



Glenn Miller Ballroom, UMC • Friday, May 13 • 11:30 am

Rendezvous 2016



CIRES Annual Science Symposium



Hosted by



CIRES MEMBERS' COUNCIL

email: memberscouncil@cires.colorado.edu

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

Poster abstracts are now available online.

Click or go here for access: ciresevents.colorado.edu/rendezvous/poster-abstracts



Rendezvous 2016

May 13, 2016

University Memorial Center (UMC)

Poster hanging time: 7:30 am – 11:00 am, Friday, May 13
(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)

Ecosystem Science (Light Green)

Education Outreach Program (Yellow)

Weather and Climate Dynamics Division (Royal Blue)

Environmental Chemistry Division (Green)

Environmental Observations, Modeling and Forecasting Division (Red)

Solid Earth Science (Burgundy)

Western Water Assessment (Silver)

From the CIRES Director



Dear Colleagues,

I am pleased to, once again, welcome you to this year's Rendezvous, CIRES' annual science symposium, hosted by our CIRES Members Council. This is my third Rendezvous as CIRES Director, and every year, it is something I look forward, with great anticipation. Rendezvous is opportunity to showcase the diversity and excellence of your research, and 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 and those 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' fingerprints on the CU-Boulder campus and in the State of Colorado are substantial, and as a leading research organization in the nation, our contributions to science, society, and the NOAA mission are important and of high-impact. We have no shortage of 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,

A handwritten signature in blue ink, appearing to read "Waleed Abdalati". The signature is fluid and cursive, written over a white rectangular background.

Waleed Abdalati
CIRES Director

2015 Career Track Promotions

Promoted to:

Administrative Associate II

Amanda Morton

Administrative Associate III

Andrea Dietz

Senior Administrative Associate

J Reeves

Associate Scientist II

Sara Crepinsek

Allen Jordan

Brian Meyer

Associate Scientist III

Lisa Booker

Teri Hoyer

Matthew Love

Paul Madden

Senior Associate Scientist

Leon Benjamin

Andrew Crotwell

Christopher Harrop

Philip Pegion

Lesley K Smith

Research Scientist II

Michele Cash

Birgit Hassler

Feng Chi Hsu

Larisa Krista

Peter Pulsifer

Imtiaz Rangwala

Patrick Veres

Henry Winterbottom

Research Scientist III

Jan Kazil

Tapousi (Paul) Lotoaniu

George Mungov

Manoj Nair

Gabrielle Petron

Houjun Wang

Senior Research Scientist

Gilbert Compo

Judith Perlwitz

Ola Persson

Irina Petropavlovskikh

Robert Pincus

Christopher Williams

2016 Career Track Promotions

Promoted to:

Senior Administrative Associate

Lucia Harrop

Associate Scientist II

Christina Bonfanti

Michael Brandt

Vincent Keller

Jaymes Kenyon

Ian McGinnis

Eric Moglia

David Oonk

Hilary Peddicord

Adam Woods

Associate Scientist III

Gabrielle Accatino

Molly Crotwell

Jonathan Darnel

Jon Davis

Amy FitzGerrell

Todd Johnston

Glenn Scott Lewis

Evan McQuinn

William Rowland

Elizabeth Russell

Michael Sutherland

Richard Tisinai

Senior Associate Scientist

Shilpi Gupta

Amanda Leon

Jeffrey Lukas

Kimberley McColl

Research Scientist II

Carrie Bell

Aditya Choukulkar

Jessie Creamean

Juliana Dias

Katherine Dickinson

Xian Lu

Karl Rittger

Mark Seefeldt

Man Zhang

Research Scientist III

Maria Capotondi

James McCutchan

Naomi Rempel

Rebecca Washenfelder

Klaus Wolter

Senior Research Scientist

Owen Cooper

Matthew Newman

Juan Rodriguez

Years of Service (as of December 31, 2015)

