

CGA Presents:

# CIRES Perks

## What can CIRES do for you?



Cooperative Institute for Research in Environmental Sciences  
UNIVERSITY OF COLORADO BOULDER and NOAA



# What is the CIRES Graduate Association

## Who we are:

- Meghan Helmberger – PhD student in Geog, co-chair since Jan 2019
- Lauren Schmeisser – Post-doc in NOAA's Global Monitoring Lab, co-chair since Nov 2020

## What we do:

- Graduate student and post doc run organization
- Produces events on professional development and community building

Contact info: [meghan.helmberger@Colorado.edu](mailto:meghan.helmberger@Colorado.edu) & [lauren.schmeisser@noaa.gov](mailto:lauren.schmeisser@noaa.gov)



Cooperative Institute for Research in Environmental Sciences  
UNIVERSITY OF COLORADO BOULDER and NOAA



# CIRES Leadership

# Christine Wiedinmyer

Contact: [Christine.wiedinmyer@colorado.edu](mailto:Christine.wiedinmyer@colorado.edu)



Cooperative Institute for Research in Environmental Sciences  
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# Education & Outreach

## Anne Gold



Cooperative Institute for Research in Environmental Sciences  
UNIVERSITY OF COLORADO BOULDER and NOAA



# CIRES Education & Outreach



Anne Gold, Director



Amanda Morton



Bec Batchelor



Katie Boyd



Alicia Christensen



Casey Marsh



Jonathan Griffith



Lynne Harden



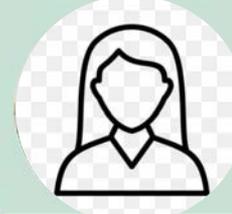
Briggitta  
Rongstad



Megan Littrell



Patty Montaño



Erin McCall



Ami Nacu-Schmidt



Naomi Ochwat



Christine Okochi



Katya Schloesser



Kelsey Tayne



Lianna Nixon

# How can we support your work?

Broaden Impact  
of your Science

Early Career  
Scientist Support

Engagement &  
Outreach  
Opportunities

Evaluation  
Services

Course  
Transformation,  
Teaching

Program  
Evaluator

Informal  
Educator

1 PhD level  
Cognitive  
Psychologist

3 PhD level  
scientist

Social  
Media  
Expert

Science  
Writer

K-12  
Educator

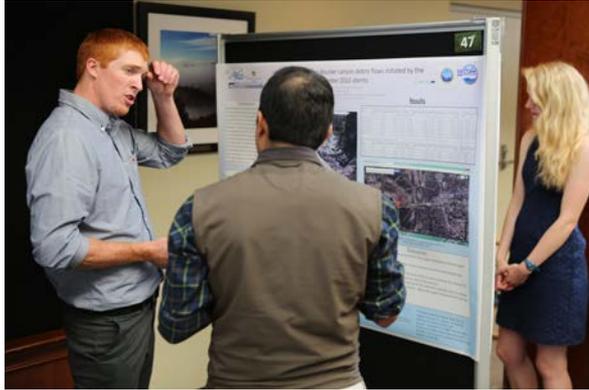
University  
Instructor

Environment  
al Designer





# Research Experience for Undergraduates



- 9-week mentoring opportunity
- Funding provided for student researchers, field work
- Virtual, hybrid format in 2021



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# NSF Graduate Fellowship Support

- Support in research design, Broader Impacts statements
- Review of materials
- Letters for previous mentors

# Communication Training

- Engage Scientist Workshop Series

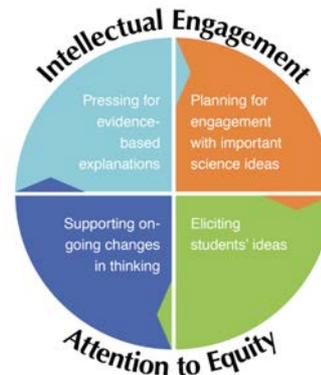




# New: Data Puzzles



- Ambitious Science Teaching Framework
- Interesting data set
- Connect w/teachers, students, get your science in classrooms



Name: \_\_\_\_\_ Date: \_\_\_\_\_

**To reflect, or not to reflect, that is the question**

*Featured scientist: Professor Jon Key from the Cooperative Institute for Research in Environmental Sciences and the Department of Atmospheric and Oceanic Sciences at the University of Colorado Boulder*

**Research Background** (See the [Close Reading Strategies slide deck](#) and an [audio recording](#) of the reading below)

Since 1978, satellites have monitored changes in the extent (area covered) of Arctic sea ice. Records show that Arctic sea ice reaches its minimum extent (smallest size) at the end of summer every September. Scientists compare each September's sea ice extent to data from years past and have discovered an alarming pattern - sea ice is declining...reply (Figure 1).

