



Rendezvous2024

THURSDAY, MAY 16, 2024

UNIVERSITY MEMORIAL CENTER,

GLENN MILLER BALLROOM, TERRACE, AND ASPEN ROOMS

Hosted by



**SCAN TO FIND A POSTER
OR READ THIS PROGRAM**



READ THE ABSTRACTS



The CIRES Members' Council is pleased to announce the 19th annual CIRES Rendezvous, May 16, 2024. This institute-wide symposium spotlights the depth, breadth, and quality of the pacesetting science being done at CIRES. We hope to encourage collaborations that might result in new interdisciplinary research, and to facilitate connections among our many innovative scientists, science support staff, and administrative staff. The event includes an entire afternoon devoted to science and poster presentations by CIRES members.

AGENDA

10:00 AM - 11:30 AM - POSTER SETUP

CIRES Members' Council (CMC) Members will be available to assist you, thumbtacks will be provided

11:00 AM - 11:25 AM - CHECK IN

Glenn Miller Ballroom Foyer

11:30 AM - 1:30 PM - LUNCHEON / INSTITUTE DIRECTOR'S ADDRESS & AWARDS

Glenn Miller Ballroom; Zoom link for Address & Awards: <https://youtube.com/live/WGN3VNbjswk>

1:30 PM - 4:30 PM - POSTER SESSION

UMC Terrace Tent and Aspen Rooms, and a credit-card-only bar starting at 1:30 pm

From the Director



Dear Colleagues,

Welcome to the 2024 CIRES Rendezvous. This is one of my favorite CIRES events because it is a time to step back, celebrate our past year's achievements, and appreciate all we are as an institute. We have had another very successful year, having brought in \$100M in awards so far in the first three quarters of the year, a 10% increase over the same time period last year. For that last full fiscal year that we can report on, of the 246 proposals CIRES submitted as the lead CU Boulder unit, we have continued our impressive proposal success rate of 51.6 percent, which is a testimony to the exceptional brilliance of our researchers and the strength of our research infrastructure. More important than the actual dollars, however, is the fact that we are a powerhouse in understanding our environment and carrying out research that ultimately serves people across the state, the nation, and the world.

We continue to be global research leaders as evidenced in part by the fact that three people affiliated with CIRES have been recognized as highly-cited authors (comprising more than a quarter of all CU Boulder's highly cited authors). Publications and grants are indicators of our success and leadership, but more importantly is the fact that we advance fundamental research, and we are instrumental in supporting NOAA's mission of saving lives and property. We achieve these important objectives through theoretical studies, field measurements, space-based and airborne observations, complex data analyses, and more.

It is easy to lose sight, in our day-to-day work, of the bigger picture of which we are a part. Our work is so very important, as it permeates people's daily lives and has extremely positive impacts, not just for today's society, but for generations to come. Moreover, we do it extremely well. I know it, our peers know it, our partners and sponsors know it, political leaders know it, and journalists know it. I hope you feel the satisfaction and sense of achievement you all deserve to feel from being meaningful contributors to something big and important.

For all you do to support our tremendously important mission, for making CIRES an intellectual powerhouse, for creating a community in which environmental science flourishes... you have my infinite gratitude and my utmost respect.

Sincerely,

A handwritten signature in blue ink, which appears to read "Waleed Abdalati". The signature is fluid and cursive.

Waleed Abdalati

YEARS OF SERVICE

5 YEARS

Daniel Abdi
Adam Ahern
Elizabeth Asher
Alison Banwell
Kathryn Boyd
Matthew Burgess
Kai-Lan Chang
Yaosheng Chen
Taylor Devlin
Carolyn Dreisbach
Jake Gristey
Christopher Henson
Alexander Kirst
Rudolf Klucik
Adam Kubaryk
April Laliberte
Meng Li
Monica Madronich
David Munro
Lee Pappas
Audrey Payne
Elizabeth Payton
James Rattling Leaf
Laura Riihimaki
Katya Schloesser
Joseph Sedlar
Christopher Slater
Samuel Trahan
Jun Wang
Hongli Wang
Ho-Hsuan Wei
Robert Weingruber
Stephanie Wong
Lindsey Wright
Dongdong Yang
Wei Yu

10 YEARS

Carrie Bell
Kathleen Bogan
Jessica Calme
Arnaud Chulliat
Thomas DeFoor
Maria Gehne
Molly Hardman
Kathleen Human
Jennifer Kay
Gerard Ketefian
Marin Klinger

Tapuosi Lotoaniu
William Neff
Zhe Peng
Michael Rabellino
Lesley Smith
Hagen Telg
Michael Trudeau
Heather Yocum
Man Zhang
Paul Ziemann