5 Years of Service

Leon Benjamin
Ligia Bernardet
Pedro Campuzano Jost
Daniel Crumly
Patrick Cullis
Douglas Day
Anne Gold
Derek Hageman
Jessica Henley
Mimi Hughes
Eric James
Allen Jordan
Heidi McCann
George Millward
William Moninger
Donald Murray
Timothy Newberger
Dusan Odstreil
Ryan O’Kuinghttons
Peter Pulsifer
Stuart Reed
Andrew Rollins
Chance Sterling
Henry Winterbottom
Adam Woods

10 Years of Service

Rainer Bleck
Xinzhao Chu
Molly Crotwell
Curt de Koning
Irina Djalalova
Ratina Dodani
Mariangel Fedrizzi
Noah Fierer
Richard Fozzard
Karl Froyd
Si-Wan Kim
Juhan Kim
Justin Mabie
Carrie Morrill
Ellen Parrish
Jeffrey Peischl
Judith Perlwitz
Gabrielle Petron
Alysha Reinard
Naomi Rempel
Colm Sweeney
Sonja Wolter

15 Years of Service

David Allured
Karen Dempsey
Brandi McCarty
Peter Molnar

20 Years of Service

Joseph Barsugli
Richard Marchbanks
Fred Moore
Gretchen Richard
Christoph Senff
Taiyi Xu

25 Years of Service

Timothy Fuller-Rowell
Paul Johnston
Robert Schubert

30 Years of Service

Don Hooper
Duane Kitzis
David Longenecker

35 Years of Service

Ronald Weaver
Robert Sievers

2016 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.

Andrew Rollins, Troy Thornberry, Laurel Watts, and Richard McLaughlin in NOAA's Chemical Sciences Division won for developing a new laser-based instrument to measure SO₂ at extremely low mixing ratios relevant to the stratosphere. The instrument, built and deployed in record time, will enable better understanding of atmospheric sulfur chemistry and transport, which is critical to understanding the stratospheric aerosol layer, including impacts from geoenvironment. The new instrument's detection limit is 50-fold better than previous technologies and it is already allowing investigation of science questions previously impossible to tackle. This project grew out of a 2013 CIRES Innovative Research Project.

Brian Lerner in NOAA's Chemical Sciences Division won for developing one of the world's quickest and most automated systems to analyze whole air samples by gas chromatography-mass spectrometry (GC-MS). Brian developed a four-device package that includes sampling, analysis and interface, GC-MS, and canister cleaning, and he also built efficient software to greatly improve speed of data analysis. Brian's improvements now allow routine analysis of field samples within 36 hours, greatly expanding his team's analytical capabilities and ability to address important science topics such as the emissions of organic gases from oil and natural gas operations. Other groups around the world are looking to use some of Brian's techniques in their own systems.

CRITERIA 3: Participation in collaborative and/or multidisciplinary research that engages a broader cross-section than the nominee's typical scientific or engineering community.

Carrie Bell in NOAA's National Centers for Environmental Information (NCEI) won for developing an innovative way to let diverse users of NOAA's sonar data quickly assess the value of datasets for their particular use, and more easily use the data. With her new visualization scheme, developed in partnership with NOAA Fisheries, sonar data users can quickly understand complex datasets, which may contain information on many types of features (eg, the small bubbles of larval fish or phytoplankton, or other indications of zooplankton). Carrie's new visualization strategy allows novice and expert users to explore data without specialized software and training. It also represents one of the first interactive science tools developed at NCEI, and is a model for future interactive science efforts within the organization.

2016 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 3: Providing a service that promotes or inspires excellence and dedication to research performed at CIRES or in the wider community.

CRITERIA 2: Development or improvement of a service that increases the efficiency, quality, or visibility of scientific research or outreach.

Hilary Peddicord and Jonathan Joyce in NOAA's Global Systems Division won for their development of the SOS Explorer (SOSx), an adaptation of Science On a Sphere® displayed on flat screens for use in schools and other public venues. Their work, which went above and beyond expectations, involved software development and creation of accompanying educational resources—a package that one journalist lauded as “the ultimate desktop model of Earth.” SOS Explorer “literally puts the world at our fingertips,” the nominators wrote. The interactive system has the potential to ignite interest in the sciences and direct students toward STEM subjects.