**Figure 1.** Arctic sea ice minimum extent for each year from 1979 through 2019. Watch NASA's Arctic sea ice data visualization [here](#).

**Why does this matter?** Well, it turns out that Arctic sea ice plays a major role in the Arctic climate system. When solar radiation (energy from the Sun) reaches Earth, part of the energy is absorbed by the surface (leading to an increase in temperature), while the rest is reflected back into space. This reflectivity is called albedo and is described using the following equation:

$$\text{Albedo} = \frac{\text{Solar radiation reflected}}{\text{Total incoming solar radiation}}$$

The higher the albedo value, the more radiation is reflected off a surface. Complete reflection is 1 and complete absorption is 0 (Figure 2). Sea ice reflects about 80% of solar radiation striking its surface, so its albedo measurement is 0.80 (Figure 3). This means that 40%

[www.ck12.org](http://www.ck12.org)

# Outreach & Engagement Opportunities

More change



Summer Mentors, Citizen Science Programs, Community-based Programs

Presentations, Workshops, Courses, Short-term Mentors

Review of Learning Materials, Science Fair Judge, Science Bowl

More people

# Get in touch

Email:

[Anne.U.Gold@Colorado.edu](mailto:Anne.U.Gold@Colorado.edu)



# Current Opportunities

- Learn more about Broader Impact and NSF proposals 3/9; 12-1.30 pm, UMC (RSVP required)
- Science Fair Judges
- Mentor community college school student ~1 week/summer
- Mentor REU student
- Review educational resources
- Sign up for Education and Outreach list

# Diversity & Inclusion

## Susan Sullivan



Cooperative Institute for Research in Environmental Sciences  
UNIVERSITY OF COLORADO BOULDER and NOAA



# How CIRES D&I can help

- Arrange training events
- Review diversity statements for job searches
- Troubleshoot issues
- Support D&I interests

# Resources

- [CU STEM student organizations](#)
- [CU Pride Office](#)
- [Society Of Latinx/Hispanics in Earth and Space Science \(SOLESS\)](#)
- [CIRES D&I Community of Practice](#)

