## EAPS WEEKLY NEWSLETTER

09 November 2020

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

Facebook <u>Twitter</u>
<u>LinkedIn</u> <u>Instagram</u>

Department Magazine <u>Website News</u>



#### **EAPS COLLOQUIA**

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.

Ian Garrick-Bethell University California, Santa Cruz **Thursday, NOVEMBER 12, 2020** 3:30 PM Remote

[See attached flyer for schedule]

#### MS DEFENSE

Brandon Keough – MS Defense November 9, 2020 10:00AM Advisor: Kenneth Ridgway



**EAPS MEETINGS & EVENTS** 

FACULTY MEETINGS (3-5/pm Remote)

November 10 December 8 (if necessary)

EAPS K-12 OUTREACH CALENDAR OF EVENTS

http://www.eaps.purdue.edu/outreach/Outre ach News.html

REPORT YOUR OUTREACH AND ENGAGEMENT ACTIVITIES

http://bit.ly/EAPSOut

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#### **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 section for your next grant? Contact our K-12 Outreach Coordinator, Steven Smith (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, <a href="https://www.youtube.com/c/SuperheroesofScience">https://www.youtube.com/c/SuperheroesofScience</a>.

Facebook <a href="https://www.facebook.com/EAPS.out">https://www.facebook.com/PurdueSOS</a>
Twitter (@Purdue SOS)

EAPS departmental outreach web page:
<a href="http://www.eaps.purdue.edu/outreach/index.html">http://www.eaps.purdue.edu/outreach/index.html</a>.



#### 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]

#### 2020-21 CoS GRADUATE STUDENT TRAVEL AWARD

Application Submission Deadline: 4:00 pm November 25, 2020

For travel between January 1 and June 30, 2021

#### **Prerequisites:**

- Must be a full-time PhD student within a Department in the College of Science.
- Must be making an oral or poster presentation at a virtual conference. Due to the pandemic, we will consider requests to cover registration fee tor both US and international virtual conferences (up to \$300 per award).

#### Priority will be given to:

- Participation in a virtual international conference to make an oral presentation
- Participation in an interdisciplinary conference
- Students who have passed their prelims

#### To apply, please send electronically as one file:

- CV (2 page limit)
- Brief summary of research (1 page limit)
- Brief statement of purpose for attending conference specifying whether your presentation is oral or poster
- Provide web link to conference
- Letter of support from research advisor

Send applications to Angie Teel at teel@purdue.edu

[Flier attached]

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#### 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 stormscale 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]

#### **ACCUWEATHER METEOROLOGIST**

AccuWeather has an opening for a Meteorologist in their forecasting department that they want to fill by the beginning of 2021. Any recent graduates or those who are graduating in December who are looking for an operational meteorology position, please consider applying. We are looking for candidates with strong meteorological knowledge, excellent communication skills, an upbeat and positive personality, and a track record of being a leader.

The online application can be found here: <a href="https://corporate.accuweather.com/company/careers/">https://corporate.accuweather.com/company/careers/</a>.

#### LAURA BASSI SCHOLARSHIP TAKING APPLICATIONS

The Laura Bassi Scholarship, which awards a total of \$8,000 thrice per annum, was established by Editing Press in 2018 with the aim of providing editorial assistance to postgraduates and junior academics whose research focuses on neglected topics of study, broadly construed. The scholarships are open to every discipline and the next round of funding will be awarded in December 2020:

Winter 2020

Application deadline: 25 November 2020 Results: 20 December 2020

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All currently enrolled master's and doctoral candidates are eligible to apply, as are academics in the first five years of their employment. Applicants are required to submit a completed application form along with their CV through the application portal by the relevant deadline. Further details, previous winners, and the application portal can be found at: <a href="https://editing.press/bassi">https://editing.press/bassi</a>

#### EAPS OUTREACH COMMITTEE LOOKING FOR YOUR HELP

Are you interested in science communication? Be involved in the Purdue Kids Science Degree program!

Send a 3-5 minute video explaining one science concept of any topic for Kindergarten to  $5^{\rm th}$  grade students.