15 YEARS

Waleed Abdalati
Lisa Booker
Jan Kazil
Geary Layne
Elliot Lim
Yehor Novikov

20 YEARS

Laura Bianco
Matthew Shupe
Gregory Tucker
Anthony Veale

25 YEARS

Antonietta Capotondi
Dave Costa
Sara Michelson
Xiao-Wei Quan
Eric Ray
Donna Scott
Kenneth Smith
Doug Young

30 YEARS

Wayne Angevine
Mary Jo Brodzik
Julia Collins
Edward Gille
Leslie Hartten
R. Michael Jones
Catherine Rasco
Anne Sheehan
Donna Sueper

35 YEARS

Shelley Copley

PROMOTIONS

ASSOCIATE SCIENTIST II

Owen Ahlers
Sarah Auriemma
Payton Cain
Katherine Halama
Colin Harkins
Alison Jarvis
Ethan Knight
Sung Chu Liao
Jessica Nation
Jordan Schweizer
Max Smith
Logan Soldo

ASSOCIATE SCIENTIST III

Peemin Chen
Alicia Christensen
Stefan Codrescu
Dominic Fuller-Rowell
Patrick Graham
Jonathan Griffith
Matthew Martinsen
James Rattling Leaf
Caitlin Ruby
Kelsey Satalino
Trey Stafford
Jenna Vater
Yan Wang
Troy Williams

SENIOR ASSOCIATE SCIENTIST

Geoffrey Dutton
Luis Lopez Espinosa
Todd Johnston
Adam Lang
Ruifang Li
Elliot Lim
Elizabeth Payton
Amanda Sheffield
Christopher Slater
Margaret Tilton
Suneng Zhuo

RESEARCH SCIENTIST II

Alexandre Baron
Brian Carroll
Dillon Elsbury
Michael MacFerrin
Isabel McCoy
Lise St. Denis
Dana Tobin
Victoria Treadaway
Daniel Van Hoomissen

RESEARCH SCIENTIST III

Bianca Adler
Alison Banwell
Samuel Califf
Hui Ding
Benjamin Green
Fadil Inceoglu
Vasileios Papadimitriou
Michael Trudeau
Hongli Wang
Heather Yocum
Chunhua Zhou

SENIOR RESEARCH SCIENTIST

Jan Kazil
Christoph Senff

ADMINISTRATIVE ASSOCIATE III

Jennifer Katzung
Daniel Keane
Alyson Krimmer

SENIOR ADMINISTRATIVE ASSOCIATE

Jimena Ugaz Pereda

CIRES OUTSTANDING PERFORMANCE AWARDS

The CIRES Outstanding Performance Awards, given by the CIRES Members' Council, are meant to recognize projects that are novel and high-impact and show remarkable creativity or resourcefulness. Winners have been nominated by their peers within CIRES. There are three categories: Science, Science Service, and Administrative Service.

Find out more here:

<https://cires.colorado.edu/award-programs/outstanding-performance-awards>

Science

Barry Eakins, Rick Saltus, Erin LeFevre, Finn Dahl, and Elliot Lim

NOAA NCEI

The CIRES team at the National Centers for Environmental Information played a critical role in establishing the outer limits of the U.S. Extended Continental Shelf (ECS), which added nearly one million square kilometers of seafloor to the United States to manage or conserve. The award is the culmination of a 20+ year effort by 14 federal agencies and numerous academic institutions. This team of five developed a data organizational system to define continental shelves consistently, producing over 2,000 pages of documentation and creating 1,000 maps and figures. Because of the efforts of these dedicated CIRES employees, the United States is now in a position to conserve and manage the resources of a new area about twice the size of California.

Science Service

Elizabeth Payton

WWA

Liz Payton, CIRES Western Water Assessment, was the water chapter lead author for the Fifth National Climate Assessment Report (NCA5). Her role as NCA5 chapter lead required it all: scientific expertise, superb organizational skills, diplomacy, and the ability to

engineer plain language to communicate complex ideas—not to mention navigating the ins and outs of the federal government. Since the report's release in November 2023, Liz has conducted extensive outreach with resource managers, professional groups, and the media to share the results broadly. Through it all, she has represented CIRES and Western Water Assessment by sharing important scientific research and synthesizing information in ways that will be truly impactful for many years to come.

Anne Gold

CEEE

Anne Gold has had an enormous impact on CIRES Education & Outreach Program—now the Center for Education, Engagement, and Evaluation, a shift which alone is a significant accomplishment. She is honored for her astonishing work growing the program into an internationally recognized powerhouse. Under her leadership, this team has built science education, outreach, evaluation, and professional development programs that serve CIRES, the greater university, teachers and students across and beyond the United States, and the national and international geosciences community. The utility and reach of these programs are tremendous: Anne builds highly effective programs and does above-and-beyond work to ensure they are sustainable, equitable, effective, and scalable.