Rick Tisinai, Gabrielle Accatino, and Catherine Burgdorf-Rasco in NOAA's Chemical Sciences Division won for their innovative and high impact design and application of new IT resources during the 2015 Chemical Sciences Division (CSD) review. This effort involved coordination of a dense schedule of five-minute talks as well as electronic poster presentations and significant developments for remote participation. A review panelist wrote that the IT team's skill and innovation maximized the effectiveness of the review, allowing for more presentations and deeper discussions about CSD science. This team's skill and innovation also inspired imitation: Their format and technologies have been adopted for several subsequent reviews at NOAA and CIRES.

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 Gold

and Bronze medals. The CIRES Director recognizes the extraordinary achievements of CIRES scientists working in partnership with federal colleagues.

CIRES Gold Medal for scientific/engineering achievement, 2016

CIRES scientists **Curtis Alexander, Ming Hu, Jaymes Kenyon, Terra Ladwig, Bill Moninger, Joe Olson, Tanya Smirnova, Craig Tierney, and Xue Wei** who work in NOAA's Global Systems Division were part of a NOAA team honored with a DOC Gold Medal for the success of High-Resolution Rapid Refresh, the first storm-scale model to give forecasters and decision-makers fast, local weather guidance. The High-Resolution Rapid Refresh (HRRR) is a sophisticated weather model that provides detailed forecasts of critical weather events such as severe thunderstorms, flash flooding, and localized bands of heavy winter precipitation. Since the HRRR is run hourly and brings in data from many sources, this weather model helps provides critical details to forecasters in rapidly-changing and evolving weather events, allowing for earlier watches and warnings. Scientists from the Cooperative Institute for Research in the Atmosphere (CIRES) also contributed to HRRR development.

The DOC Gold Medal is the 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 were from the Global Systems Division of the Earth System Research Laboratory.

CIRES Bronze Medal for superior performance, 2016

CIRES scientists **Barry Eakins, Jennifer Jencks, and Elliot Lim** were part of a NOAA team honored with a DOC Bronze Medal For planning and establishing a multi-departmental U.S. Extended Continental Shelf Project Office to define and document U.S. territorial limits. The process to determine the outer limits of the extended continental shelf involves the analysis of data that describe the depth, shape, and geophysical characteristics of the seabed and sub-seafloor, as well as the thickness of the underlying sediments. The specific types of data that need to be collected and analyzed include bathymetric data, seismic reflection and refraction data, other geophysical data such as magnetic and gravity data, and geologic samples.

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 National Centers for Environmental Information, Office of Ocean Exploration, and the National Oceanic Survey.

CIRES Technology Transfer Award, 2016

Betsy Andrews, Derek Hageman, and Anne Jefferson, CIRES scientists in ESRL's Global Monitoring Division, collaborated with NOAA colleagues on the design of a new instrument, the Continuous Light Absorption Photometer (CLAP), which was optimized for making long-term, research-quality measurements based on experience gained from years of operating commercial instruments continuously at field sites and intermittently in laboratory studies. They are recipients of 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.

NOAA recipients were from the Global Monitoring Division of the Earth System Research Laboratory.

NOAA Administrator's Award, 2016

Leon Benjamin and **Gopa Padmanabhan**, CIRES scientists in ESRL's Global Systems Division, along with colleagues at CIRA were part of a NOAA team awarded with the NOAA Administrator's Award for the group's extraordinary collaboration and leadership to ensure the Meteorological Assimilation Data Ingest System (MADIS) was successfully transferred to operations. This award is granted by NOAA Administrator Kathy Sullivan in recognition of employees who demonstrate exceptional leadership, skill, and ingenuity in their significant, unique, and original contributions that bring unusual credit to NOAA, DOC, and the federal government.

