



Volume 8,
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January 2020

*What's going on in
the North Carolina
Academy of Science:*

- Annual Meeting News and Opportunities
- Astronomy Days and Weatherfest
- Call for Yarborough Grants!

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Annual Meeting Updates

By: Dr. Judy Moore, Lenoir Rhyne University

Lenoir-Rhyne University's School of Natural Sciences is eagerly anticipating the 117th Annual Meeting of the North Carolina Academy of Science on our Hickory campus March 27th-28th, 2020, when we will host a collegial group of North Carolina scientists, science faculty members, and students from institutions across the state. We hope you are planning to come be a part of this inspiring opportunity to share your research, discover new possibilities and network with fellow attendees.



*Science Faculty of Lenoir
Rhyne University
Photo Credit: Angie Ramseur*

The conference theme this year is **Vision 2020: Seeing Connections – Solving Problems**. We are highlighting the importance of basic science that brings previously unknown mechanisms to light, often suggesting solutions to the world's currently intractable problems. Our keynote speaker will be the nationally and internationally recognized biophysics/bioengineering researcher in animal movement and robotics, Dr. David Hu from Georgia Tech. University, who is author of the award-winning book *How to Walk on Water and Climb up Walls: Animal Movement and the Robots of the Future* (2018, Princeton University Press), and a popular science communicator. Dr. Hu's work has earned two Ig Nobel Physics Prizes (2015 and 2019), as well as an American Institute of Physics 2019 Science Communication Award. His work and writing is notably characterized by interdisciplinary collaborations of front-line scientists. Hu's previous work is not only published in the likes of Nature, PNAS, Science and Journal of Experimental Biology, but also has been featured in The Economist, The New York Times, Saturday Night Live and Highlights for Children.

Registration and the Friday evening poster sessions will be held in our new science building, George Hall, on Lenoir-Rhyne University's Hickory campus, accompanied by an opening reception with hors d'oeuvres. Saturday's all-day events include oral presentations, panel discussions, Student Academy poster displays, exhibitors, and our keynote address, along with business meetings. Lunch and refreshment breaks will be provided. The day will culminate in a CANCAS awards ceremony and reception on Saturday evening. Commemorative NCAS 2019 Annual Meeting tee-shirts will be available for purchase on the registration website. Additionally, a limited supply of Dr. Hu's book will be available at the conference, and he has agreed to do a book signing on Saturday afternoon.

The 2020 NCAS Conference website is now active and includes membership renewal, abstract submission and registration details.

Go to lr.edu/NCAS

Unique Opportunity—Workshop on How to Teach Genomics

By: Dr. Marisol Santisteban, University of NC at Pembroke

Workshop to be Held at the Annual Meeting

On Saturday March 28, during the Annual Meeting at Lenoir-Rhyne University, Dr. Marisol Santisteban will hold a hands-on workshop from 1:30-3:45pm entitled: *How to teach difficult molecular genetics concepts using a genome browser and engage your students in genomics research: An initiative of the Genomics Education Partnership (GEP).*



The workshop will introduce you to the GEP community and show how you can implement genomics research in the classroom and teach introductory concepts of molecular genetics in an innovative way that uses a genome browser. Computers will be available, but bring your own laptop if you wish.

The workshop will provide a guided tour of GEP's introductory curriculum, which is aimed to teach gene structure, transcription, translation, and processing, along with a step-by-step walkthrough that illustrates the protocol for annotating a protein-coding gene in *Drosophila*. Participants will receive information on how to join the GEP community and receive training and resources to enable their implementations.

What is the Genomics Education Partnership (GEP)?

The Genomics Education Partnership (GEP) began as a consortium of 16 faculty in 2006 with a goal of providing students with Course-based Undergraduate Research Experiences (CUREs) in genomics. Today, GEP has over 100 faculty and engages more than 1300 undergraduates in authentic genomics research annually. These faculty joined and continued to participate in the GEP for many reasons, including the collaborative nature of the research, the well-established infrastructure, and the supportive network of like-minded colleagues. Faculty implement GEP materials in diverse settings — ranging from short modules (2–8 weeks) within a course, to a standalone full-semester course, to independent student research. GEP students show significant gains in scientific knowledge and attitudes toward science. In addition to improving their understanding of the research process and how new knowledge is created in the field, GEP students acquire desirable and transferable skills essential for future participation in the workforce, such as problem solving, independence, application of knowledge, team-work, and collaboration. Students also gain competence in the use of computational algorithms to analyze large biomedical datasets — thereby preparing students for a growing need of a workforce trained at applying statistics and computational tools to analyze large datasets. In addition, GEP students and their faculty mentors are eligible to be co-authors on the scientific publications that are based on their work.

GEP is currently recruiting new members (http://gep.wustl.edu/help/contact_us) to participate in regional and national professional development to use the GEP curriculum in their classrooms.

