

# EAPS WEEKLY NEWSLETTER

25 January 2021

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BE SURE TO CHECK OUT ALL OF THE EAPS COMMUNICATIONS MEDIA!

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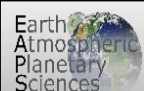
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## DEPARTMENT NEWS

### EAPS COLLOQUIA

Again this semester all colloquia can be accessed virtually and we will continue to have opportunities for students and faculty to meet with speakers individually and in small groups; signups to meet with speakers and more details will be available closer to the date of their talk.

Zheng Wu  
ETH Zurich

**Thursday, January 28**

3:30 PM  
Remote

### OUTREACH NEWS

Do you have part of a recorded lecture that would work for high school students? Do you have an idea for a virtual lab for K-12? Do you have cookies? Are you including a broader impacts



## EAPS MEETINGS & EVENTS

### **EAPS FACULTY MTG.**

Tuesday's 3:00-5:00/pm  
Remote

February 9  
March 9  
April 13  
May 4

### **PRIMARY COMMITTEE MTG.**

April 6

### **SPECIAL EVENT**

January 26  
3:00 – 5:00 pm  
Remote

### **UCAR SOARS**

### **READING DAYS**

Wednesday, January 17  
Thursday, March 18  
Tuesday, April 13

### **EAPS K-12 OUTREACH CALENDAR OF EVENTS**

[http://www.eaps.purdue.edu/outreach/Outreach News.html](http://www.eaps.purdue.edu/outreach/Outreach%20News.html)

### **REPORT YOUR OUTREACH AND ENGAGEMENT ACTIVITIES**

<http://bit.ly/EAPSOut>

section for your next grant? Contact our K-12 Outreach Coordinator, Steven Smith ([mrsmith@purdue.edu](mailto:mrsmith@purdue.edu)).

The Purdue University Superheroes of Science Podcast is on most podcast players as well as YouTube! Check out some of the latest episodes, <https://www.youtube.com/c/SuperheroesofScience>.

Facebook <https://www.facebook.com/EAPS.out>  
<https://www.facebook.com/PurdueSOS>  
Twitter (@Purdue SOS)  
EAPS departmental outreach web page:  
<http://www.eaps.purdue.edu/outreach/index.html>.

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**FORMER UNDERGRADE RESEARCH STUDENT  
AWARDED INTERNSHIP THROUGH THE  
DEPARTMENT OF DEFENSE**

Purdue undergraduate Bode Hoover, who did undergraduate research with Profs. Michalski and Welp was awarded a Science Undergraduate Laboratory Internship (SULI) through the Department of Defense.

He will be using the Alternative Fuel Life Cycle Environmental and Economic Transportation (AFLEET) Tool and the Greenhouse Gases Regulated Emissions and Energy Use in Transportation (GREET) Model to determine the advantages and disadvantages of various alternative fuels and vehicles.

The goal is to demonstrate the viability of alternative fuels/vehicles and for Clean Cities to be able to choose the best alternative fuels/vehicles for their local applications.



**HALF TIME POST DOC OPPORTUNITY WITH  
CIMMS - UNIVERSITY OF OKLAHOMA**

The Cooperative Institute for Mesoscale Meteorological Studies (CIMMS) at The University of Oklahoma (OU) is currently looking for a half-time (20 hours/week) Post-Doctoral Research

Associate working in the National Weather Center (NWC). The NWC is a highly collaborative operational, research, and academic environment containing a number of NOAA and OU organizations.

Responsibilities of the position include:

- The primary task consists of applications of both radar and satellite data on natural hazards such as drought and floods.
- An additional task of this project is to support the further development of severe thunderstorm applications based on NASA Atmospheric Infrared Sounder (AIRS) data to develop joint ground radar-satellite research.

[See attached flier for complete details]

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**PHD LEVEL RESEARCHER WITH CIMMS**

The Cooperative Institute for Mesoscale Meteorological Studies (CIMMS) at The University of Oklahoma (OU) working collaboratively with NOAA's National Severe Storms Laboratory (NSSL), is currently looking for a highly-qualified Research Scientist to provide scientific and technological expertise in the combined analysis of airborne NOAA P-3 tail Doppler radars (TDRs) with ground-based radars to improve process understanding of severe deep moist convection. The Research Scientist will provide leadership in the development and application of radar editing and analysis tools for use in research applications at CIMMS/NSSL, primarily for the use of performing process studies to better understand severe weather phenomena (tornadoes, hail, high wind) in supercells and quasi-linear convective systems observed during VORTEX-SE and TORUS. This position will include participation in the field for upcoming research projects (e.g., TORUS-2022) and will require the Research Scientist to integrate multi-radar airborne/ground-based analyses and retrievals, surface and airborne in situ, sounding, windsonde, and surface profiler and airborne compact Raman lidar observations into these process studies. The incumbent will work directly with research scientists at NSSL and will be encouraged to collaborate actively with scientists from other institutions with expertise in radar-based severe weather process studies (e.g., the

OU School of Meteorology Biggerstaff Research Group). The position will be based at NSSL in Norman, OK within the National Weather Center (NWC), a highly collaborative forecasting, research, and academic environment containing a number of NOAA and OU organizations.

[For additional information see attached flier]

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**CIMMS REAL-TIME MODELING RESEARCH FELLOW – 100% REMOTE WORK**

The Cooperative Institute for Mesoscale Meteorological Studies (CIMMS) at the University of Oklahoma (OU) is currently seeking a Half-Time (0.5FTE) Research Fellow to oversee and maintain real-time model forecast systems for NOAA's National Severe Storms Laboratory (NSSL). Specifically, these systems include, (1) the NSSL-WRF, which is a permanent experimental modeling framework providing storm-scale guidance to the Storm Prediction Center (SPC) and serving as a testing ground developing storm-scale model diagnostics, (2) the NSSL-FV3, a limited area version of the Finite Volume Cubed Sphere model, which NOAA has selected as the dynamics core for its Unified Forecasting System initiative, and (3) the Warn-on-Forecast System (WoFS), a rapidly updating, convection-allowing ensemble being developed by NSSL to extend hazardous weather warning lead times and provide probabilistic forecast guidance within the watch to warning (i.e., 0.5 – 6-h) time frame. The NSSL-WRF and NSSL-FV3 are run daily on Jet, a NOAA High-Performance Computing (HPC) cluster, while WoFS is an on-demand system run internally at NSSL when significant severe weather is expected. However, the incumbent would lead implementation of WoFS on Jet. All job duties may be performed remotely.

[See attached flier for additional information]

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**CIMMS RESEARCH ASSOCIATE AT THE STORM PREDICTION CENTER – SATELLITE PROVING GROUND LIAISON**

The Cooperative Institute for Mesoscale Meteorological Studies (CIMMS) at The University of Oklahoma (OU) is currently looking for a Research Associate to work with the NOAA/NWS

Storm Prediction Center (SPC). This position will be located at the SPC in Norman, OK, which is housed within the National Weather Center (NWC), a highly collaborative operational, research, and academic environment containing a number of NOAA and OU organizations. Here you will work directly with development meteorologists and operational forecasters at the SPC and will have opportunities to interact with NOAA and academic scientists within the NWS, NOAA's Satellite and Information Service (NESDIS), and the broader meteorological community.

[Flier attached for additional information]

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**ASSISTANT PROFESSOR IN ATMOSPHERIC AND CLIMATE SCIENCE**

The Department of Geography at the University of Florida, College of Liberal Arts and Sciences, invites applications for two (2) full-time, nine-month, tenure-accruing positions, at the level of Assistant Professor to begin August 16, 2021. The department seeks candidates with expertise in Artificial Intelligence (AI) to study Atmospheric and Climate Science (meteorology, weather forecasting and prediction, extreme events, climate change and climate change modeling, etc.) and will complement existing strengths in the department and across campus.

Primary responsibilities include 1) the development of a high-quality research portfolio employing AI techniques (e.g., artificial neural networks, deep learning, machine learning, computer vision, reinforcement learning) in Atmospheric and/or Climate Science, 2) a 2-1 teaching assignment where developed undergraduate and graduate courses contribute to our proposed new major in meteorology and/or certificate in AI and Atmospheric Science along with mentoring students, including those from underrepresented backgrounds, and 3) performance of administrative/service duties commensurate with a tenure-track appointment in the Department.

For additional information go to link:  
<https://facultyjobs.hr.ufl.edu/posting/82837>

## PROJECT GEOLOGIST

Lord and Winter is hiring a full time Project Geologist based out of our Franklin, Tennessee Office. The ideal candidate would live in Middle Tennessee and have a Bachelor's Degree in Geology and a Master's Degree in Geology with emphasis in hydrogeology or geochemistry. Experience level required is 2 to 10 years having obtained Professional Geologist Licensure (PG) or Geologist In Training (GIT) or Professional Geologist (PG) through ASBOG. The candidate must be entrepreneurial, be self-motivated, work successfully unsupervised, and be adept at electronic data collection including use of cloud based administration systems. Knowledge of contaminant fate and transport, human health risk assessment, and site investigation and remediation guidance is a plus.