<https://calendly.com/susan-sullivan/information-interview>

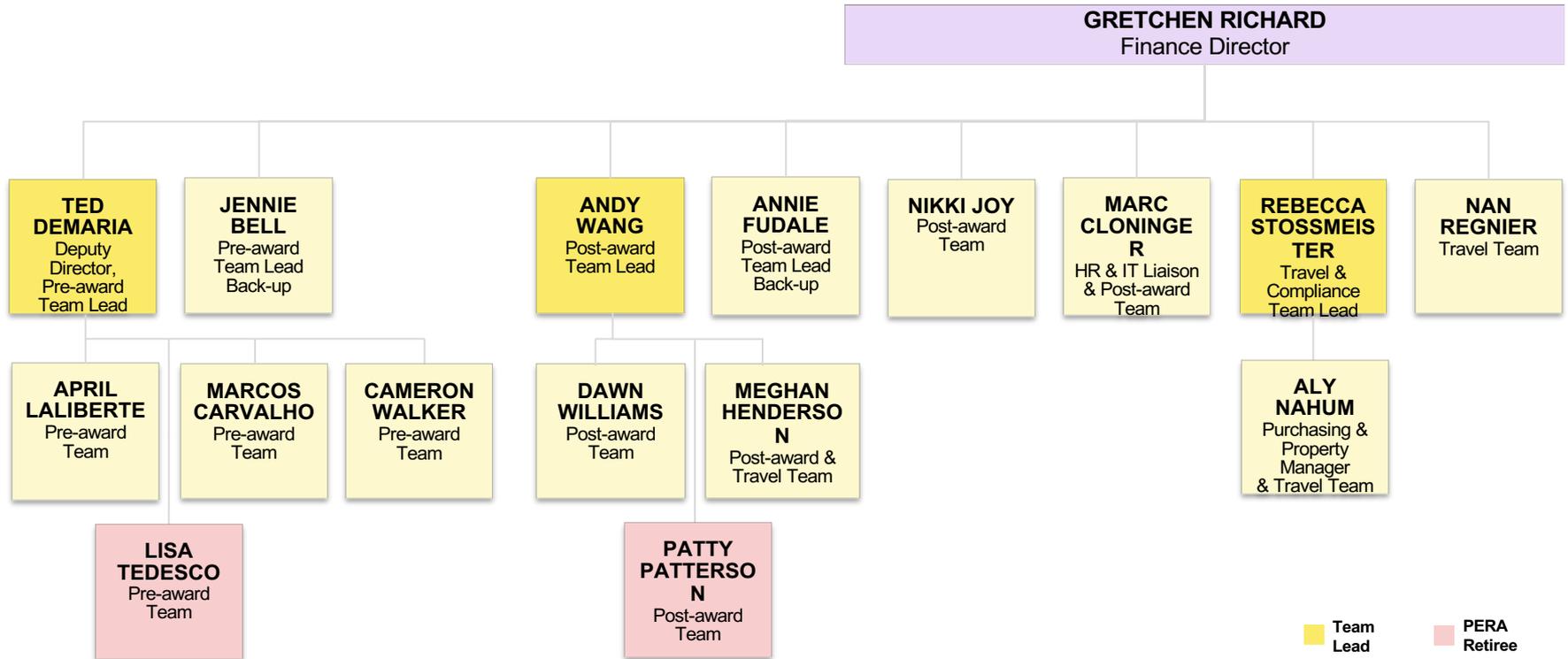
[Susan.Sullivan@Colorado.edu](mailto:Susan.Sullivan@Colorado.edu)

[Ciresdiversity.Colorado.edu](https://Ciresdiversity.Colorado.edu)

# Finance

Gretchen Richard, Ted  
De Maria, Rebecca  
Stossmeister

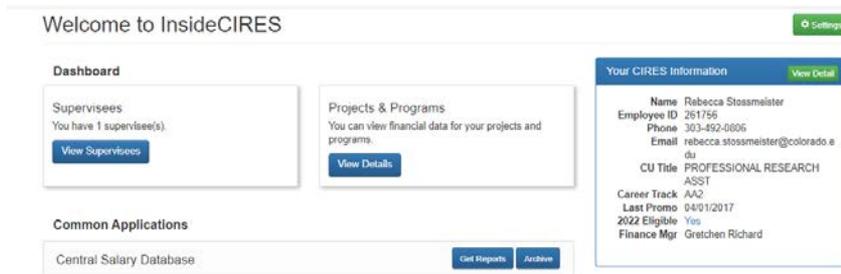
# Finance Office Org Chart



Team Lead  
 PERA Retiree  
 February 2021

# CIRES Finance – Financial Services

- Each faculty member, research group in CIRES has dedicated Finance Manager
- You can see who your Finance Manager is in InsideCIRES:



Welcome to InsideCIRES

**Dashboard**

**Supervisees**  
You have 1 supervisee(s)  
[View Supervisees](#)

**Projects & Programs**  
You can view financial data for your projects and programs.  
[View Details](#)

**Common Applications**  
Central Salary Database [Get Reports](#) [Archive](#)

**Your CIRES Information** [View Detail](#)

Name	Rebecca Stossmeister
Employee ID	261756
Phone	303-492-0605
Email	rebecca.stossmeister@colorado.edu
CU Title	PROFESSIONAL RESEARCH ASST
Career Track	AA2
Last Promo	04/01/2017
2022 Eligible	Yes
Finance Mgr	Gretchen Richard

Note: if you don't have access to InsideCIRES, please check with your CIRES advisor or supervisor

What we do:

1. Manage all CIRES funds, including sponsored projects
  2. Provide guidance on university, sponsor requirements
  3. Assist with purchasing supplies, equipment and other services
  4. Oversee monthly salary distributions, communicate with CIRES HR
- If you have questions that relate to an ongoing project, you can reach out directly to your Finance Manager