Supported by NSF IUSE-1431407 to Sarah C.R. Elgin, NSF IUSE-1915544 to Laura K Reed, and NIH IPERT-1R25GM130517-01 to Laura K Reed.



Hashtag for social media communications for the NCAS Annual Meeting: #NCASAM2020

Opportunities to Make a Difference

Report by: Dr. Alan Goble, Bennett College & Karen Guzman, Campbell University

Looking for a one-time volunteer opportunity? Have a bit more time available and willing to serve a 3-year term? Well, we have opportunities for you to select from to fit your needs. Whether you are a new faculty, a seasoned faculty, or a science professional in another sector, take a look below and pick out a volunteer opportunity in which you can make a difference!

One time need for grant reviewers

The Yarbrough Grants Committee is seeking reviewers in a variety of science fields. Grant proposals are received by April 15th and are reviewed shortly thereafter as determined by reviewer schedules. If you are interested, contact Dr. Jordan Womick, womickj@campbell.edu

Open positions on committees with light responsibilities

Two committees are seeking additional members:

Yarbrough Grants Committee is seeking a Co-Chair for the committee. If you are interested, contact **Dr. Jordan Womick**, womick@campbell.edu

Publications Committee is seeking two additional members:

Co-webmaster with the intent of being the lead co-webmaster starting in August. Co-webmasters will fill a 2-3 year overlapping term, negotiable based on individual circumstances.

A member to help review the newsletter before distribution and prepare 1-2 articles per year. If interested, we are also always looking for someone interested in being involved in social media.

If you are interested, contact **Dr. Karen Guzman**, guzman@campbell.edu

Open elected positions on the board

At the NCAS Business Meeting held during the Annual Meeting at Lenoir-Rhyne, the membership will be voting on new officers for the following positions. If the position term is ending in 2020, the Nominations Committee will determine if the incumbent is interested in serving another term, but several positions are currently vacant.

Position	Status	Term
Presidential Term: includes 1 year each as President-Elect, President, Past-President	Term ending based on position cycle	3 years: Fall 2020 – Spr 2023
Vice President	Term ending	1-year term
Treasurer	Vacant	3-year term
Elected Member (junior)	Vacant	3-year term
Elected Member (middle)	Vacant	2-year term remaining
Finance Committee Chair	Term ending	3-year term
Annual Meeting Committee Chair	Term ending	3-year term
Graduate Counselor	Vacant	1-year term

If you are not interested in one of these positions for yourself, please consider nominating someone you think would be a good fit.

Contact **Dr Alan Goble** (goble@Bennett.edu) if you are interested in one of these positions or have a nomination for him to contact.

Call for Annual Meeting Judges &

Report By Dr. Laura Reichenberg, Pfeiffer University

Judges are needed for both the Friday evening poster session and Saturday oral presentations. Many of the biological science disciplines are represented at the meeting and, ideally, judges will be paired with presentations that match their area of expertise. You will be asked to judge either the poster session or oral presentation session, followed by a collaborative selection of Derieux winners in your area. Volunteering your time as a judge is a great way to help encourage our undergraduate researchers, while participate in the Annual Meeting! If you are interested, please email Dr. Laura Reichenberg at laura.reichenberg@pfeiffer.edu or indicate your interest on your Annual Meeting registration form.

Moderators are needed to preside over oral presentations on Saturday at the Annual Meeting. Moderators can be graduate students, undergraduate students, or faculty from any content area. This is a great way to help facilitate smooth oral presentation sessions. If you are interested, please email Dr. Laura Reichenberg at laura.reichenberg@pfeiffer.edu or indicate your interest on your Annual Meeting registration form.