For more information contact <a href="mailto:lchavesm@purdue.edu">lchavesm@purdue.edu</a>

[See flier attached]

#### SULI ACCEPTING APPLICATIONS FOR 2021 TERM

DOE's Science Undergraduate Laboratory Internships (SULI) Program is now accepting applications for the 2021 Summer Term: <a href="https://science.osti.gov/wdts/suli">https://science.osti.gov/wdts/suli</a>. Applications are due January 12, 2021.

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SULI encourages undergraduate students and recent graduates to pursue science, technology, engineering, and mathematics (STEM) careers by providing research experiences

DOE laboratories. Selected students participate as interns appointed at one of 17 participating DOE laboratories/facilities. They perform research, under the guidance of laboratory staff scientists or engineers, on projects supporting the DOE mission.

The SULI program is sponsored and managed by the DOE Office of Science's, Office of Workforce Development for Teachers and Scientists (WDTS) in collaboration with the DOE laboratories/facilities.

Frequently asked questions:

https://science.osti.gov/wdts/suli/Frequently-Asked-Questions

How to apply:

https://science.osti.gov/wdts/suli/How-to-Apply

#### DEPARTMENT OF ENERGY COMPUTATIONAL SCIENCE GRADUATE FELLOWSHIP

The Department of Energy Computational Science Graduate Fellowship provides up to four years of financial support for students pursuing doctoral degress in fields that use high-performance computing to solve complex problems in science and engineering.

The program also funds doctoral candidates in applied mathematics, statistics, or computer science who undertake research that will contribute to more effective use of emerging high-performance systems. Complete details and a listing of applicable research areas can be found on the DOE CSGF website.

Open to senior undergraduates and students in their first year of doctoral study. www.krellinst.org/csgf

Applications Due: January 13, 2021

[See attached flier for additional information]

#### JAMES CORONES AWARD ACCEPTIONING 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 aift.

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

https://www.krellinst.org/about-krell/coronesaward

[Flier attached with additional information]

#### 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]

#### 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

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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/

#### 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=8qo9ykKtdu Q

#### 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

#### 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: <a href="https://bit.ly/32RrPkE">https://bit.ly/32RrPkE</a>

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: <a href="https://bit.ly/32RrPkE">https://bit.ly/32RrPkE</a>

#### 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: <a href="https://bit.ly/3bEORz8">https://bit.ly/3bEORz8</a>

#### 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

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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]

#### GLOBAL GEOPHYSICIST ASSISTANT PROFESSOR POSITION – PRINCETON UNIVERSITY

Princeton University is looking for applicants with expertise, research and teaching interests in Earth and planetary geophysics, seismology, geodynamics, or mineral physics. The Department is especially interested in candidates who will contribute to the diversity and excellence of our academic community.

The successful candidate will complement our existing strengths and areas of concentration, and enjoy cross-disciplinary ties with University

Programs such as the Program in Applied and Computational Mathematics (PACM), Princeton Center for Complex Materials (PCCM), the Princeton Institute for Computational Science and Engineering (PICSciE), the Princeton Institute for the Science and Technology of Materials (PRISM), and other Science Departments.

Applicants should send a curriculum vitae, including a publication list, a statement of research and teaching interests, a separate statement outlining how they see themselves contributing to our mission of building a diverse and inclusive discipline with a strong department, and contact information for three references to: https: <a href="https://www.princeton.edu/acad-positions/position/17221">https://www.princeton.edu/acad-positions/position/17221</a>. Evaluation of applications will begin as they arrive; for fullest consideration, apply by December 21, 2020, but applications will be accepted until the position is filled.

Diversity and inclusion are central to Princeton University's educational mission and its desire to serve society. Members of the Geosciences department have a deep commitment to being

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inclusive. We believe that commitment to principles of fairness and respect for all is favorable to the free and open exchange of ideas, so we seek to reach out as widely as possible in order to attract the ablest individuals as students, faculty, and staff. In applying this policy, we are committed to nondiscrimination on the basis of personal beliefs or characteristics such as political views, religion, national or ethnic origin, race, color, sex, sexual orientation, gender identity or expression, pregnancy, age, marital or domestic partnership status, veteran status, disability, aenetic information and/or other characteristics protected by applicable law in any phase of its education or employment programs or activities.