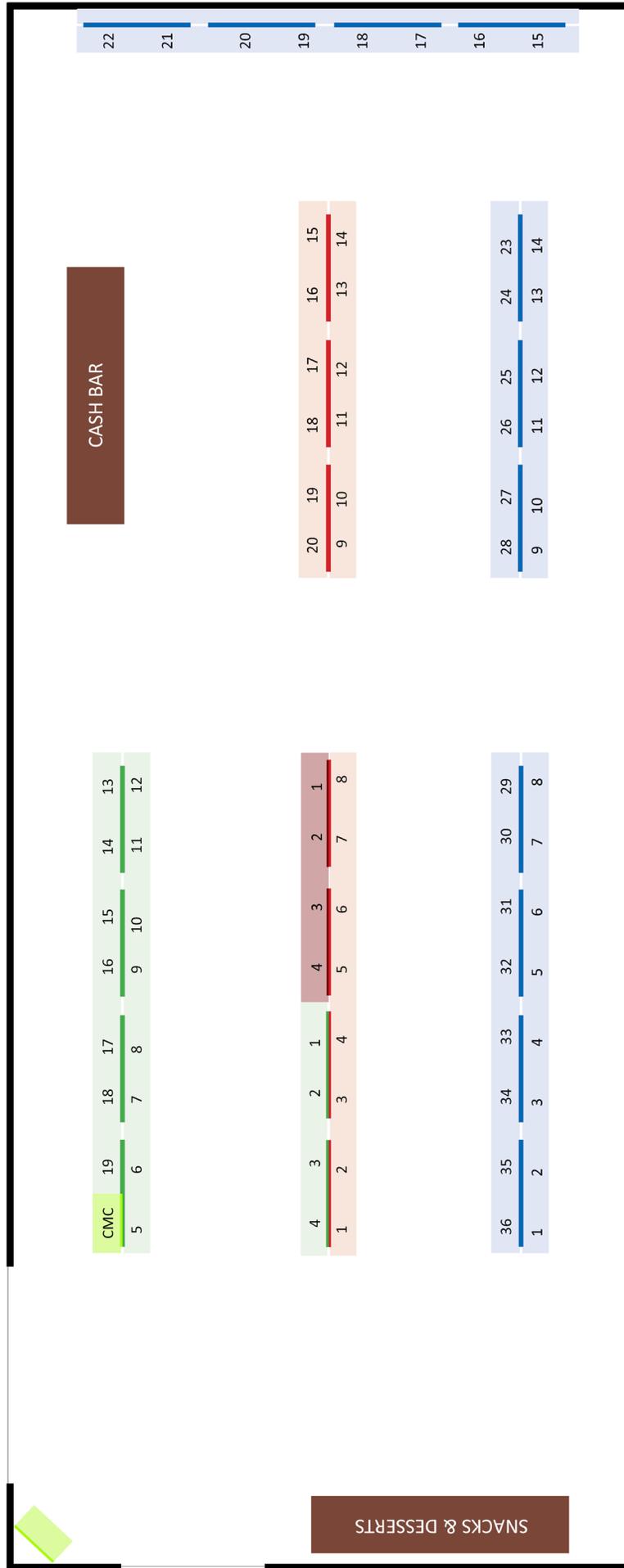
NOAA recipients were from the National Weather Service (NWS), National Environmental Satellite, Data, and Information Service (NESDIS), and OAR.

PECASE Award

Gijs de Boer, a CIRES scientist working in the Physical Sciences Division of NOAA's Earth System Research Laboratory, is one of 106 recipients of the Presidential Early Career Awards for Scientists and Engineers (PECASE), announced in 2016. The PECASE is the highest honor bestowed by the U.S. government on science and engineering professionals in the early stages of their independent research careers. De Boer works to understand Arctic clouds, aerosols and precipitation, and their connections to the Earth's surface. He has also collaborated with colleagues at CU-Boulder and the U.S. Department of Energy to incorporate the use of small unmanned aircraft in exploration of the Arctic environment. In conjunction with his scientific pursuits, de Boer has engaged in community service activities including public lectures, and school visits in locations from California to northern Alaska. He was recognized in 2016 "for fundamental contributions to the understanding and modeling of Arctic atmospheric processes and their impact on global climate, and for the effective communication of Arctic science to indigenous Arctic populations."