# CIRES Finance - Proposals

## What we do:

- Services provided to individuals with current (or who will have) active appointments in CIRES
  - Proposals are always submitted by OCG, in coordination w/ CIRES Finance
  - Email [ciresproposals@colorado.edu](mailto:ciresproposals@colorado.edu)
1. Prepare budget
  2. Provide guidance on solicitation, agency, and university proposal requirements
  3. Assist with document preparation – budget justification, C&P, biosketches
  4. Assist with final submission compliance checks

# CIRES Finance - Travel

- Anytime you are travel is supported with CIRES funds, the travel team can help you
- Approval to travel is always needed before your trip
- Check out our information posted on [InsideCIRES – Travel Services](#)
- Email [cirestravel@colorado.edu](mailto:cirestravel@colorado.edu)

## What we do:

1. Review and approval travel requests
2. Assist with booking airfare
3. Provide guidance on CU, sponsor travel policies
4. Prepare your expense report when you return

# Instrument Development

## Donald David



Cooperative Institute for Research in Environmental Sciences  
UNIVERSITY OF COLORADO BOULDER and NOAA





# CIRES / Chemistry Integrated Instrument Development Facility

- We are a multi-faceted resource consisting of machine, glass, and electronics shops dedicated to the design and fabrication of scientific instrumentation.
- Our primary areas of expertise are high-vacuum instrumentation, charged particle optics, systems for laboratory-based and flight-based atmospheric research, and data acquisition and control electronics and software.
- The IIDF is the only local facility that specializes in complete instrument fabrication – from theory and design to testing and deployment.





# Overview of Capabilities

## **Instrument Design**

- CAD (SolidWorks)
- Charged Particle Trajectory Calculations (SIMION)
- Electronics
- Refrigeration

## **Machining**

- CNC Machining (Lathe, 2-axis and 4-axis Mills)
- CAM (MasterCAM)
- Wire Electric Discharge Machining (EDM)
- Precision Grinding
- TIG Welding
- Vacuum Brazing

## **Glass Blowing**

- Pyrex
- Quartz
- Silvering
- Evacuated Jackets & Dewars

## **Electronics**

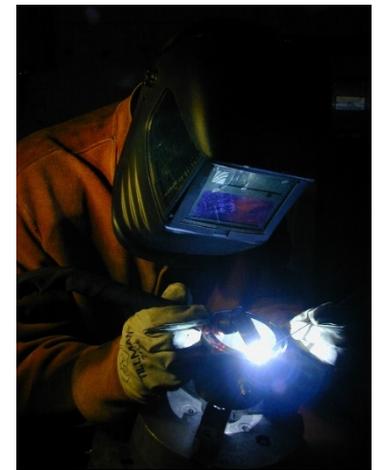
- LabVIEW Programming
- Multi-layer PCB/CAD
- Circuit Simulation
- Circuit Design
- Metal Plating (Cu, Ag, Au, Ni, Rh, etc.)

## **Maintenance & Repair**

- Lab Appliances
- Diaphragm Pumps
- Light Construction
- Refrigeration

## **Contact**

Dr. Donald David  
[don@cires.colorado.edu](mailto:don@cires.colorado.edu)  
303-735-4727  
Ekeley S1B50  
<http://cires.colorado.edu/IIDF/>



Electronics, Glass, and Machine Shops Dedicated to the Design and Fabrication of Scientific Instrumentation



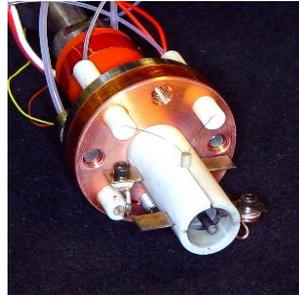
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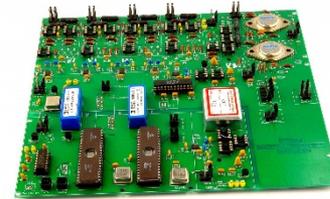
# Examples of Recent Shop Projects