Anticipated project work will include remediation planning and management, Phase II Site Investigations, and Phase I Site Assessments. Work will include sample collection, soil description using the USCS system, interpretation of analytical data, and report writing. The work is expected to include frequent travel, generally within the Southeastern US. The work can be physically challenging with site investigations over several hundred acres which may be required to be completed on foot. Non-field work will be completed in a home-based office.

The successful candidate will qualify for a full time (40 hour) Lord and Winter Professional Scientist Position with benefits which may include quarterly bonus, vacation, healthcare, dental care, vision care, short-term disability, life insurance, and contributions to an employer-matched individual retirement plan.

Lord and Winter is the leading Professional Environmental Services firm in the Southeastern United States. Lord and Winter is headquartered in Nashville, Tennessee with offices in Franklin, Tennessee; Baton Rouge, Louisiana; and Austin, Texas. We have experienced steady growth since our founding in 2013. Lord and Winter is sought out by commercial and residential developers, public utility providers, and the energy industry due to our niche expertise in environmental remediation, environmental permitting, and environmental compliance. Lord and Winter is an equal

opportunity employer. Find out more about Lord and Winter at [www.lordandwinter.com](http://www.lordandwinter.com). Salary commensurate with experience.

For information and to apply go to the following link: <https://www.ziprecruiter.com/jobs/lord-and-winter-a826f4e6/project-geologist-56443b4c>

## CIMMS POSTDOCTORAL RESEARCH ASSOCIATE TRACER-CUBIC PROJECT

The Cooperative Institute for Mesoscale Meteorological Studies (CIMMS) seeks to fill a Postdoctoral Research Associate position for a project funded by the Department of Energy (DOE) in support of the TRacking Aerosol Convection interactions ExpeRiment (TRACER). The project focuses on Coastal Urban Boundary-layer Interactions with Convection (CUBIC). The Postdoctoral Research Associate will participate in and analyze data from boundary-layer profiling instruments deployed during TRACER-CUBIC. They will also conduct, analyze, and improve numerical model simulations with the NOAA National Severe Storms Laboratory (NSSL) Warn-on-Forecast (WoF) prediction system.

[For complete information see attached flier]

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## REU SITE AT COLORADO STATE UNIVERSITY

The REU Site in Earth System Science offers paid summer undergraduate research internships at Colorado State University in the Department of Atmospheric Science hosted by the Earth System Modeling and Education Institute (ESMEI). This is an exciting research opportunity in beautiful Fort Collins, Colorado. Join world-class atmospheric scientists to explore diverse areas of research including cloud microphysics, severe storms and mesoscale meteorology, atmospheric chemistry and air quality, radiation and remote sensing, climate and atmosphere-ocean dynamics, and machine learning and data science.

**For 2021, the goal is to host an in-person REU experience, but they are also putting in place plans for a virtual REU experience should that be required in light of the ongoing COVID-19 pandemic. Either way, the REU experience will happen in 2021.**

During the program, interns will have the opportunity to attend scientific seminars, visit National Scientific Laboratories, and participate in a variety of professional development training (e.g. diversity and inclusion, science communication, applying to graduate school, and much more).

They offer: A 10 week paid internship in various research areas in atmospheric science. ESMEI provides roundtrip airfare, furnished and paid housing, \$6000 stipend, and funded travel to a scientific conference.

The online application will ask for the following:

- Statements of your Personal and Academic Experiences
- References: Two letters of recommendation
- Academic Transcripts

#### Research Areas

The ESMEI summer internship program covers a broad range of research areas, which include, but are not limited to the following:

- Atmospheric chemistry and aerosols
- Atmospheric dynamics
- Climate and climate modeling
- Cloud physics
- Environmental health and air quality
- Land-ocean-atmosphere interactions
- Mesoscale meteorology
- Remote sensing
- Tropical meteorology
- Machine learning and data science
- Societal impacts of weather and climate
- Data assimilation
- Multidisciplinary studies involving weather and/or climate

A successful candidate should:

- be a U.S. citizen
- have completed at least two years of college
- have a cumulative GPA of 3.0 or higher
- have an interest in learning about climate and weather
- have a major in atmospheric science or a related field such as meteorology, geosciences, chemistry, computer science, earth science, engineering, environmental science, mathematics or physics

- be considering a career in atmospheric science or related field

[See attached flier for more information]

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### **AGI INVITES APPLICATIONS FOR NEW SCHOLARSHIP FOR ADVANCING DIVERSITY IN THE GEOSCIENCE PROFESSION**

The American Geosciences Institute (AGI) is pleased to announce its new Scholarship for Advancing Diversity in the Geoscience Profession. The scholarship is a one-time \$5,000 award supporting geoscience graduate studies by a U.S. citizen or permanent resident who self-identifies as a member of an underrepresented minority (Black, Indigenous, or Person of Color) and is within two semesters of completing a recognized geoscience program.

"The geosciences can thrive only with full participation from all communities, yet research shows that many underrepresented minority students face obstacles in the transition from undergraduate to graduate studies," says AGI Interim Executive Director Sharon Tahirkheli. "Supporting the next generation of aspiring minority geoscientists has perhaps never been more important."

The **application deadline is February 21, 2021**. The scholarship winner will be notified in April 2021. To learn more, see <https://www.americangeosciences.org/workforce/agi-scholarship-advancing-diversity-geoscience-profession>. If you have questions, please contact AGI Geoscience Profession and Higher Education Director Christopher Keane at [keane@americangeosciences.org](mailto:keane@americangeosciences.org).

#### **About AGI**

The American Geosciences Institute (AGI), a federation of scientific and professional associations representing over a quarter-million geoscientists, is a nonprofit 501(c)(3) organization dedicated to serving the geoscience community and addressing the needs of society. AGI headquarters are in Alexandria, Virginia.

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**PNNL POSITIONS IN ENVIRONMENTAL RADIATION DETECTION**

Pacific Northwest National Laboratory is searching for Research Associates at the postdoctoral and post-masters level to be part of a multidisciplinary team making quantitative environmental measurements in ultra-low background systems, particularly aimed at radiometric age-dating. The endeavors span from the production mechanisms in the environment to the quantitative measurements in the laboratory, and the development of all the systems that are required. The work will primarily focus on the production of naturally occurring noble gas radioisotopes, collection and separation of noble gas samples, and the radiometric measurements. Tritium and carbon age-dating are also a focus. The positions will involve significant hands-on work with low-background radiation detectors (germanium detectors, gas proportional counters, and liquid scintillators), sample collections and preparation (e.g. noble gas processing from whole air, noble gas purification, electrolytic enrichment of water samples for tritium measurements), and the fundamental development of radiation detectors and gas separations systems.

Candidates from diverse backgrounds, such as nuclear engineering, environmental sciences, and nuclear/particle physics are encouraged to apply. Experience with noble gas detectors with an understanding of the challenges associated with low-background techniques are beneficial. As well as sample processing and measurement for stable isotope geochronology.

The positions can be found at <http://jobs.pnnl.gov/>.  
Job IDs: 311134, 311135, 311172, 311174

[See flier for information]

**CIMMS POST-DOCTORAL RESEARCH ASSOCIATE WARN-ON-FORECAST PREDICTION USING MACHINE LEARNING**

The Cooperative Institute for Mesoscale Meteorological Studies (CIMMS) at The University of Oklahoma seeks to fill a Post-Doctoral Research Associate position for its collaborative research as a Cooperative Institute with the National Oceanic

and Atmospheric Administration (NOAA) Office of Oceanic and Atmospheric Research (OAR) National Severe Storms Laboratory (NSSL). The Post-Doctoral Research Associate will participate in NSSL's Warn-on-Forecast (WoF) research program.

CIMMS in collaboration with NSSL is funded to develop and demonstrate a convection-allowing ensemble prediction system to improve warnings and forecasts of thunderstorm hazards. Increasing severe thunderstorm, flash flood, and tornado warning lead times is a key NOAA strategic mission goal designed to mitigate weather impacts on life, property, and the economy.

Machine learning (ML) has proven an effective tool for post-processing convection-allowing ensemble output to produce probabilistic forecasts of individual thunderstorm hazards. ML models have already been developed for the prototype WoF System (WoFS) that is run annually in real-time during the warm season. As a CIMMS Post-Doctoral Research Associate working with NSSL, you will continue the development of WoFS-based ML models and interpretability tools for predicting severe weather. While you will need to be primarily self-directed, you will work closely with other members of NSSL's Warn-on-Forecast team.

