of communication within and between all CIRES units.
- Providing a means of member participation in CIRES governance and a voice on committees and working groups which form the core of that governance.
- Contributing to the process which determines CIRES' research direction and Scientific Themes.
- Fostering a positive workplace environment and Members' connection with CIRES by facilitating Members' understanding of their roles within CIRES.

DAVID OONK/CIRES

Back row, left to right: Christina Holt, Ben Livneh, Robin Strelow, Nate Campbell, Richard Tisinai, Allen Pope
Front row, left to right: Lucia Harrop,Kathy Lantz, Deann Miller, Doug Fowler, Amanda Morton
Not pictured: Anne Perring, Deann Miller, David Stone, Barry Eakins, Chris Clack, Chance Sterling, Pallavi Marrapu, Amy Steiker

For more information, see http://insidecires.colorado.edu/members/ or contact your representatives:

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David Stone SWPC	david.stone@noaa.gov
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Officers

Chair: Richard Tsinai
Vice Chair: Robin Strelow
Secretary: Amanda Morton
Fellows/Executive Committee Reps: David Stone, Barry Eakins, Anne Perring (alternate)

The CIRES Members' Council provides the opportunity for service as well as career enhancement, benefiting representatives and constituents alike. How can you as a CIRES Member get involved?

- Share your thoughts and concerns with your Members' Council representative
- Attend a monthly Members' Council meeting at your workplace
- Consider serving as a representative on the Members' Council

Help us make the CIRES Rendezvous even BETTER next year by answering a few quick questions:

https://www.surveymonkey.com/s/CIRESRendezvous2015

Thank you very much, from the CIRES Members' Council.

CIRES MEMBERS' COUNCIL