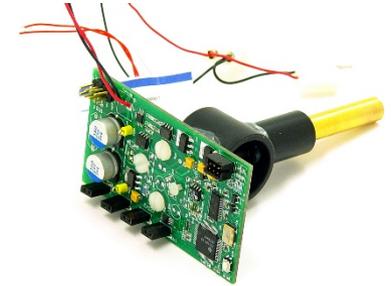
Winch for Tethered Balloons



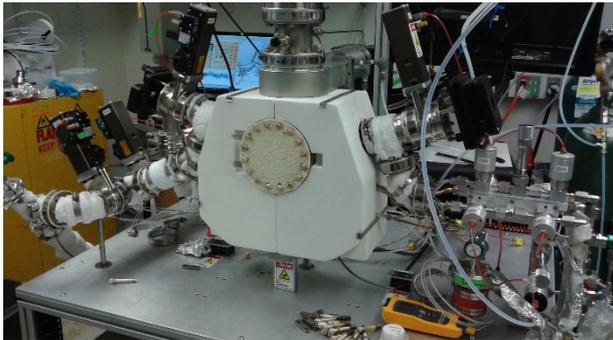
1400° C Flash Pyrolyzer



Electrostatic Lens Controller



Frost-point Hygrometer



Atomic Layer Deposition (ALD) System

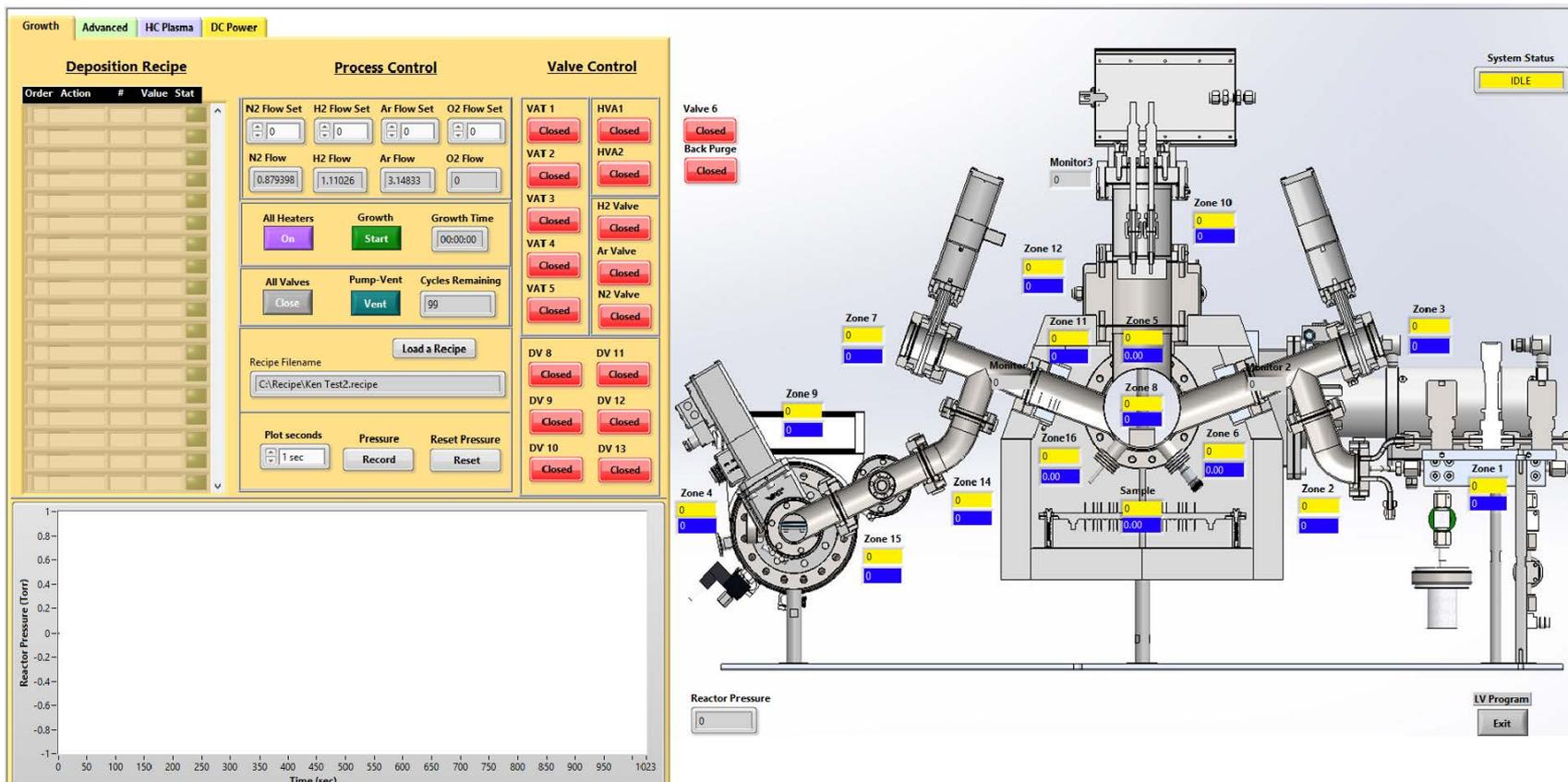


Pyrolyzer System w/ Control Electronics



Hygrometer Launch

# LabVIEW Controller Example



ALD Reactor System Control User Interface



# Services & Support

## Nate Campbell



Cooperative Institute for Research in Environmental Sciences  
UNIVERSITY OF COLORADO BOULDER and NOAA



# Who are we?



CIRES IT is a group of highly trained IT professionals that can provide service and support to CIRES Researchers, Fellows and staff.



**Nate Campbell**  
DIRECTOR OF INFORMATION TECHNOLOGY



**William Diment**  
SERVER ADMINISTRATION



**David Zakavec**  
SUPPORT SPECIALIST



**Taylor Devlin**  
DEVOPS MANAGER



**Neil Cousineau**  
WEB DEVELOPER/APPLICATIONS DEVELOPER



**Meg Tilton**  
APPLICATIONS DEVELOPER



**Matthew Price**  
WEB DEVELOPER

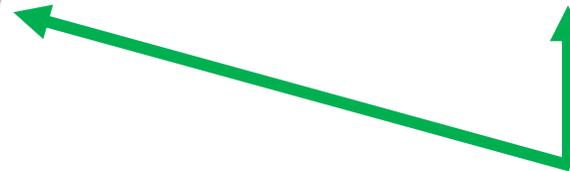
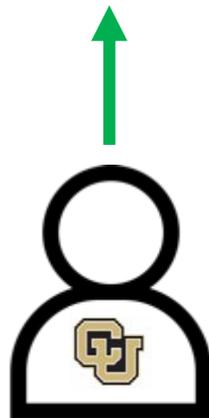
# Who are we?



CIRES IT is supplemental to campus-wide Office of Information Technology.

 University of Colorado **Boulder**

**Office of Information Technology**



# Services We Provide



- General Desktop Support
  - Windows
  - MacOS
  - Linux
- AV Design and Setup
- AV Support
- Webcast Support
- Website Development (Drupal, Joomla!, Wordpress, static HTML)
- Website Hosting
- VM Hosting
- Poster Printing
- Linux Package Management
- Data Storage (Hosting, Consulting, Setup)
- Asset Management
- License Management
- General IT Training