#### NOAA HOLLINGS UNDERGRADUATE SCHOLARSHIP

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

Link: <a href="https://www.noaa.gov/office-education/hollings-scholarship">https://www.noaa.gov/office-education/hollings-scholarship</a>

#### ATMOSPHERE 2021 YOUNG INVESTIGATOR AWARD

We are pleased to announce that the 2021 Atmosphere Young Investigator Award (https://www.mdpi.com/journal/atmosphere/awards) is now open for nominations. The winner will be awarded 2000 CHF.

#### **Eligibility Criteria**

- 1) Ground-breaking contribution to the advancement of atmosphere studies;
- 2) Be planning an investigative career in atmosphere;
- 3) Age under 35 years (this is not a strict limitation; if you are 35 or over, you are welcome to contact us and we will happily review your request).

#### **Application Materials**

1) An up-to-date full Curriculum Vitae including publication history, scientific presentations, research achievements, and prior recognition of work (awards and funding);

- 2) A short essay highlighting your research achievements and impact in no more than 500 words:
- 3) Nomination letters from two recognized scientists in the field of atmosphere;
- 4) Ph.D. certificate.

We welcome nominations for this award **until 30 November 2020**. Application materials should be submitted via the link:

https://www.mdpi.com/journal/atmosphere/awar ds/submit/931.

The winner will be announced on 30 December 2020.

#### CLIMATE AND EXTREME WEATHER OPPORTUNITIES

Central Michigan University is currently seeking two Ph.D. students to pursue an opportunity at the climate/weather extreme interface at the

Department of Earth and Atmospheric Sciences. These positions are supported by two grant funded four-year research assistantships as part of

a project to further our understanding the processes that lead to severe convection around the globe and the links of these phenomena to a changing climate.

This project is all about the connection of scales, and working with large reanalysis and climate model datasets to explore favorable environmental conditions and our ability to resolve these environments. This position would suit students with either an interest in the impacts of climate change on extremes, or a more fundamental interest into the links between processes that lead to favorable severe storm environments and larger scales. In either direction, an interest in statistics and large datasets is a plus.

Start date for the position is flexible, with a start anywhere between Fall 2020 and 2021. Ideally, the applicants would have an M.S. in meteorology, atmospheric sciences, environmental data science or climate science, but I would also consider exceptional bachelors level applicants.

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If you would like more information or know of interested parties please feel free to send an email to me, John T. Allen (allen4jt@cmich.edu).

Details about our group at CMU can be found at the following link:

http://people.cst.cmich.edu/allen4jt/allen\_home page.html



#### RETURN TO CAMPUS COVID-19 STUDENT TESTING PLANNED FOR SPRING 2021

Purdue is making plans for return-to-campus COVID-19 testing for spring 2021, in a manner similar to the pre-arrival residential student testing conducted before the start of the fall 2020 semester. Specific details about available testing options, a timeline for testing and how students can be cleared for campus by the Protect Purdue Health Center will be **shared by Nov. 15, 2020**. Students planning to experience the spring 2021 semester in-person will be required to complete this process.

#### CALL THE PROTECT PURDUE HEALTH CENTER IF YOU ARE EXPERIENCING SYMPTOMS OF COVID-19

If you are exhibiting symptoms of COVID-19, all Purdue students, faculty members and staff should immediately contact the Protect Purdue Health Center 24/7 at 765-496-INFO (4636) or toll-free at 833-571-1043 and pressing option "1." A call tree option will be available after hours to connect individuals to the Protect Purdue Health Center case manager as well as the option to leave a voicemail. Individuals experiencing an emergency should always call 911. The Centers for Disease Control and Prevention provides a list of symptoms here.