CIRES 2016 Rendezvous Poster Session Floorplan UMC Terrace Pavilion

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



 Weather and Climate Dynamics

 Environmental Chemistry

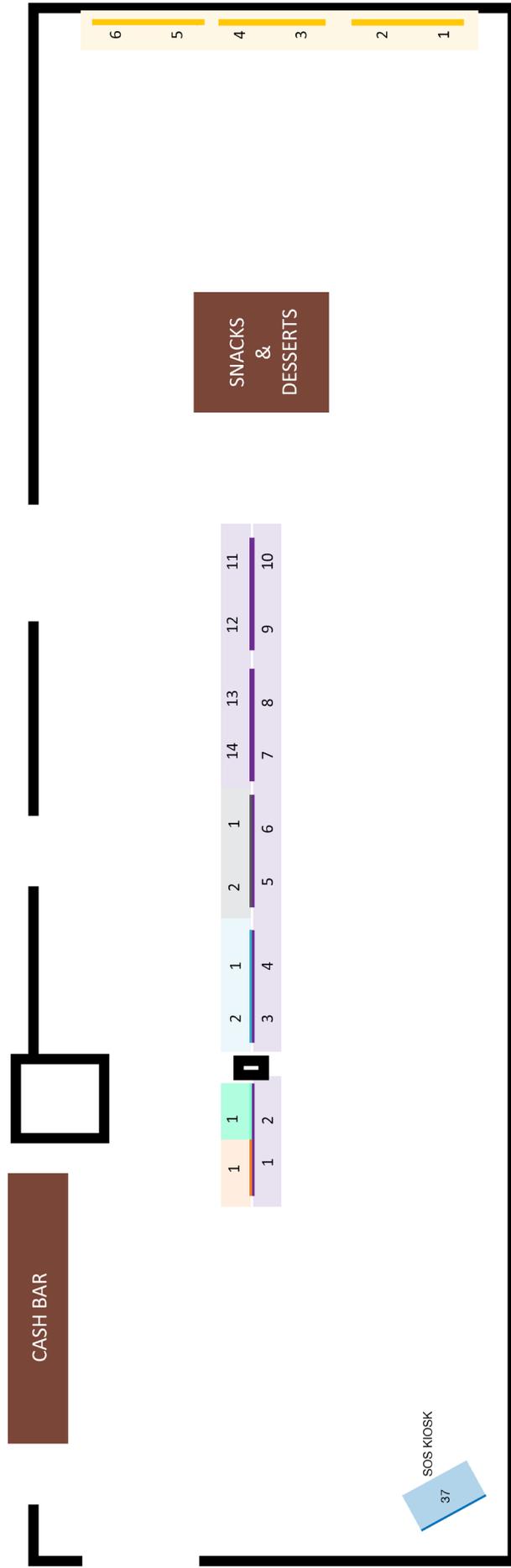
 Environmental Observations, Modeling, & Forecasting

 Solid Earth Sciences

CIRES 2016 Rendezvous Poster Session Floorplan

UMC Aspen Room

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



- Western Water Assessment
■
Center for Science & Technology
Policy Research
■
Ecosystem Science
- Education and Outreach
■
Administration
■
Cryospheric and Polar Processes Division
- Weather and Climate Dynamics
■

Rendezvous 2016 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, the council 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

among 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 that determines the CIRES research direction and scientific themes.
- Fostering a positive workplace environment and Members' connections with CIRES by facilitating Members' understanding of their roles within CIRES.



Matthew Price/CIRES

Back row, left to right: Richard Tisinai, Mimi Hughes, Christina Holt, Anne Perring
Third row, left to right: Lucia Harrop, Craig Hartsough, Robin Strelow, Chris Clack
Second Row, left to right (in blue): Chance Sterling, Nate Campbell
Front row, left to right: Michele Cash, Carrie Morrill, Amy Steiker
Not pictured: Kathy Lantz, Amanda Morton, Allen Pope

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

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Officers

Chair: Christina Holt
Vice Chair: Anne Perring
Secretary: Rick Tisinai
Fellows/Executive Committee Reps: Chris Clack, Primary; Anne Perring, Primary; Carrie Morrill, Alternative

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 the monthly Members' Council meeting
- 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/CIRESRendezvous2016>

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