- Email List Management
- Custom Programming Applications
  - PHP
  - Python
  - C, C++
  - Java
  - JavaScript
- Database Setup and Management
- IT Equipment Ordering, Consulting, and Setup



Please contact CIRES IT with any question or comments you may have.

Email: [ciresithelp@colorado.edu](mailto:ciresithelp@colorado.edu)

Phone: 303-735-4200

# Communications

## Katy Human



Cooperative Institute for Research in Environmental Sciences  
UNIVERSITY OF COLORADO BOULDER and NOAA



<https://cires.colorado.edu/administration>

## Communications



**Katy Human**

DIRECTOR OF COMMUNICATIONS



**Katie Weeman**

CIRES COMMUNICATIONS ASSISTANT AND WRITER



**Karin Vergoth**

CIRES-NOAA SCIENCE WRITER



**Kathy Bogan**

GRAPHIC DESIGNER

CIRES website  
News stories & media engagement  
Graphic design  
Animation/illustration

Annual reports  
Flyers  
Social media  
Recruiting...

# China's Emissions of Ozone-Harming Gas Are Declining, Studies Find

New research confirms that emissions from China of CFC-11, a banned gas that harms Earth's ozone layer, have fallen sharply, reversing a dangerous spike.



**Cooperative Institute for Research in Environmental Sciences**  
Published by Katie Weeman · June 19, 2019 ·

It's time for another Humans of CIRES! Today, meet CIRES PhD student Meghan Helmberger.

Q: What do you do here at CIRES?  
A: I'm a PhD student in the Geography Department working with Mark Serreze at the National Snow and Ice Data Center. I'm studying the differences between reanalysis ocean heat gain data across the Arctic Ocean and how these values relate to changes in sea ice concentration in order to aid in better seasonal sea ice predictions.