#### OFFICE OF THE DEAN OF STUDENTS Student Support Services

Fall 2020 Updates

Here in the Office of the Dean of Students - Student Support Services we are continuing to make adjustments to our processes in order to ensure all of our services remain available to students and in a way that we are doing our part to Protect Purdue. We are here to help students succeed and feel supported. Below is a brief overview of some of the services we provide in our office and how students can access them at this time.

#### Office Information

- New Hours of Operation: Monday through Friday, 8:00am-12:00pm and 1:00pm-5:00pm.
- As part of our effort to Protect Purdue, we will have limited staff in our office at 207 Schleman Hall. Students are encouraged to call or email to discuss concerns or schedule an appointment for a phone call or video meeting.
- While students are encouraged to call or email to discuss concerns or schedule an appointment for a phone call or video meeting, staff will be available to meet in person should a student need to do so during hours of operation.
- Email: odos@purdue.edu
- Phone: 765-494-1747
- Website:

https://www.purdue.edu/advocacy/students/

#### **Absence Notifications**

- Our office can provide absence notifications for Grief Absence, Military Absence, and Jury Duty.
- To request a notification for these 3 approved absences, students should submit the appropriate request form at

https://www.purdue.edu/advocacy/students/absences.html.

- Students may also contact our office with any questions or to make a request.
- Documentation is required to verify these absences.
- For all other types of absence, the student should work with their instructor directly.
- New for fall approved absence for students on Jury Duty up to 10 days per semester.
- Grief Absence leave times for students have been increased: up to 5 days within a 2-week period for immediate family and up to 3 days in a 2-week period for all others.

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#### **Emergency Loans**

- Registered students may borrow up to \$1000 at a time and up to \$2000 a semester. Summer is its own semester.
- 30 day interest-free loan.
- Obtaining an emergency loan is currently being done through a combination of phone and email communication. Students are encouraged to call ODOS to begin the borrowing process and will no longer be able to complete an application in our office. We will give them everything they need to do the application on their own computers.
- Criteria and additional information can be found at

https://www.purdue.edu/advocacy/students/financial/emergencyloan.html

#### Withdrawal

- ODOS advises students on the process of a complete withdrawal and facilitates the process for students to withdraw from all of their current courses after the start of the semester.
- Our office will encourage students to consult with their academic advisor, financial aid, scholarship advisors, family, 3rd-party payers, housing, ISS and others prior to initiating a withdrawal.
- Withdrawal deadlines and refund information for fall 2020 can be found at <a href="https://www.purdue.edu/registrar/documents/calendars/dropAddDeadlines/schedReviseCalFall.pdf">https://www.purdue.edu/registrar/documents/calendars/dropAddDeadlines/schedReviseCalFall.pdf</a>
- Additional withdrawal information can be found at <a href="https://www.purdue.edu/advocacy/students/withdrawal.html">https://www.purdue.edu/advocacy/students/withdrawal.html</a>

#### **General Student Support**

- We provide individual one-on-one support to students who may be navigating personal, financial, or academic concerns.
- We connect students to campus and community resources that can provide them with support specific to their needs.
- We can maintain continued communication and support with the student based upon their individual needs.
- Information shared with our office is protected by FERPA and we strive to maintain privacy; however, we are not a confidential resource and have reporting responsibilities in certain situations.
- The student can email (<u>odos@purdue.edu</u>) or call (765-494-1747) our office to get connected

- with a Student Support Specialist. Together the student and Student Support Specialist determine the preferred method to meet whether it will be by phone or video meeting.
- We provide individual one-on-one support to students who may be navigating personal, financial, or academic concerns.

#### **Student of Concern**

• If you have concerns for a student – including students being impacted by COVID (directly or

indirectly) – submitting a Student of Concern Report (<u>www.purdue.edu/studentconcernform</u>) will prompt outreach from a member of the Office of the Dean of Students.

#### Quarantine / Isolation

• If you hear of a student that has been advised by the PPHC or other medical personnel to quarantine or self-isolate, please instruct them to e-mail <a href="mailto:odos@purdue.edu">odos@purdue.edu</a> as soon as possible. We will then follow up with them to offer support, send out an absence notification on their behalf and connect them to an Academic Case Manager.