[See attached flier for additional information]

**CIMMS REAL-TIME MODELING RESEARCH FELLOW**

The Cooperative Institute for Mesoscale Meteorological Studies (CIMMS) at the University of Oklahoma (OU) is currently seeking a Half-Time (0.5FTE) Research Fellow to oversee and maintain real-time model forecast systems for NOAA's National Severe Storms Laboratory (NSSL). Specifically, these systems include, (1) the NSSL-WRF, which is a permanent experimental modeling framework providing storm-scale guidance to the Storm Prediction Center (SPC) and serving as a testing ground developing storm-scale model diagnostics, (2) the NSSL-FV3, a limited area version of the Finite Volume Cubed Sphere model, which NOAA has selected as the dynamics core for its Unified Forecasting System initiative, and (3) the Warn-on-Forecast System (WoFS), a rapidly updating, convection-allowing

ensemble being developed by NSSL to extend hazardous weather warning lead times and provide probabilistic forecast guidance within the watch to warning (i.e., 0.5 – 6-h) time frame. The NSSL-WRF and NSSL-FV3 are run daily on Jet, a NOAA High-Performance Computing (HPC) cluster, while WoFS is an on-demand system run internally at NSSL when significant severe weather is expected. However, the incumbent would lead implementation of WoFS on Jet. All job duties may be performed remotely.

[For additional information see attached flier]

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### **JAMES CORONES AWARD ACCEPTING NOMINATIONS**

The James Corones Award in Leadership, Community Building and Communication recognizes the impact of mid-career scientists and engineers on their chosen fields across a range of areas.

**PRIZE:** A cash award of \$2,000 and an engraved gift.

For nomination procedures, deadlines and more information, including how to donate to the award fund, please visit:

<https://www.krellinst.org/about-krell/corones-award>

[Flier attached with additional information]

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### **CIMMS RESEARCH SCIENTIST AT THE STORM PREDICTION CENTER**

The Cooperative Institute for Mesoscale Meteorological Studies (CIMMS) at The University of Oklahoma (OU) is currently looking for a Research Scientist to work with the NOAA/NWS Storm Prediction Center (SPC). This position will be located at the SPC in Norman, OK, which is housed within the National Weather Center (NWC), a highly collaborative operational, research, and academic environment containing a number of NOAA and OU organizations. Here you will work directly with development meteorologists and operational forecasters at the SPC and will have opportunities to interact with NOAA and academic scientists within the NWS,

NOAA's Satellite and Information Service (NESDIS), and the broader meteorological community. As a CIMMS Research Scientist working with SPC, you will provide scientific and meteorological expertise, along with leadership, satellite expertise, and technical support for the Satellite Proving Ground effort in Norman, OK.

[See attached flier for additional information]

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### **AMERICAN METEOROLOGICAL SOCIETY (AMS) GRADUATE FELLOWSHIPS AND UNDERGRADUATE SCHOLARSHIPS**

The American Meteorological Society (AMS) administers an array of graduate fellowships and undergraduate scholarships with the support of its members, corporations, and government agencies nationwide. The fellowships and scholarships range from \$1,000 to \$25,000 and help further the education of outstanding graduate and undergraduate students pursuing a career in the atmospheric and related oceanic or hydrologic sciences.

Applications for the 2021 AMS Scholarships and Fellowships are now open!

<https://www.ametsoc.org/index.cfm/ams/information-for-students/ams-scholarships-and-fellowships/>

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### **MS AND PHD EAPS STUDENTS BROADEN YOUR GRAD EXPERIENCE**

For those MS and PhD students in EAPS that would like to broaden their graduate experiences while at Purdue, EAPS is affiliated with the Computational Interdisciplinary Graduate Programs (CIGP) at Purdue. While working toward a graduate degree in EAPS, graduate students can also have a concentration (specialization) in the area of Computational Science and Engineering (CSE).

For more information see:

<https://www.purdue.edu/gradschool/cigp/index.html>

A short video about the CIGP/CSE program can be found at:

<https://www.youtube.com/watch?v=8ao9ykKtduQ>

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**EAPS GRAD STUDENT RESEARCH OPPORTUNITIES**

If you are interested in an EAPS grad research opportunity, go to the following updated link for information:

[https://www.eaps.purdue.edu/for\\_students/graduate/grad-research-opp.html](https://www.eaps.purdue.edu/for_students/graduate/grad-research-opp.html)

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**POSTDOCTORAL APPOINTEE REGIONAL SCALE CLIMATE MODELING**

This post-doctoral appointment in the Environmental Science Division of the Argonne National Laboratory will involve methodological and applied research in regional scale climate modeling. In particular, the focus will be on high-resolution dynamic downscaling, hydrological modeling, impacts and assessments. For this position, we are looking for applicants with experience in regional scale models of hydrology, (e.g. WRF-Hydro). Expertise in working with large datasets on high-performance computing resources is required.

Please use the following link to directly apply:  
<https://bit.ly/32RrPKE>

Applications will be considered as they arrive and with a likely start date in October 2020. This will be a two-year position. The successful applicant will be required to provide 3 letters of reference and university transcripts.

For complete information go to link:  
<https://bit.ly/32RrPKE>

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**PRE-DOCTORAL APPOINTEE**

This pre-doctoral appointment in the Environmental Science Division of the Argonne National Laboratory will involve providing technical support to scientific staff for methodological and applied research in atmospheric science in projects related to aerosol-cloud interactions and regional scale

climate modeling. For this position, we are looking for applicants with experience in the analysis of large weather/atmospheric datasets, running atmospheric models and analysis of the model output.

For complete information go to link:

<https://bit.ly/3bEORz8>

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**CIMMS PETER LAMB POSTDOCTORAL FELLOWSHIP**

The Cooperative Institute for Mesoscale Meteorological Studies (CIMMS) at the University of Oklahoma has established the Peter Lamb Postdoctoral Fellowship that is offered annually. CIMMS is a research organization that promotes collaborative research between National Oceanic and Atmospheric Administration (NOAA) and University of Oklahoma (OU) scientists on problems of mutual interest. This collaborative basic and applied research includes the study of mesoscale and storm-scale meteorological phenomena to help produce better forecasts and warnings that save lives and property and the investigation of the societal impacts of such phenomena. Research scientists within CIMMS use observations, analysis and models to improve the understanding and prediction of high-impact weather elements and systems ranging in size from cloud nuclei to multi-state areas.

Applications must include a 3-4 page novel proposal developed by the applicant that addresses at least one of the CIMMS research themes: 1) weather radar research and development; 2) storm-scale and mesoscale modeling research and development; 3) forecast improvements research and development; 4) impacts of climate change related to extreme weather events; and 5) societal and socioeconomic impacts of high-impact weather systems. Applicants are highly encouraged to contact a CIMMS scientist to receive guidance when drafting a research proposal. The CIMMS website <http://cimms.ou.edu/index.php/research> has more information on projects underway within these research themes as well as contact information for CIMMS scientists working on these themes.



Terms of appointment are for one (1) year, renewable for a second year subject to satisfactory performance. An annual salary of \$60,000 and a research budget of up to \$5,000 per year is included in the award, along with a modest relocation stipend. Successful applicants must have obtained a Ph.D. within the last five years; proof of a Ph.D. is required before assuming the post-doctoral position, but those in the final stages of Ph.D. dissertation completion are encouraged to apply provided a finish date **before July 31, 2021** is anticipated.

Applicants are asked to submit electronically: (1) a curriculum vitae; (2) a list of all products (e.g., papers, patents, technology transfers, licensed software, etc.) generated over the course of their career; (3) a cover letter which includes the expected start date and any non-standard resources that might be needed to complete the proposed work; (4) a brief proposal (no more than

4 pages, double-spaced, excluding the list of references and figures) describing the work to be pursued during a 2-year tenure at CIMMS; and (5) a list of three references. In addition, applicants should request that their referees directly send their reference letters to CIMMS at the email address listed below.

[See Attached flier for more information]

### **NOAA HOLLINGS UNDERGRADUATE SCHOLARSHIP**

The 2021 Ernest F. Hollings Undergraduate Scholarship application period is now open — apply today!

Link: <https://www.noaa.gov/office-education/hollings-scholarship>



### **SPRING 2021 CALENDAR** **OFFICE OF GRADUATE PROFESSIONAL DEVELOPMENT**

Career Prep, Academic Career Track, Industry Career Track, Wellness, Research & Ethics,

<http://www.eaps.purdue.edu/>

Communication, Grantsmanship, Post-Docs, & Diversity.

All Spring 2021 Workshops are virtual.

New Workshops are added regularly! For registration & additional information, visit <http://bit.ly/purdueworkshops>

[See attached flier for more information]

### **SAVE THE DATE:** **ENGAGEMENT & SERVICE – LEARNING SUMMIT**

This event serves to bring together faculty, staff, students, and community partners to discuss best practices in engagement and service-learning, highlight accomplishments, and increase collaboration opportunities. This year's virtual event will feature three tracks: a beginning track on networking and partnership formation and two advanced tracks on broader research impacts. A showcase featuring student digital engagement stories will conclude the Summit. There is no cost to attend; however, registration is required and will open in January 2021.