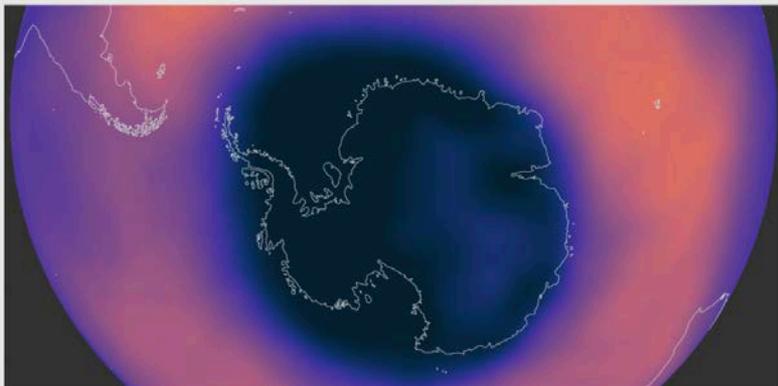
Q: What is your educational background?  
A: I have a B.A. and M.S. in Environmental Science and Policy from Clark University mostly focusing on interdisciplinary classes through the Geography and International Development, Community and Environment Departments. I focused more on learning a little about a lot, with a larger focus qualitative assessments of global change.

Q: If you weren't doing your current job what would you be doing?  
A: If I wasn't a climate scientist I would probably run a bookstore or animal shelter.

Q: What's your dream vacation?  
A: My dream vacation would be a week long road trip around the Iceland ring road. With enough time to stop at all the different environmental characteristics that Iceland has to offer.

1,675 People Reached | 105 Engagements | [Boost Post](#)

February 2021

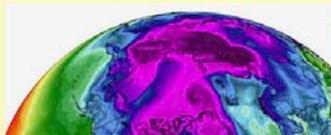


Emissions of a banned ozone-depleting gas are back on the decline

Five years after an unexpected spike in emissions of the banned ozone-depleting chemical chlorofluorocarbon CFC-11, emissions dropped sharply between 2018 and 2019, new analyses of global air measurements show. The abrupt turnaround was detected by both NOAA's global monitoring network and an independent global sampling network. GML's Steve Montzka--with GML, CSL and CIRES colleagues and collaborators from the U.S., United Kingdom and Australia--published a study in the journal *Nature* showing a global emission decrease in CFC-11. A companion regional analysis by a second international team showed a decline in emissions from eastern Asia. [More](#)

Frigid Arctic air outbreaks may be predictable, new research suggests

A sudden stratospheric warming event on January 5 could be influencing the winter weather we're experiencing now. In a recent paper published in *Communications Earth and Environment*, CSL's Amy Butler argued that a better understanding of how the stratosphere influences the troposphere, along with improved numerical weather models, could help scientists better predict extreme events from weeks to months ahead of time. Also, check out this piece by Butler and CIRES/PSL's Zac Lawrence in

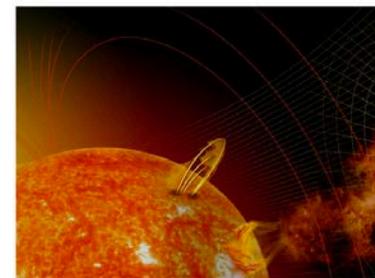


January 2021



**New Drought.gov**

At the [AGU Fall Meeting](#), NOAA/NIDIS [previewed](#) the new [Drought.gov](#), which went live this month. The interactive portal provides updated info, graphics, and drought forecasts from watershed to global scales. The updated site aims to better serve stakeholders and



**MagNet**

CIRES scientists are key to an innovative competition, [MagNet: Model the Geomagnetic Field](#), led by NOAA NCEI. The idea is to use crowdsourcing to come up with ideas to better forecast geomagnetic storms: phenomena that can harm our power grids, navigation systems,

# Human Resources

## Emily Hinga & Jasmine Moore



Cooperative Institute for Research in Environmental Sciences  
UNIVERSITY OF COLORADO BOULDER and NOAA