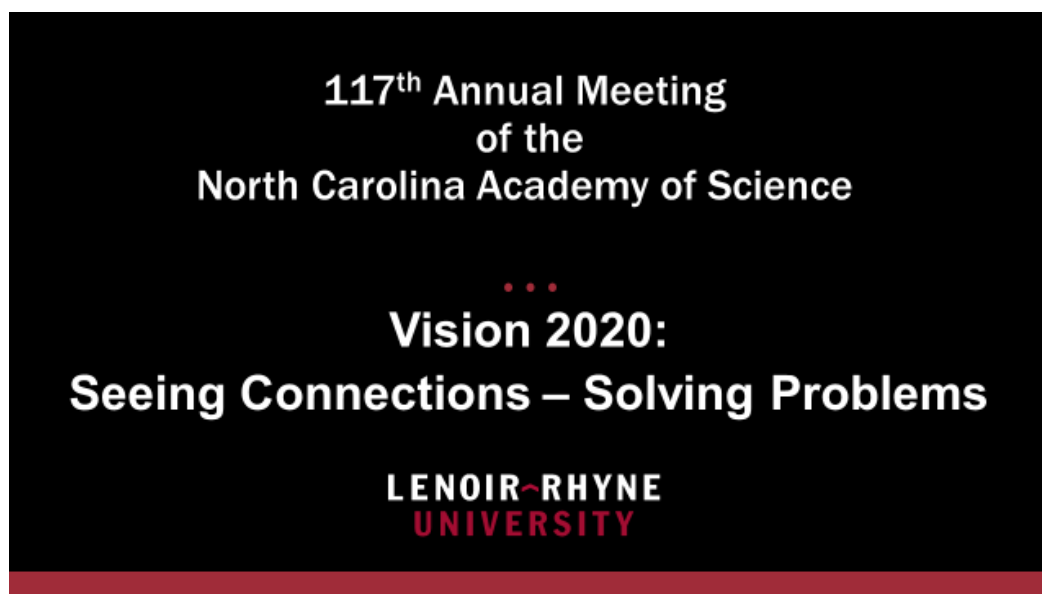
CANCAS Group Membership Updates

Report By Dr. Laura Reichenberg, Pfeiffer University

Currently Campbell University, Pfeiffer University, and Guilford College have CANCAS Group memberships. Group memberships are \$100 and allow all students at the institution who are members of that group to attend the Annual Meeting at a discounted rate. CANCAS membership also gives students, who are presenting poster or oral presentations at the annual meeting, the opportunity to be judged for prestigious Derieux Awards. Sign your group up today at <https://www.joinit.org/o/north-carolina-academy-of-science/>

Institutions with Group Membership

- Campbell University
- Pfeiffer University
- Guilford College



Astronomy Days 2020–The Quest for Extraterrestrial Life

Report By Dr. Lisa Kelly, University of Pembroke

What? Astronomy Days – 2-day spectacular event featuring cool exhibits, presentations, crafts, and explorations of the universe

Theme? Earth and Ocean Worlds

Where? NC Museum of Natural Sciences in Raleigh

When? Saturday, 25 January 2020, from 9:00 AM – 5:00 PM, and Sunday, 26 January 2020, from noon until 5:00 PM



How can I help? Join the NC Academy of Science (NCAS) in its annual booth featuring living animals of extreme environments, living plants small enough to fit onto necklaces, games and crafts featuring extreme environments, and engaging the public in the excitement of science.

NCAS theme? The Quest for Extraterrestrial Life

Why should I help? It's a lot of fun, an opportunity for community outreach, and you can volunteer for as little or as much as you want, leaving plenty of opportunity to visit other booths and events. No prior training is needed!

Who volunteers for the NCAS booth? University and high school students, faculty, and museum volunteers typically assist in this spacious booth, which is furnished with several tables and chairs.

Who should I contact about volunteering? Lisa Kelly (lisa.kelly@uncp.edu; 910-521-6377).

Where can I park? Free parking is available within walking distance of the museum.

Call for Proposals–Yarborough Research Grants 2020–2021

Report By Dr. Jordan Womick, Campbell University

CALL FOR PROPOSALS YARBROUGH RESEARCH GRANTS 2020-2021 Academic Year The Yarbrough Research Grants program provides grants to undergraduates who are members of the Collegiate Academy. Approximately four grants are awarded annually and typically range from \$100 to \$500. Top awards may receive as much as \$500 or more. The application deadline is April 15, 2020, and accepted proposals are funded as early as June for undergraduates to begin their research. Details are found on the Academy website at www.ncacadsci.org.

Charlotte Weatherfest will be on March 20, 2020 this year. Stay tuned to their Facebook page (<https://www.facebook.com/CharlotteWeatherFest/>) or the NCAS news for more



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The **objective** of the North Carolina Academy of Science is to “encourage the advancement of science within the state of North Carolina by promotion of scientific research and by the fostering of education in the sciences”. The North Carolina Academy of Science meets these objectives by...

- Publishing a peer reviewed scholarly journal, the *Journal of the North Carolina Academy of Science*.
- Fostering and encouraging student involvement in the sciences through support of the Collegiate (CANCAS) and Student Academies (NCSAS).
- Promoting interactions among scientists and students throughout North Carolina.
- Providing a forum for exchange of ideas for solving issues important to North Carolina.

The Academy members include individuals from academia, industry, government, and all others who support the objectives and goals of the Academy.

North Carolina Academy of Science

Our Mission

The North Carolina Academy of Science promotes public appreciation of science, science education, scientific research and a meaningful role for science in public policy.

Our Goals:

Promote public appreciation of science

- Partnership with Science Centers
- Public Lecture Series
- Newsletter

Promote science education

- NCAS Webpage
- Academic Lecture Series
- NCAS Publications: Journal, Educational Publications
- Student Academy - Middle & High School

Promote scientific research

- Yarbrough and Bryden Research Grants
- CASCAS Undergraduate Research Workshop
- Presentation Opportunities at Annual Meetings
- Journal of the North Carolina Academy of Science

Promote science in public policy

- Symposia
- News Releases
- Position Statements
- Interactions with Public Officials