Hosted by the Office of Engagement

Thursday, March 4, 2021  
9:00 – 11:30 AM  
Via Zoom

[See attached flier for more information]



### **WELCOME TWO NEW EAPS DEPARTMENT ADDITIONS**

Congratulations to the families of Professors Dan Chavas and Michael Eddy. See pictures and information on next page!

Congratulations to Professor Dan and Laura Chavas on the birth of their son, Samuel Kennedy Chavas born on 12/16/2020 with a birth weight of 8 lbs. 1 oz.



We would also like to congratulate Professor Michael Eddy and his wife on the birth of their daughter, Olivia Katherine Eddy who was born on December 23, 2020. We are told her favorite hobbies are to eat and sleep!



## IMPORTANT NOTICE ABOUT THIS NEWSLETTER

This newsletter is used as the primary information source for current and upcoming events, announcements, awards, grant opportunities, and other happenings in our department and around campus. Active links to additional information will be provided as needed. Individual email announcements will no longer be sent unless the content is time-sensitive. We will continue to include our publications, presentations and other recent news items as well.

Those using paper copies of the newsletter should go to our newsletter archive on the EAPS website at <http://www.eaps.purdue.edu/news/newsletters.html> and Click on News to access active links as needed. Material for inclusion in the newsletter should be submitted to Katherine Huseman ([khuseman@purdue.edu](mailto:khuseman@purdue.edu)) **by 5:00pm on Thursday of each week for inclusion in the Monday issue.**

If it is in the newsletter, we assume know about it and no other reminders are needed. For answers to common technology questions and the latest updates from the EAPS Technology Support staff, please visit: [http://www.eaps.purdue.edu/resources/information\\_technology/index.htm](http://www.eaps.purdue.edu/resources/information_technology/index.htm).

Also, as an additional resource for information about departmental events, seminars, etc., see our departmental calendar at <http://www.EAPS.purdue.edu/events-calendar.html>



**University of Oklahoma**  
**Cooperative Institute for Mesoscale Meteorological Studies**  
**Post-Doctoral Research Associate (Half-Time)**  
**Remote Sensing Hydrometeorology**

The Cooperative Institute for Mesoscale Meteorological Studies (CIMMS) at The University of Oklahoma (OU) is currently looking for a half-time (20 hours/week) Post-Doctoral Research Associate working in the National Weather Center (NWC). The NWC is a highly collaborative operational, research, and academic environment containing a number of NOAA and OU organizations.

Responsibilities of the position include:

- The primary task consists of applications of both radar and satellite data on natural hazards such as drought and floods.
- An additional task of this project is to support the further development of severe thunderstorm applications based on NASA Atmospheric Infrared Sounder (AIRS) data to develop joint ground radar-satellite research.

The minimum qualifications for this position are:

- A PhD in Meteorology, Atmospheric Science, Hydrology or related area
- Proficiency with programming languages (preferably MATLAB)
- Ability to work and communicate in a team environment

You will work under general supervision of CIMMS Research Scientists but are expected to work independently and determine action to be taken in handling all but unusual situations. This is a non-supervisory position. Salary is based on your education, experience, skills, and knowledge. Information on University of Oklahoma benefits may be found at <https://hr.ou.edu>.

To apply for the position, please send your CV, cover letter, and list of three references to:

CIMMS Careers  
University of Oklahoma CIMMS  
120 David L. Boren Blvd., Suite 2100  
Norman, OK 73072-7304  
CIMMS-careers@ou.edu  
Job Requisition: Remote Sensing Post-Doc

The University of Oklahoma is an equal opportunity/Affirmative Action employer.

## **CIMMS Research Scientist – Applications of Airborne/Ground-based Radar Analysis in Process Studies of Severe Deep Moist Convection**

The Cooperative Institute for Mesoscale Meteorological Studies (CIMMS) at The University of Oklahoma (OU) working collaboratively with NOAA's National Severe Storms Laboratory (NSSL), is currently looking for a highly-qualified Research Scientist to provide scientific and technological expertise in the combined analysis of airborne NOAA P-3 tail Doppler radars (TDRs) with ground-based radars to improve process understanding of severe deep moist convection. The Research Scientist will provide leadership in the development and application of radar editing and analysis tools for use in research applications at CIMMS/NSSL, primarily for the use of performing process studies to better understand severe weather phenomena (tornadoes, hail, high wind) in supercells and quasi-linear convective systems observed during VORTEX-SE and TORUS. This position will include participation in the field for upcoming research projects (e.g., TORUS-2022) and will require the Research Scientist to integrate multi-radar airborne/ground-based analyses and retrievals, surface and airborne in situ, sounding, windsonde, and surface profiler and airborne compact Raman lidar observations into these process studies. The incumbent will work directly with research scientists at NSSL and will be encouraged to collaborate actively with scientists from other institutions with expertise in radar-based severe weather process studies (e.g., the OU School of Meteorology Biggerstaff Research Group). The position will be based at NSSL in Norman, OK within the National Weather Center (NWC), a highly collaborative forecasting, research, and academic environment containing a number of NOAA and OU organizations.

The principal duties of this position are:

1. Use specialized radar editing and multi-radar data synthesis code to generate analyses of convective events observed during VORTEX-SE (2017-2018) and TORUS by the NOAA P-3 aircraft via its unique onboard dual tail Doppler radar (TDR) systems.
2. Integrate airborne-ground-based multi-radar wind syntheses with unique P-3 Raman lidar temperature and water vapor mixing ratio profiles in the atmospheric boundary layer (from VORTEX-SE 2018 and TORUS-2019 data), as well as lead individual scientific analysis of data collected by airborne/ground-based multi-radar arrays.
3. Collaborate with other NOAA weather research laboratories and University of Oklahoma researchers on airborne/ground-based radar analysis, and collaborate with University of Colorado researchers concerning the relationships between airborne Raman lidar profiler observations and storm evolution.
4. Contribute to scientific publications and present scientific results at professional off-site conferences, workshops, and symposia.
5. When appropriate, participate in transferring new knowledge to operations by providing input on radar algorithm design or through educating radar users on data interpretation.

The minimum qualifications for the position are:

1. A Ph.D. in meteorology or atmospheric science.
2. Expertise in radar data editing software, preferably including editing software authorship.
3. Expertise in areas of ground-based and airborne radar analysis applications and radar remote sensing, and applications to severe convective weather. Applicants should identify experience in these areas, including meteorological radar systems, and software used to analyze data from meteorological radar systems.
4. Experience with Unix, programming (e.g., Fortran, C, C++), and scripting (e.g. Python, NCL).
5. United State citizenship or permanent residency.

Preferred qualifications include experience with airborne and ground-based radars and field work.

Normal working hours will be observed except for irregular hours during field data collection and/or conferences/workshops conducted at remote sites. The incumbent will work under general supervision in order to satisfy the objectives of various research grants and programs, and is expected to contribute to field efforts as needed.

The beginning salary for this position will be based on qualifications and experience and will include University benefits. Information on benefits may be found at: <http://hr.ou.edu/>. The expected start date for the position is no later than May 2021.

Appointment to this position is contingent on passing a Department of Commerce/NOAA background check.

To apply, please forward your CV, cover letter and list of three references to:

CIMMS Careers  
University of Oklahoma CIMMS  
120 David L. Boren Blvd., Suite 2100  
Norman, OK 73072-7304  
[CIMMS-Careers@ou.edu](mailto:CIMMS-Careers@ou.edu)  
ATTN: Airborne/Ground-based Radar Analysis

## CIMMS Real-Time Modeling Research Fellow

The Cooperative Institute for Mesoscale Meteorological Studies (CIMMS) at the University of Oklahoma (OU) is currently seeking a Half-Time (0.5FTE) Research Fellow to oversee and maintain real-time model forecast systems for NOAA's National Severe Storms Laboratory (NSSL). Specifically, these systems include, (1) the NSSL-WRF, which is a permanent experimental modeling framework providing storm-scale guidance to the Storm Prediction Center (SPC) and serving as a testing ground developing storm-scale model diagnostics, (2) the NSSL-FV3, a limited area version of the Finite Volume Cubed Sphere model, which NOAA has selected as the dynamics core for its Unified Forecasting System initiative, and (3) the Warn-on-Forecast System (WoFS), a rapidly updating, convection-allowing ensemble being developed by NSSL to extend hazardous weather warning lead times and provide probabilistic forecast guidance within the watch to warning (i.e., 0.5 – 6-h) time frame. The NSSL-WRF and NSSL-FV3 are run daily on Jet, a NOAA High-Performance Computing (HPC) cluster, while WoFS is an on-demand system run internally at NSSL when significant severe weather is expected. However, the incumbent would lead implementation of WoFS on Jet. All job duties may be performed remotely.