Katya Schloesser, Alicia Christensen, Katie Boyd, Megan Littrell, Daniela Pennycook, and Ami Nacu-Schmidt

CEEE

The CIRES' Hazard Education Awareness & Resilience Task Force (HEART Force) team has developed an innovative, impactful, and award-winning education program to support rural Colorado youth and communities most impacted by natural hazards such as drought, flood, and wildfires. These communities are underserved in education about hazard education and community resilience. The HEART Force has won a highly competitive award from the Office of Education at NOAA twice, in 2018 and 2022. The team has developed new scenario/role-play games to brainstorm strategies and develop action plans for community preparedness, with feedback from teachers, students, community members, and emergency response managers.

MORE AWARDS >>>

CIRES OUTSTANDING PERFORMANCE AWARDS

Chia-Wei Hsu and Catherine A. Smith

NOAA PSL

Chia-Wei Hsu and Cathy Smith developed the Marine Heatwave Portal, an interactive web-based system that allows users to rapidly access a wide range of usable information about marine heat waves, including observed events in the historical record, present-day conditions, and seasonal predictions. Their efforts have made significant contributions to the field of marine heatwave research and public education. The innovative data visualization portal transforms vast amounts of data previously available only to technical experts and makes it easily accessible to decision-makers as well as the public in near real-time. Over the past year, 20,000 unique users have accessed the site. The portal has also generated significant media attention, including from *The New York Times* and National Public Radio.

Administrative Service

Lucia Harrop

CIRES and CIESRDS

Lucia is a senior administrative associate and the CIRES administration liaison at David Skaggs Research Center, serving over 400 CIRES employees and affiliates in various federal labs or centers. She has played a pivotal role in fostering seamless collaboration between CIRES and NOAA, ensuring that employees receive unparalleled support and guidance throughout their tenure. Lucia strives to ensure that employees feel welcome, included, and valued at the organization. Lucia pioneered an exceptional onboarding process for CIRES employees at the NOAA campus, facilitating a seamless transition for new hires and leaving a lasting positive impression on the organization. Her other accomplishments are many: developing training programs, the monthly newsletter *Administrative News*, and supporting the CIRES Members' Council.

Daniela Pennycook

CEEE

Daniela Pennycook has increased the effectiveness of many programs within the Center for Education, Engagement, and Evaluation (CEEE) through her organizational and supervisory skills to build tools and train students, saving researchers time and money. She has increased the cross-project coordination and the reach and impact of CEEE. She has been the driving force for creating a plethora of the group's operation procedures, including an online team dashboard, a library of standard operating procedures, and onboarding documents. She created a new communications plan and group norms documents, and her work has inspired other CIRES groups to do the same.

David Zakavec

CIRES IT

From the moment Dave Zakavec joined CIRES IT in 2016, he jumped into improving the CIRES IT ticket system. Dave's work is as much about preventing issues as it is about fixing problems, and in 2023, Dave resolved 1,500 tickets, most of them within one day. Dave created and expanded the CIRES laptop loaner program to avoid employee downtime. He manages and handles warranties. He has resolved complicated issues that other IT groups did not address and has swiftly saved data and lab computers for professors and students. It is no accident that CIRES researchers are relatively free from the IT problems that plague other organizations.

Richard Armstrong Memorial Scholarship

Richard Armstrong spent much of his career working as a scientist in CIRES' National Snow and Ice Data Center. He was an innovative researcher and a dedicated mentor, passionate about supporting the successes of others, including women and those from less well-resourced countries. After his passing in 2023, Armstrong's family and CIRES created the Richard Armstrong Memorial Scholarship Fund, for outstanding CIRES graduate students at the University of Colorado Boulder. They hope that those benefiting from this award will work to create opportunities for all.

Naomi Ochwat

Naomi Ochwat is the first recipient of the Armstrong Memorial Scholarship and studies how climate change affects glaciers on the West Antarctic Peninsula as well as mountain glaciers in Alaska. She approaches her work using a combination of remote sensing observations and field work to observe the rapid changes the cryosphere is undergoing. She is also dedicated to inspiring and training next-generation scientists: She has volunteered with Inspiring Girls Expeditions (IGE), a non-profit that runs a tuition-free wilderness science expeditions for high schoolers with a goal of increasing the participation and diversity of people with marginalized backgrounds in field sciences, art, and outdoor recreation. And she's also worked with the Juneau Icefield Research Program (JIRP), a program that takes undergraduate students on a glaciological course during a traverse of an Alaskan icefield.