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#### 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 <a href="http://www.eaps.purdue.edu/news/newsletters.html">http://www.eaps.purdue.edu/news/newsletters.html</a> and Click on News to access active links as needed. Material for inclusion in the newsletter should be submitted to Katherine Huseman (<a href="https://khuseman@purdue.edu">khuseman@purdue.edu</a>) 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: <a href="http://www.eaps.purdue.edu/resources/information-technology/index.htm">http://www.eaps.purdue.edu/resources/information-technology/index.htm</a>.

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



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### PURDUE UNIVERSITY Department of Earth, Atmospheric, and Planetary Sciences Colloquia – Fall 2020 Thursdays at 3:30 PM, Remote (unless noted)

August 27	1 Minute Research Madness Blitz; EAPS Faculty, Students	
Sept. 3	Natasha Harris, Assistant Director of Science Diversity	Host: Haber
Sept. 10	Lisa Welp, EAPS, Purdue University	
Sept. 17	Marty Frisbee, EAPS, Purdue University	
Sept. 24	Dan Chavas, EAPS, Purdue University	
October 1	Nicholas Dygert, University of Tennessee	Host: Eddy
October 8	Marisa Palucis, Dartmouth	Host: Garcyznski
October 1	Stephen Nesbitt, University of Illinois, Urbana-Champaign	Host: A. Johnson
October 2	2 Jose Cerrato, New Mexico	Host. A. Singleton
October 2	Jana Houser, Ohio University	Host: Tanamachi
Nov. 5	Nicole Zellner, Albion College	Host: Minton
Nov. 12	Ian Garrick-Bethell, Univ. California, Santa Cruz	Host: McFadden
Nov. 19	Deanna Hence, Univ. of Illinois, Urbana-Champaign	Host: Tanamachi
Nov. 26	THANKSGIVING BREAK - No Seminar	
Dec. 3	TBD	
Dec. 10	AGU	

#### 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 (<a href="https://hr.ou.edu/Employees">https://hr.ou.edu/Employees</a>). 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
ATTN: WoF-ML

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

#### **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 <a href="https://hr.ou.edu/Employees">https://hr.ou.edu/Employees</a>.

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.

#### 2020-21 College of Science Graduate Student Travel Award

Application Submission Deadline: 4:00 pm November 25, 2020

For travel between January 1, 2021 and June 30, 2021

#### **Prerequisites:**

- Must be a full-time PhD student within a Department in the College of Science.
- Must be making an oral or poster presentation at a virtual conference. Due to the pandemic, we will consider requests to cover registration fee tor both US and international virtual conferences (up to \$300 per award).

#### Priority will be given to:

- Participation in a virtual *international* conference to make an oral presentation
- Participation in an interdisciplinary conference
- Students who have passed their prelims

#### To apply, please send electronically as one file:

- CV (2 page limit)
- Brief summary of research (1 page limit)
- Brief statement of purpose for attending conference specifying whether your presentation is oral or poster
- Provide web link to conference
- · Letter of support from research advisor