The principal duties of this position are:

1. Oversee and maintain the NSSL-WRF and NSSL-FV3 real-time forecast systems on Jet. This involves checking the runs daily to make sure they've run successfully, working with Jet administrators when there are problems, and informing NSSL, CIMMS, and SPC staff when there are problems or delays.
2. Occasionally working with CIMMS, NSSL, and SPC staff to facilitate additional experimental model runs for limited time periods, for example, during Hazardous Weather Testbed Spring Forecasting Experiments.
3. Implement WoFS on NOAA's Jet HPC and clearly document the workflow. Oversee and maintain WoFS on Jet when needed and/or train others for these duties.

The minimum qualifications for the position are:

1. A Master's Degree in Meteorology, Atmospheric Science, or related area.
2. Expert knowledge and experience conducting weather forecast model simulations on High-Performance Computing clusters.
3. Experience and proficiency running NOAA's Warn-on-Forecast System.

Excellent coding skills and experience in languages such as Fortran and Python are highly desired, as well as proficiency in shell scripting (e.g., bash, ksh, tcsh, etc.). Excellent oral and written communication skills are also highly desired. Applicants should identify experience with HPC, programming and scripting languages, numerical weather prediction, and graphic design/visualization.

Work can be conducted remotely and working hours depend upon requirements of real-time systems (e.g., late evening hours and/or early morning hours may be required to ensure model runs have started and/or finished). CIMMS staff will provide general supervision with technical oversight provided by NSSL scientific staff and management. The incumbent works under general supervision, but is expected to work independently and determine action to be taken in handling all but unusual situations.

The beginning salary is commensurate with educational background and experience, with OU insurance benefits. Information on OU benefits can be found at <https://hr.ou.edu/Employees>.

To apply for the position, please forward your resume, cover letter and list of three references to:

CIMMS Careers  
University of Oklahoma  
120 David L. Boren Blvd., Suite 2100  
Norman, OK 73072-7304  
CIMMS-careers@ou.edu  
Attn: CIMMS Real-Time Modeling

*The University of Oklahoma is an Equal Opportunity/Affirmative Action employer.*

## **CIMMS Research Associate at the Storm Prediction Center Satellite Proving Ground Liaison**

The Cooperative Institute for Mesoscale Meteorological Studies (CIMMS) at The University of Oklahoma (OU) is currently looking for a Research Associate to work with the NOAA/NWS Storm Prediction Center (SPC). This position will be located at the SPC in Norman, OK, which is housed within the National Weather Center (NWC), a highly collaborative operational, research, and academic environment containing a number of NOAA and OU organizations. Here you will work directly with development meteorologists and operational forecasters at the SPC and will have opportunities to interact with NOAA and academic scientists within the NWS, NOAA's Satellite and Information Service (NESDIS), and the broader meteorological community.

As a CIMMS Research Associate working with the SPC, you will provide scientific and meteorological expertise, along with leadership, satellite expertise, and technical support for the Satellite Proving Ground effort in Norman, OK. More specifically, the list below describes potential projects:

1. Serve as a "Satellite Liaison" at the SPC, assisting in Satellite Proving Ground efforts on satellite-based hazardous weather products and demonstrating the unique and complementary value of satellite information to forecasters;
2. Document satellite dependent forecast and analysis tools focused on the specific needs of hazardous weather forecasters;
3. Execute tests and validation of proposed new satellite-dependent products, decision aids, and best practices for operational forecasters with an emphasis on exploring the value of advanced satellite products for detection and short-term prediction of convective storms and associated hazards;
4. Serve as "implementation expert" for selected planned satellite products and their proxies;
5. Assist in the execution of the satellite portions of Hazardous Weather Testbed experiments, serving as the focal point for satellite-centered activities for both the Experimental Warning Program and the Experimental Forecast Program;
6. Assist with satellite components of any field excursion experiments headquartered out of the National Weather Center requiring satellite expertise;
7. Bridge satellite-related activities between the NOAA FACETs initiative, the NWS, and NESDIS;
8. Represent the NESDIS effort within the HWT by attending off-site conferences, symposia, and hazardous weather-related outreach events;
9. Develop synergy and shared accomplishments with the OCLO Satellite Training Team and Satellite Proving Grounds at NOAA National Centers, Training Centers, and Cooperative Institutes; and
10. Other duties as assigned.

*The University of Oklahoma is an Equal Opportunity/Affirmative Action employer.*



The minimum qualifications for the position are:

1. A Master's Degree in Meteorology, Atmospheric Science, or a related area; and
2. United States citizenship or permanent residency.

When applying, please include information related to your experience with satellite meteorology, remote sensing, and associated datasets. Of particular interest is your application of these experiences in software development, web development, graphic design/visualization, and Linux (UNIX) environments, including the AWIPS2/N-AWIPS systems. Lastly, your ability to communicate clearly is crucial to being successful in this position.

Normal working hours will be observed except for occasional irregular hours during data collection, warning/forecast experiments, or workshops conducted at remote locations. Additionally, occasional travel is expected. General supervision will be provided by CIMMS staff with technical oversight provided by SPC management. You will work under general supervision but are expected to work independently and determine action to be taken in handling all but unusual situations. This is a non-supervisory position, although you may serve as a leader of technical teams. Salary is based on your education, experience, skills, and knowledge. Information on University of Oklahoma benefits may be found at <https://hr.ou.edu>.

Review of applications will begin on **26 October 2020** and continue until the position is filled. To apply, please submit your resume/CV, cover letter, and list of three (3) references to:

CIMMS Careers  
University of Oklahoma CIMMS  
120 David L. Boren Blvd., Suite 2100  
Norman, OK 73072-7304  
Attention: SPC-SAT  
[CIMMS-careers@ou.edu](mailto:CIMMS-careers@ou.edu)

## **CIMMS Postdoctoral Research Associate – TRACER-CUBIC project**

The Cooperative Institute for Mesoscale Meteorological Studies (CIMMS) seeks to fill a Postdoctoral Research Associate position for a project funded by the Department of Energy (DOE) in support of the TRacking Aerosol Convection interactions ExpeRiment (TRACER). The project focuses on Coastal Urban Boundary-layer Interactions with Convection (CUBIC). The Postdoctoral Research Associate will participate in and analyze data from boundary-layer profiling instruments deployed during TRACER-CUBIC. They will also conduct, analyze, and improve numerical model simulations with the NOAA National Severe Storms Laboratory (NSSL) Warn-on-Forecast (WoF) prediction system.

### *Background:*

The DOE TRACER-CUBIC study is a collaborative project between scientists from OU's School of Meteorology, the University of Wisconsin in Madison, and NOAA NSSL. The project provides funding to deploy three boundary-layer profiling systems in the Houston metro area during the Intensive Observation Period (IOP) of TRACER (June 1-Sept. 30, 2021). The three systems will be deployed along a transect perpendicular to the shoreline to investigate the evolution of the sea-breeze circulation and boundary-layer as it develops over and interacts with the Houston metro area. The observations will be supplemented by numerical experiments with the NSSL WoF system. Our goals are to improve understanding and representation of boundary-layer and convection processes in Earth system models through the integrated analysis of novel observations and numerical data sets.

### *Responsibilities:*

The incumbent will participate in the collection of data during the TRACER IOP, process data collected by the boundary-layer profiling systems using existing and newly developed analysis software, coordinate the setup of the WoF ensemble for CUBIC with the project team, conduct sensitivity tests with different urban-canopy models, conduct scientific analysis of TRACER–CUBIC observations and numerical model output, explore collaborations with other research teams and labs (e.g., NCAR, NOAA, universities), write papers for the refereed literature, and present the results of findings at national and international meetings. An ideal candidate will also take on mentoring responsibilities of graduate research assistants who are members of the project team.

*Qualifications:*

1. A Ph.D. degree in atmospheric science or related area.
2. Background in boundary-layer meteorology, ideally using both observations and numerical models, is desired. A familiarity of urban and/or sea breeze circulations is beneficial.
3. Strong programming/scripting (e.g. Python) skills.
4. Excellent oral and written communication skills (including papers published in, or submitted to refereed journals).
5. An ability to work both independently and cooperatively with others.

The beginning salary will be based on qualifications and experience, with benefits provided through the University of Oklahoma (<https://hr.ou.edu/Employees>). The position is funded for two years and the anticipated start date is March 1, 2021.

To apply, please forward your CV, cover letter and contact information for three references to:

Tracy Reinke, Executive Director, Finance and Operations  
University of Oklahoma CIMMS  
120 David L. Boren Blvd., Suite 2100  
Norman, OK 73072-7304  
CIMMS-Careers@ou.edu  
ATTN: TRACER

## Research Positions

# Ultra-Low Background Radiation Detection



The Detection Physics (DP) Group within PNNL's National Security Directorate is seeking one or more highly motivated, capable recent Ph.D. and Masters graduates to work at the intersection of national security, environmental sciences, and nuclear/particle physics instrumentation.