# CIRES HR Services for Graduate Research Assistants

- Accurate payroll appointments, and offer letters each semester, either as a CIRES Graduate Research Assistant (GRA), job code 1505, or Pre-Doctoral Trainee (Fellowship appointment, FA), job code 3204
- Tuition remission as part of your Graduate Research Assistant (1505) appointment
- Pre-Doctoral (Pre-Doc) Trainee (3204) – Graduate students enrolled in a pre-doctoral program and participating on a training grant. No service to the University is expected. Payment allows for person to continue their education. The appointment is not eligible for employment benefits. Scholarship/fellowship payments for the proper payment of your fees, tuition and insurance if you have a Pre-Doctoral trainee fellowship appointment
- **NEW** - Graduate Research Assistants (GRAs) will accrue 24 sick leave hours per 100% FTE per semester. Most CIRES GRAs have 50% appointments, so this equates to **12 sick leave hours** per semester. The Central Human Resources Service Center will front load these hours at the first of the following month, however, these will not be viewable in MyCUInfo until after monthly pay roll runs, which is around the 23rd of each month. GRAs will be able to view their sick leave balances in their “Leave Accrual Page” through the MyCUInfo portal. If you do use sick leave, you will use a Google Form to submit their sick leave that will also notify their supervisor and certify their leave. This will then feed centrally and update their leave balance. Instructions sent by Central Human Resource Service Center to all GRAs with a 1505 job code.
- GRAs are eligible for parental leave as well: <https://www.colorado.edu/graduateschool/current-students/policies/graduate-student-pregnancy-parenting-related-policy>
- Requests for InsideCIRES access for those CIRES Graduate Students who may not be paid through CIRES, but who are advised by a CIRES Fellow to participate in CGA trainings, special events (like the Rendezvous and Holiday Party)
- The annual increases to the GRA rates are each academic year, however, they are not guaranteed. Salary increases for ALL student faculty positions go into effect on the first day of fall term contracts: 8/15



# CIRES HR Services for Graduate Research Assistants

- We will act on your behalf to process a Petition for Graduate Student Overload Appointment Form required by the Graduate School for any special needs/work schedules, or other circumstances that may affect you as a Graduate Research Assistant. This form has signatures from the student, their academic advisor and CIRES HR. [https://www.colorado.edu/graduateschool/sites/default/files/attached-files/overload\\_petition\\_2019\\_0.pdf](https://www.colorado.edu/graduateschool/sites/default/files/attached-files/overload_petition_2019_0.pdf)
- When you are accepted into candidacy we need to know about it as soon as possible so that we change your status and pay amount, to the higher “post-comp” pay rates. Please note, the post-comp pay will be effective the first of the month after we receive the notification of acceptance. (i.e. if we receive the acceptance email on February 15<sup>th</sup>, the post-comp pay will be effective March 1<sup>st</sup>.)

The Email from Grad School that you will send to [CIRESHR@colorado.edu](mailto:CIRESHR@colorado.edu) in order to move GRA to post-comp status is as follows:

**From:** Graduate School Information  
**Sent:** Friday, May 11, 2018 2:26 PM  
**To:**  
**Subject:** PhD Candidacy

*Dear Student:*

*I am pleased to inform you that your application for admission to candidacy for the **PhD** degree has been approved. Please notify the Graduate School of any changes in your degree program. Approval of the application for admission to candidacy does not necessarily guarantee approval of your final examining committee. Your examining committee will be nominated separately by your department.*

# CIRES HR Services for Post-Docs

- Hiring and selection process for the Post-Doc position you encumber, which includes the offer letter, payroll appointment set-up and onboarding
- Onboarding brings you up to speed with the information and tools necessary to function as a CU employee, including proper instructions on how to access the employee portal with your Identikey, enrolling in benefits, MyLeave vacation and sick leave procedures, and information on other benefits such as FMLA, LWOP, Faculty and Staff tuition benefits, etc.
- Postdoctoral Associates are eligible for leave, including Family Medical Leave and Parental Leave, which includes both paid and unpaid. More details can be found on the OPA website:  
<https://www.colorado.edu/postdoctoralaffairs/benefits-services/families>
- We help with the Career Track process when it comes time for promotion by providing information or assistance with the process.
- We assist International employees with obtaining, and maintaining visas throughout the employment process.

## **Questions?:**

If you don't know who to contact for a particular question or need, please email the generic email for the whole HR team at:

[cireshr@colorado.edu](mailto:cireshr@colorado.edu)

# Questions?