CIRES Medals 2023

CIRES scientists are often integral to NOAA award-winning science and engineering teams but cannot receive certain federal awards, such as the prestigious Department of Commerce Gold, Silver, and Bronze Medals. With CIRES medals, we recognize the extraordinary achievements of CIRES scientists working in partnership with federal colleagues.

Gold

**Stan Benjamin, Jeffrey Duda,
Jason English, Guoqing Ge,
Jeff Hamilton, Joan Hart,
Craig Hartsough, Jaymes Kenyon,
Ruifang Li, Laura Melling,
William Moninger, Shawn Murdzek,
Gopa Padmanabhan, Sijie Pan,
Michael Rabellino, Julia Simonson,
Molly Smith, Sam Trahan, Hongli Wang,
and Chunhua Zhou**

NOAA GSL

For scientific and engineering excellence in developing a revolutionary prediction tool that provides short-term probabilistic thunderstorm guidance

Silver

Gijs de Boer and Jonathan Hamilton

NOAA PSL

For the first deployment of a fully autonomous system for the measurement of vertical profiles of aerosol, cloud, and meteorological properties

**Ravan Ahmadov, Eric James,
and Sam Trahan**

NOAA GSL

For the operational value of predictions of wildfire smoke transport and its impact on weather to support air quality alerts and visibility forecasts

**Elizabeth Asher, Patrick Cullis, Emrys
Hall, Dale Hurst, Allen Jordan, and
Yunqian Zhu**

NOAA CSL and GML

For successfully executing a rapid response campaign to study the atmospheric impact of the unprecedented Hunga Tonga-Hunga Ha'apai volcano eruption



The CIRES Members' Council (CMC) organizes Rendezvous annually. We represent the interests of all CIRES members with respect to CIRES governance, organizational direction, and the day-to-day workplace environment. As a representative group made up of CIRES employees, we are tasked with the following:

- Represent the concerns of the CIRES members by bringing issues to the attention of CIRES administration and leadership
- Work to improve the lines of communication within and between all CIRES units
- Provide a means of member participation in CIRES governance and a voice on committees and working groups that form the core of that governance
- Foster a positive workplace environment and connection to CIRES

The CIRES Members' Council provides service and career enhancement opportunities that benefit representatives and constituents alike.

cires.colorado.edu/about/institutional-programs/cires-members-council



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POSTER SESSION MAP

ADMINISTRATION

A.I., MACHINE LEARNING, MODELLING

CRYOSPHERIC AND POLAR PROCESSES

DATA (management, analysis, visualization, science and asimilation)

ECOSYSTEM SCIENCE

ENVIRONMENTAL CHEMISTRY

ENVIRONMENTAL MONITORING AND OBSERVATIONS

FORECASTING

SOFTWARE DEVELOPMENT

SOLID EARTH SCIENCES

WEATHER AND CLIMATE

SCAN FOR MAP ONLINE



UMC Terrace Tent

FRONT DESK

BAR
(CREDIT CARDS ONLY)

SNACKS

ADM-02	FOR-01	FOR-05	DATA-01	SES-01
ADM-03	FOR-02	FOR-06	DATA-02	SES-02
ADM-05	FOR-03	FOR-07	DATA-03	SES-03
ADM-06	FOR-04	FOR-18	DATA-04	SES-04
ADM-07	WC-01	WC-13	CPP-01	SES-05
ADM-08	WC-02	WC-14	CPP-02	CPP-12
AMM-02	WC-03	WC-15	CPP-03	ES-02
AMM-03	WC-04	WC-16	CPP-04	ES-03
AMM-04	WC-05	WC-17	CPP-05	ES-04
AMM-05	WC-06	WC-18	CPP-06	ES-05
AMM-06	WC-07	WC-19	CPP-07	ES-11
AMM-07	WC-08	WC-20	CPP-08	EMO-06
AMM-08	WC-09	WC-21	CPP-09	EMO-07
AMM-09	WC-10	WC-22	CPP-10	EMO-08
AMM-10	WC-11	EC-05	CPP-11	EMO-09
AMM-11	WC-12	EC-06	EMO-01	EMO-10
AMM-12	EC-01	EC-07	EMO-02	EMO-12
SOFT-01	EC-02	EC-08	EMO-03	EMO-13
SOFT-02	EC-03	EC-09	EMO-04	EMO-14
SOFT-03	EC-04		EMO-05	EMO-15

Aspen Rooms

COMMUNICATIONS, POLICY,
OUTREACH, EDUCATION

WATER RESOURCES