The Research Associate will be part of a multidisciplinary team making quantitative environmental measurements in ultra-low background systems, particularly aimed at radiometric age-dating. The endeavors span from the production mechanisms in the environment to the quantitative measurements in the laboratory, and the development of all the systems that are required. The work will primarily focus on the production of naturally occurring noble gas radioisotopes, collection and separation of noble gas samples, and the radiometric measurements. Tritium and carbon age-dating are also a focus. The positions will involve significant hands-on work with low-background radiation detectors (germanium detectors, gas proportional counters, and liquid scintillators), sample collections and preparation (e.g. noble gas processing from whole air, noble gas purification, electrolytic enrichment of water samples for tritium measurements), and the fundamental development of radiation detectors and gas separations systems.

Opportunities will also be available for the Research Associate to participate in the DP Group's other applied radiation detection programs.

Applicants from diverse backgrounds, such as nuclear engineering, environmental sciences, and nuclear/particle physics are encouraged to apply. Experience with noble gas detectors with an understanding of the challenges associated with low-background techniques are beneficial. As well as sample processing and measurement for stable isotope geochronology.

A competitive salary and benefits package will be offered. PNNL, located in Richland, WA, is operated and managed by Battelle Memorial Institute for the U.S. Department of Energy.

Apply directly at <http://jobs.pnnl.gov/>.

Job IDs: 311134, 311135, 311172, 311174

### About Pacific Northwest National Laboratory

The Pacific Northwest National Laboratory, located in southeastern Washington State, is a U.S. Department of Energy Office of Science laboratory that solves complex problems in energy, national security and the environment, and advances scientific frontiers in the chemical, biological, physical, materials, environmental and computational sciences. The Laboratory employs 5,000 staff members, has a \$1 billion annual budget, and has been managed by Ohio-based Battelle since 1965.

For more information about the jobs mentioned here, please contact:

#### Jana Strasburg

Pacific Northwest National Laboratory  
P.O. Box 999, MS J4-60  
Richland, WA 99354  
(509) 375-2037  
[jana.strasburg@pnnl.gov](mailto:jana.strasburg@pnnl.gov)



## **CIMMS Post-Doctoral Research Associate Warn-On-Forecast Prediction Using Machine Learning**

The Cooperative Institute for Mesoscale Meteorological Studies (CIMMS) at The University of Oklahoma seeks to fill a Post-Doctoral Research Associate position for its collaborative research as a Cooperative Institute with the National Oceanic and Atmospheric Administration (NOAA) Office of Oceanic and Atmospheric Research (OAR) National Severe Storms Laboratory (NSSL). The Post-Doctoral Research Associate will participate in NSSL's Warn-on-Forecast (WoF) research program.

CIMMS in collaboration with NSSL is funded to develop and demonstrate a convection-allowing ensemble prediction system to improve warnings and forecasts of thunderstorm hazards. Increasing severe thunderstorm, flash flood, and tornado warning lead times is a key NOAA strategic mission goal designed to mitigate weather impacts on life, property, and the economy. Machine learning (ML) has proven an effective tool for post-processing convection-allowing ensemble output to produce probabilistic forecasts of individual thunderstorm hazards. ML models have already been developed for the prototype WoF System (WoFS) that is run annually in real-time during the warm season. As a CIMMS Post-Doctoral Research Associate working with NSSL, you will continue the development of WoFS-based ML models and interpretability tools for predicting severe weather. While you will need to be primarily self-directed, you will work closely with other members of NSSL's Warn-on-Forecast team.

The principal duties of this position are to:

1. Improve the existing WoFS-based ML prediction system, including implementation of additional ML and interpretability algorithms.
2. Facilitate the transfer of the WoFS-based ML prediction system into operations via collaborations with the National Weather Service and the NOAA Hazardous Weather Testbed.
3. Regularly present work at national conferences and publish in high-quality peer-reviewed journals.

The minimum qualifications for the position are:

1. A PhD in Meteorology or related area (or on target to complete PhD by December 2020)
2. United States citizenship or permanent residency
3. Experience analyzing output from convection allowing models
4. Experience with machine learning in meteorological applications
5. Proficiency with programming languages (preferably Python) and UNIX
6. Ability to work and communicate in a team environment

The beginning salary will be based on qualifications and experience with benefits provided through The University of Oklahoma (<https://hr.ou.edu/Employees>). The start date for the position is negotiable.

To apply for the position, please forward your CV, cover letter, and list of three references to:

CIMMS Careers  
University of Oklahoma CIMMS  
120 David L. Boren Blvd., Suite 2100  
Norman, OK 73072-7304  
[CIMMS-careers@ou.edu](mailto:CIMMS-careers@ou.edu)  
ATTN: WoF-ML

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# REU\* Site in Earth System Science at Colorado State University

## Department of Atmospheric Science

May 24 - July 30, 2021



### Why spend your summer with us?

- 10 week research experience
- \$6,000 stipend for the summer
- professional development training
- round trip airfare provided
- furnished and paid housing
- funded travel to present at a scientific meeting

### A successful candidate should:

- be a U.S. Citizen or Permanent Resident
- have completed at least two years of college
- have a GPA of 3.0 or higher
- have an interest in climate and weather

### Undergraduate Students majoring in:

Atmospheric Science, Chemistry, Computer Science, Earth Science, Engineering, Geosciences, Math, Meteorology, Physics, and other related sciences

ESMEI offers paid summer undergraduate research internships at Colorado State University in the Department of Atmospheric Science. Interns participate in a 10 week program from late May through July. This is an exciting research opportunity in beautiful Fort Collins, Colorado. Join world-class atmospheric scientists investigating the science of clouds, climate and climate change, weather, and modeling. During our program interns will have the opportunity to attend scientific seminars, visit National Scientific Laboratories, and participate in a variety of professional development training.

**For more information and to apply, visit:** <http://esmei.colostate.edu/reu.html>

**Application deadline:** February 5, 2021

**Contact:** Dr. Melissa A. Burt, [melissa.burt@colostate.edu](mailto:melissa.burt@colostate.edu)



**Colorado State University**

## CIMMS Real-Time Modeling Research Fellow

The Cooperative Institute for Mesoscale Meteorological Studies (CIMMS) at the University of Oklahoma (OU) is currently seeking a Half-Time (0.5FTE) Research Fellow to oversee and maintain real-time model forecast systems for NOAA's National Severe Storms Laboratory (NSSL). Specifically, these systems include, (1) the NSSL-WRF, which is a permanent experimental modeling framework providing storm-scale guidance to the Storm Prediction Center (SPC) and serving as a testing ground developing storm-scale model diagnostics, (2) the NSSL-FV3, a limited area version of the Finite Volume Cubed Sphere model, which NOAA has selected as the dynamics core for its Unified Forecasting System initiative, and (3) the Warn-on-Forecast System (WoFS), a rapidly updating, convection-allowing ensemble being developed by NSSL to extend hazardous weather warning lead times and provide probabilistic forecast guidance within the watch to warning (i.e., 0.5 – 6-h) time frame. The NSSL-WRF and NSSL-FV3 are run daily on Jet, a NOAA High-Performance Computing (HPC) cluster, while WoFS is an on-demand system run internally at NSSL when significant severe weather is expected. However, the incumbent would lead implementation of WoFS on Jet. All job duties may be performed remotely.

The principal duties of this position are:

1. Oversee and maintain the NSSL-WRF and NSSL-FV3 real-time forecast systems on Jet. This involves checking the runs daily to make sure they've run successfully, working with Jet administrators when there are problems, and informing NSSL, CIMMS, and SPC staff when there are problems or delays.
2. Occasionally working with CIMMS, NSSL, and SPC staff to facilitate additional experimental model runs for limited time periods, for example, during Hazardous Weather Testbed Spring Forecasting Experiments.
3. Implement WoFS on NOAA's Jet HPC and clearly document the workflow. Oversee and maintain WoFS on Jet when needed and/or train others for these duties.

The minimum qualifications for the position are:

1. A Master's Degree in Meteorology, Atmospheric Science, or related area.
2. Expert knowledge and experience conducting weather forecast model simulations on High-Performance Computing clusters.
3. Experience and proficiency running NOAA's Warn-on-Forecast System.

Excellent coding skills and experience in languages such as Fortran and Python are highly desired, as well as proficiency in shell scripting (e.g., bash, ksh, tcsh, etc.). Excellent oral and written communication skills are also highly desired. Applicants should identify experience with HPC, programming and scripting languages, numerical weather prediction, and graphic design/visualization.

Work can be conducted remotely and working hours depend upon requirements of real-time systems (e.g., late evening hours and/or early morning hours may be required to ensure model runs have started and/or finished). CIMMS staff will provide general supervision with technical oversight provided by NSSL scientific staff and management. The incumbent works under general supervision, but is expected to work independently and determine action to be taken in handling all but unusual situations.