Send applications to Angie Teel at teel@purdue.edu



# ARE YOU INTERESTED IN SCIENCE COMMUNICATION?

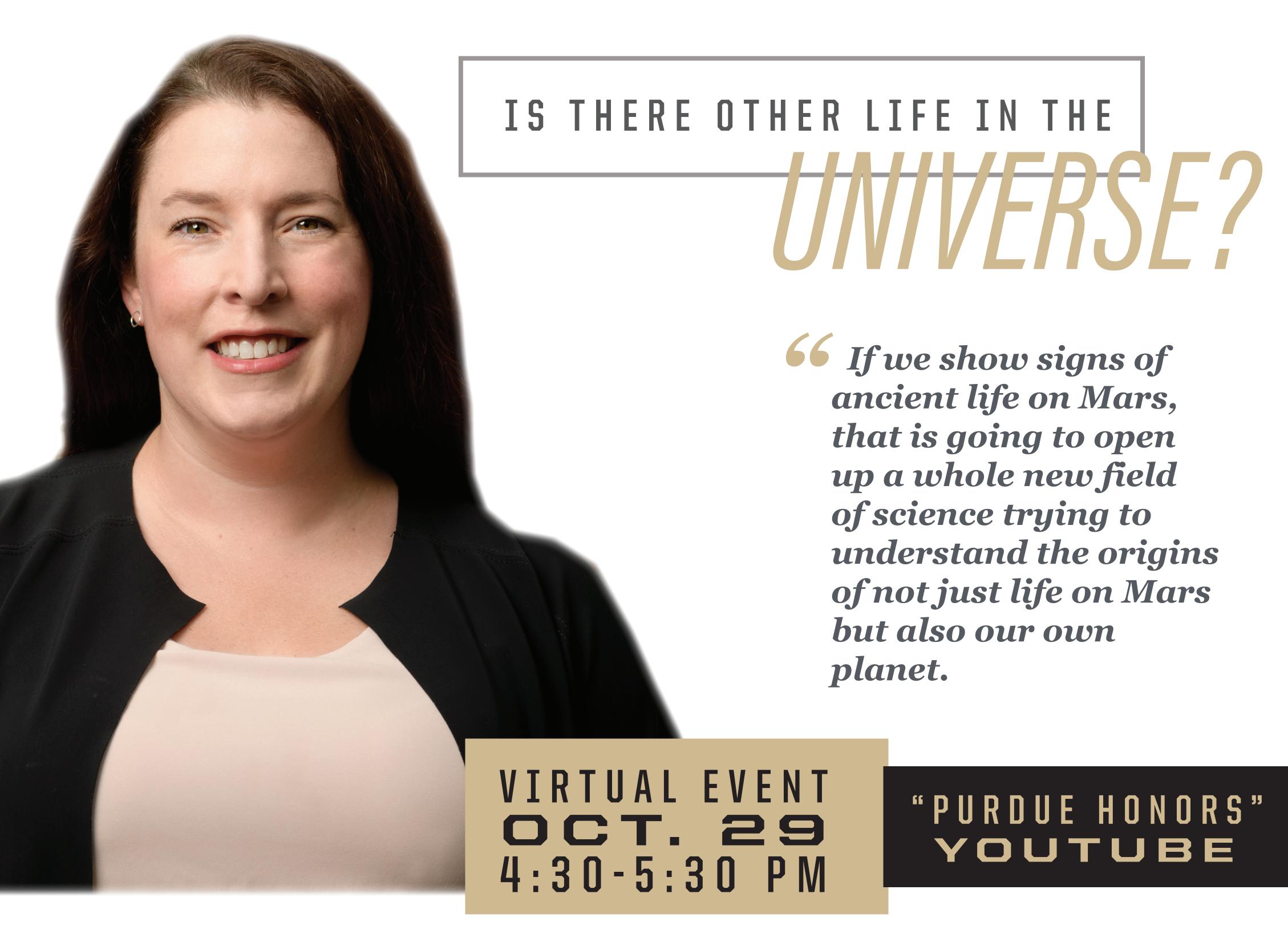
Be involved in the Purdue Kids Science Degree program!

Send us a 3-5 min video explaining one science concept of any topic for Kindergarten to 5th grade students

For more info contact us at lchavesm@purdue.edu

## USITING SCHOLARS SERIES

## BRIONYHORGAN



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.