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CIMMS Careers  
University of Oklahoma  
120 David L. Boren Blvd., Suite 2100  
Norman, OK 73072-7304  
CIMMS-careers@ou.edu  
Attn: CIMMS Real-Time Modeling

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# VISITING SCHOLARS SERIES

## BRIONY HORGAN



IS THERE OTHER LIFE IN THE

# UNIVERSE?

*“ If we show signs of ancient life on Mars, that is going to open up a whole new field of science trying to understand the origins of not just life on Mars but also our own planet.*”

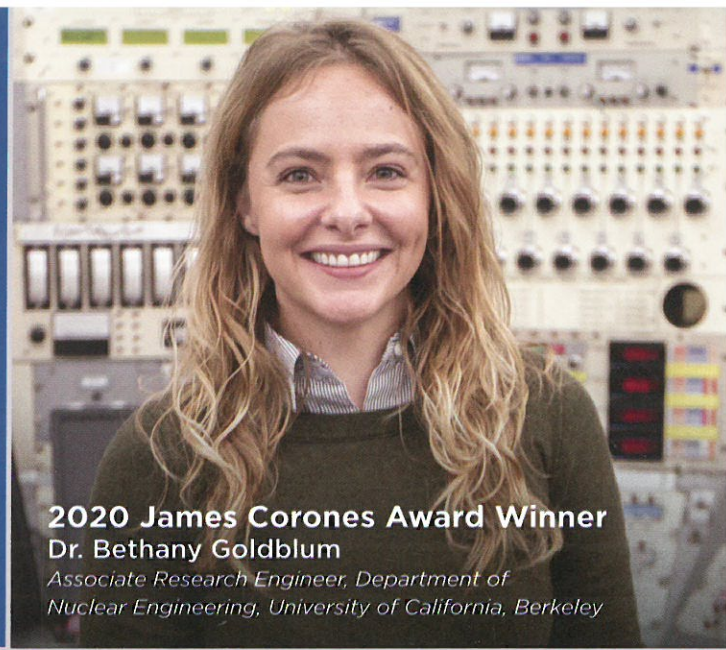
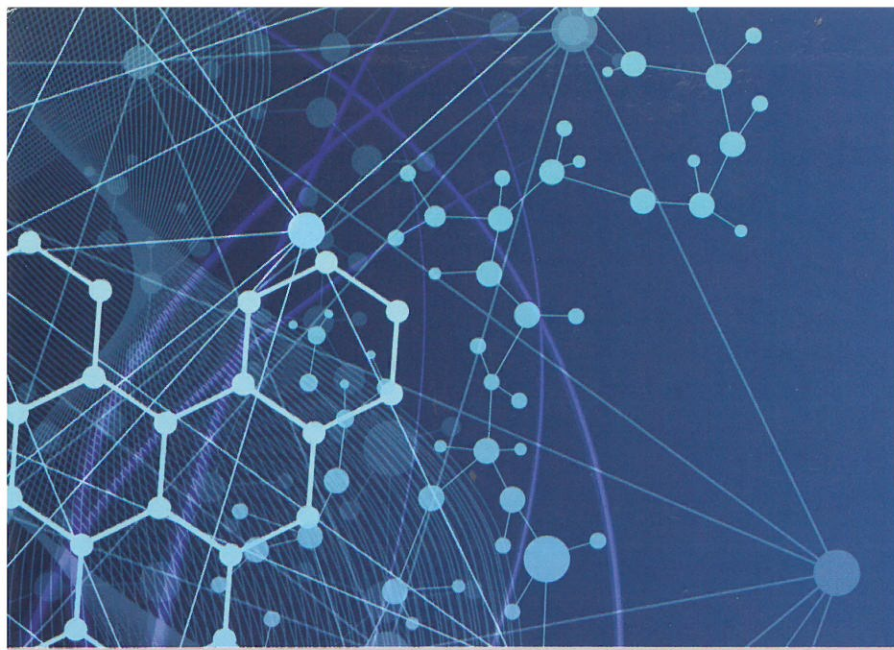
VIRTUAL EVENT  
**OCT. 29**  
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“PURDUE HONORS”  
YOUTUBE

Every rock on Mars is a time capsule for Professor Briony Horgan, potentially holding information from billions of years ago that could help answer questions about life in the universe today. Horgan will soon delve into those questions by searching for evidence of past microbial life as part of the NASA Mars rover Perseverance mission. Perseverance is set to land in Jezero Crater, just north of the planet’s equator, this February. Horgan was part of the science team that identified the area as a good target.

Simple life forms such as microbes allow researchers to understand how rare or common life is in the universe. At this point, Earth is the only data to help scientists determine how and where life forms and evolves. Join Horgan in an interactive Q&A session, as we explore the exciting possibilities of this mission and its far-reaching implications.





**2020 James Corones Award Winner**  
**Dr. Bethany Goldblum**

*Associate Research Engineer, Department of Nuclear Engineering, University of California, Berkeley*

# THE JAMES CORONES AWARD Now Accepting Nominations



**The James Corones Award in Leadership, Community Building and Communication** recognizes the impact of mid-career scientists and engineers on their chosen fields across a range of areas.

Its namesake, a distinguished researcher and administrator, founded the Krell Institute, a nonprofit organization dedicated to serving the science and education communities. Under his guidance, Krell grew to supervise many projects and programs, most notably two prestigious Department of Energy-sponsored education initiatives: the Computational Science Graduate Fellowship (DOE CSGF) and the National Nuclear Security Administration Stewardship Science Graduate Fellowship (DOE NNSA SSGF). Jim retired from the company in December 2016 and died on April 28, 2017, after a long illness.

**Broad eligibility:** Mid-career researchers at a national laboratory, at an academic institution or in industry.

**Prize:** A cash award of \$2,000 and an engraved gift.

For nomination procedures, deadlines and more information, including how to donate to the award fund, please visit <https://www.krellinst.org/about-krell/corones-award>.



**Dr. Rebecca Hartman-Baker**  
**2019 Winner**

## **CIMMS Research Scientist at the Storm Prediction Center Satellite Proving Ground Liaison**

The Cooperative Institute for Mesoscale Meteorological Studies (CIMMS) at The University of Oklahoma (OU) is currently looking for a Research Scientist to work with the NOAA/NWS Storm Prediction Center (SPC). This position will be located at the SPC in Norman, OK, which is housed within the National Weather Center (NWC), a highly collaborative operational, research, and academic environment containing a number of NOAA and OU organizations. Here you will work directly with development meteorologists and operational forecasters at the SPC and will have opportunities to interact with NOAA and academic scientists within the NWS, NOAA's Satellite and Information Service (NESDIS), and the broader meteorological community.

As a CIMMS Research Scientist working with SPC, you will provide scientific and meteorological expertise, along with leadership, satellite expertise, and technical support for the Satellite Proving Ground effort in Norman, OK. More specifically, the list below describes potential projects:

1. Serve as a "Satellite Liaison" at the SPC, leading Satellite Proving Ground efforts on satellite-based hazardous weather products and demonstrating the unique and complementary value of satellite information to forecasters;
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3. Design and execute tests and validation of proposed new satellite-dependent products, decision aids, and best practices for operational forecasters with an emphasis on exploring the value of advanced satellite products for detection and short-term prediction of convective storms and associated hazards;
4. Serve as "implementation expert" for selected planned satellite products and their proxies;
5. Plan, develop, and lead satellite portions of Hazardous Weather Testbed experiments, serving as the focal point for satellite-centered activities for both the Experimental Warning Program and the Experimental Forecast Program;
6. Lead satellite components of any field excursion experiments headquartered out of the National Weather Center requiring satellite expertise;
7. Bridge satellite-related activities between the NOAA FACETs initiative, the NWS, and NESDIS;
8. Lead the NESDIS effort within the HWT by contributing to formal scientific publications and attending off-site conferences, symposia, and hazardous weather-related outreach events;
9. Develop synergy and shared accomplishments with the OCLO Satellite Training Team and Satellite Proving Grounds at NOAA National Centers, Training Centers, and Cooperative Institutes; and
10. Other duties as assigned.

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The minimum qualifications for the position are:

1. A Doctoral Degree in Meteorology, Atmospheric Science, or a related area; and
2. United States citizenship or permanent residency.

When applying, please include information related to your experience with satellite meteorology, remote sensing, and associated datasets. Of particular interest is your application of these experiences in software development, web development, graphic design/visualization, and Linux (UNIX) environments, including the AWIPS2/N-AWIPS systems. Lastly, your ability to communicate clearly is crucial to being successful in this position.

Normal working hours will be observed except for occasional irregular hours during data collection, warning/forecast experiments, or workshops conducted at remote locations. Additionally, occasional travel is expected. General supervision will be provided by CIMMS staff with technical oversight provided by SPC management. You will work under general supervision but are expected to work independently and determine action to be taken in handling all but unusual situations. This is a non-supervisory position, although you may serve as a leader of technical teams. Salary is based on your education, experience, skills, and knowledge. Information on University of Oklahoma benefits may be found at <https://hr.ou.edu>.

Review of applications will begin on **26 October 2020** and continue until the position is filled. To apply, please submit your resume/CV, cover letter, and list of three (3) references to:

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Norman, OK 73072-7304  
Attention: SPC-SAT  
[CIMMS-careers@ou.edu](mailto:CIMMS-careers@ou.edu)



## CIMMS Peter Lamb Postdoctoral Fellowship

The Cooperative Institute for Mesoscale Meteorological Studies (CIMMS) at the University of Oklahoma has established the Peter Lamb Postdoctoral Fellowship that is offered annually. CIMMS is a research organization that promotes collaborative research between National Oceanic and Atmospheric Administration (NOAA) and University of Oklahoma (OU) scientists on problems of mutual interest. This collaborative basic and applied research includes the study of mesoscale and storm-scale meteorological phenomena to help produce better forecasts and warnings that save lives and property and the investigation of the societal impacts of such phenomena. Research scientists within CIMMS use observations, analysis and models to improve the understanding and prediction of high-impact weather elements and systems ranging in size from cloud nuclei to multi-state areas.

Applications must include a 3-4 page *novel proposal* developed by the applicant that addresses at least one of the CIMMS research themes: 1) weather radar research and development; 2) storm-scale and mesoscale modeling research and development; 3) forecast improvements research and development; 4) impacts of climate change related to extreme weather events; and 5) societal and socioeconomic impacts of high-impact weather systems. Applicants are *highly encouraged* to contact a CIMMS scientist to receive guidance when drafting a research proposal. The CIMMS website <http://cimms.ou.edu/index.php/research> has more information on projects underway within these research themes as well as contact information for CIMMS scientists working on these themes.

Terms of appointment are for one (1) year, renewable for a second year subject to satisfactory performance. An annual salary of \$60,000 and a research budget of up to \$5,000 per year is included in the award, along with a modest relocation stipend. Successful applicants must have obtained a Ph.D. within the last five years; proof of a Ph.D. is required before assuming the post-doctoral position, but those in the final stages of Ph.D. dissertation completion are encouraged to apply provided a finish date before July 31, 2021 is anticipated.

Applicants are asked to submit electronically: (1) a curriculum vitae; (2) a list of all products (e.g., papers, patents, technology transfers, licensed software, etc.) generated over the course of their career; (3) a cover letter which includes the expected start date and any non-standard resources that might be needed to complete the proposed work; (4) a brief proposal (no more than 4 pages, double-spaced, excluding the list of references and figures) describing the work to be pursued during a 2-year tenure at CIMMS; and (5) a list of three references. In addition, applicants should request that their referees directly send their reference letters to CIMMS at the email address listed below.

To receive full consideration, applications and supporting material should be received prior to January 31, 2021. All materials should be sent electronically to:

Cooperative Institute for Mesoscale Meteorological Studies (CIMMS)  
The University of Oklahoma  
[CIMMS-careers@ou.edu](mailto:CIMMS-careers@ou.edu)  
ATTN: Peter Lamb Postdoctoral Fellowship

PLEASE SAVE THE DATE



FOR THE ANNUAL  
**ENGAGEMENT & SERVICE-LEARNING SUMMIT**  
TO BE HELD VIRTUALLY ON

THURSDAY, MARCH 4, 2021 FROM 9:00 - 11:30 AM (EST) VIA ZOOM

REGISTRATION OPENS JANUARY 2021

**FACULTY & STAFF:**

Connect with community partners and broaden your research impacts

**STUDENTS:**

Submit a digital engagement story for the event's virtual showcase

**COMMUNITY:**

Find faculty and courses to help address your organization's needs

**"THIS WAS A WONDERFUL WAY TO GET TO KNOW NOT JUST PURDUE, BUT ALSO THE ENTIRE LAFAYETTE COMMUNITY. EVERYONE WAS SO INTERACTIVE AND COLLABORATIVE. GREAT EVENT OVERALL!"**

**OFFICE OF ENGAGEMENT COMMUNITY PARTNER**

This event serves to bring together faculty, staff, students, and community partners to discuss best practices in engagement and service-learning, highlight accomplishments, and increase collaboration opportunities. This year's virtual event will feature three tracks: a beginning track on networking and partnership formation and two advanced tracks on broader research impacts. A showcase featuring student digital engagement stories will conclude the Summit. There is no cost to attend; however, registration is required and will open in January 2021.

HOSTED BY THE OFFICE OF ENGAGEMENT

## CAREER PREP

- Preparing for Behavioral Interview Questions (1/27)
- LinkedIn (2/2 & 3/31)
- Business Meal Etiquette (2/23 & 3/30)
- Comparing Job Offers (3/17 & 4/6)
- Personal Branding (4/20)
- The Cover Letter (4/22)
- Networking (4/28)
- Negotiating the Job Offer (4/29)

## ACADEMIC CAREER TRACK

- An Overview of the Academic Job Interview (2/5)
- Preparing a Teaching Demo (2/11)
- Writing a Teaching and Diversity Statement (2/17)
- Ask a Postdoc Panel (2/24)
- Publishing a Scientific Paper (4/22)
- Crafting Your Teaching Narrative: Teaching Statements (3/1)

## INDUSTRY CAREER TRACK

- Entrepreneurship as a Career Path (2/2)
- Interviewing for Industry Positions (2/18)
- Converting your CV to a Resume (4/21)

## WELLNESS

- Managing Uncertainty in the Time of COVID-19 (1/19 & 3/4)
- Time Management (1/20 & 2/19)
- Sleeping for Success (1/28 & 4/6)
- Budgeting & Saving Money (1/28 & 3/16)
- Setting Yourself Up To Win in Grad School (2/3 & 4/1)
- Let's Talk Taxes! (2/3 & 3/4)
- Mindfulness (2/5 & 3/16)
- Impostor Syndrome (2/9 & 3/17)
- Planning to Graduate On Time (2/25 & 3/2)
- Break Out From Burn Out (3/11)
- Success Over Stress (3/24 & 4/14)
- Eat Right When Your Budget is Tight (3/25)
- Credit Cards & Credit Scores (4/1 & 4/14)
- Healthy Eating on the Run (4/20)
- Debt Management (4/21)
- Preparing to Buy a House (4/29)

# InnovatED

*PURDUE'S PREMIER GRADUATE RESEARCH MAGAZINE*

Learn to write popular-press pieces for research magazines, develop your research communication skills, and share your inspirational graduate research! Learn more at <https://bit.ly/GRADINNOVATED>.



**SUBMISSION DEADLINE: 01/29/21**

**RESEARCH & ETHICS**

- **RCR:** What You Should Understand About Copyright Before Publishing (2/1)
- Conducting a Literature Review (2/4)
- Data Quality Management (2/10)
- **RCR:** Overview of RCR (2/11 & 3/18)
- **RCR:** Research Integrity in Engineering and Technology (2/23)
- Citation Management with Zotero (2/26)
- What you NEED to know about thesis formatting and depositing (3/3 & 3/4)
- Understanding The Animal Welfare Act and the 3Rs of Alternatives in Animal Research (3/8)
- **RCR:** Authorship & Publishing (3/9 & 3/19)
- Navigating Databases and How to Conduct a Literature Search (4/20)
- Using Voyant Tools for Systematic Review Searches (3/11)
- Deciding Where to Publish & Present Your Work (3/26)

**COMMUNICATION**

- How to Deliver a Winning Presentation (2/10)
- The Elevator Pitch (3/25)
- How to Create a Winning 3MT Presentation (3/30 & 4/7)
- Using Data to Tell a Story (4/6)

**GRANTSMANSHIP**

- NIH Fellowship F31 Info Session (1/13 & 2/2)
- NIH Fellowship F32/K-award Info Session (1/14 & 2/4)
- How to Find and Prepare for Fellowship Applications (2/9)
- Personal Statements for Fellowships (2/11)
- NC-SARE Fellowship (Agricultural Research) Info Session (2/25)
- Letters of Recommendation for Fellowships (3/3)
- Research Statements for Fellowships (3/10)
- How to Plan a Research Project for a Grant or Fellowship App (3/23)
- Fellowship Application Editing (3/31)

**POSTDOCS**

- Postdoc Grant Writing: Logic Flow (1/21)
- Postdoc Orientation (1/29, 3/12, 4/30)
- Postdoc Grant Writing: NSF (2/18)
- Postdoc Grant Writing: Grant Solicitations and Funding (3/18)
- Postdoc Grant Writing: Postdoc Fellowship Applications (4/15)

**DIVERSITY**

- You are so articulate: Examining Microaggressions (2/16)
- Ostracism (3/4 & 3/5)
- Boys will be Boys: Addressing Gender Bias & Intersectionality (4/14)

**ALL SPRING 2021**  
**WORKSHOPS ARE**  
**VIRTUAL**