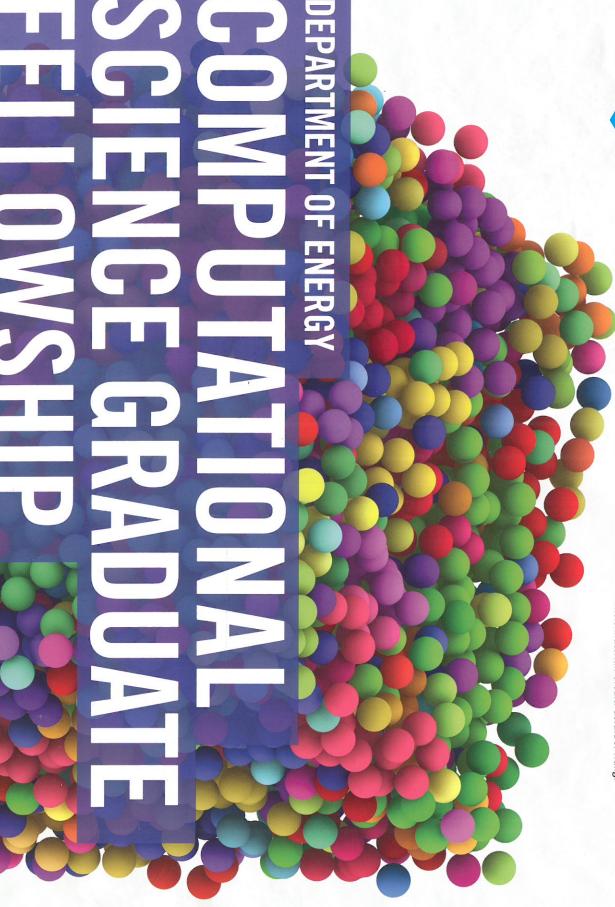
Simple life forms such as microbes allow researchers to understand how rare or common life is in the universe. At this point, Earth is the only data to help scientists determine how and where life forms and evolves. Join Horgan in an interactive Q&A session, as we explore the exciting possibilities of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

**Honors College** 





Closely packed particles in a colloidal suspension with friction, from a simulation by DOE CSGF alumnus Gerald J. Wang of Carnegie Mellon University. The colors differentiate particle groups whose motions are particularly interrelated, affecting the stickiness of the whole material. Credit: Gerald J. Wang.



to solve complex problems in science and engineering (DOE CSGF) provides up to four years of financial support for students The Department of Energy Computational Science Graduate Fellowship pursuing doctoral degrees in fields that use high-performance computing

details and a listing of applicable research areas can be found on the statistics or computer science who undertake research that will contribute The program also funds doctoral candidates in applied mathematics, DOE CSGF website. to more effective use of emerging high-performance systems. Complete

## BENEFITS

- + \$38,000 yearly stipend
- + Payment of full tuition and required fees
- + Yearly program review participation
- + Annual professional development allowance
- + 12-week research practicum experience
- + Renewable up to four years

The DOE CSGF is open to senior undergraduates and students in their first year of doctoral study

Applications Due 1.13.2021 www.krellinst.org/csgf

This equal opportunity program is open to all qualified persons without regard to race, gender, religion, age, physical disability or national origin.



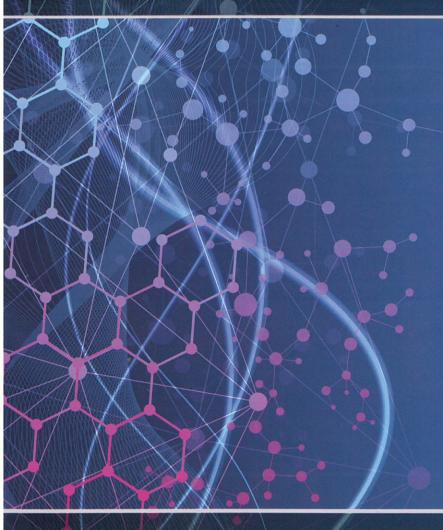








## THE JAMES CORONES AWARD Now Accepting Nominations





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;
- 2. Develop and document satellite dependent forecast and analysis tools focused on the specific needs of hazardous weather forecasters;
- 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.

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 <a href="https://hr.ou.edu">https://hr.ou.edu</a>.

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



#### **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 <a href="http://cimms.ou.edu/index.php/research">http://cimms.ou.edu/index.php/research</a> 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

<u>CIMMS-careers@ou.edu</u>

ATTN: Peter Lamb Postdoctoral Fellowship