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

- Reflections from NCAS Annual Meeting
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- Yarborough Call

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## Reflections From a First Time NCAS Annual Meeting Attendee

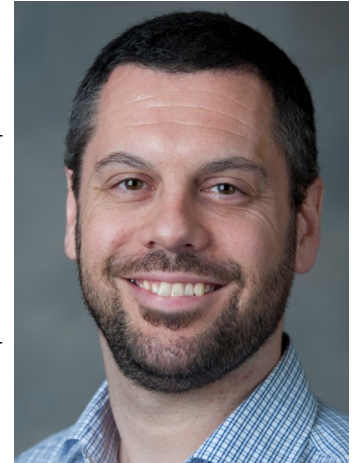
*By Dr. David Parker, Elon University*

While driving across North Carolina from Elon University to Campbell University to attend the 118th NCAS Annual Meeting, I realized that I didn't know what to expect when I got there. I knew that NCAS is a century-old institution that promotes the sciences in North Carolina and that my colleague Dr. Mike Kingston was to be the incoming new President, but not much else. Would this meeting be intellectually stimulating? What level of science should I expect? Would the meeting be friendly? Fun? As it turned out, the conference exceeded my expectations for each of those measures and more.

The first evening of the meeting was reserved for poster presentations. After listening to some welcoming remarks from Dr. Lei Zhang, the current President of NCAS, I worked my way around the posters. The meeting's theme was "Multidisciplinary Research: Focusing on the Big Questions," and that broad theme was reflected in the conversations I had over the next few hours. I learned about the discovery of new antibiotics, microplastic pollution, modeling human cancers in yeast using CRISPR, the ecology of eastern box turtles, genome mining, the microbial diversity of Kefir (a probiotic beverage made by fermenting milk, in case you were wondering), and much more.

What impressed me the most about this session was the level of the science (high) and the standard of the posters and presentations (also very high). The presenters were knowledgeable, professional, and well prepared, whether discussing broad concepts or small technical details. I left the session energized, amazed at how much great science is going on in North Carolina, and grateful that I wasn't judging a poster competition with so many high-quality presentations.

Unfortunately for me, I was helping judge the oral presentations the following morning, which was difficult because they were also exceptional across the board. The quality of talks rivaled those at national and international conferences, which is very impressive given the speakers were primarily undergraduates. Something else notable was the question-and-answer sessions, which were vigorous but very supportive in tone.



Dr. David Parker,  
Elon University

# ***Reflections From a First Time NCAS***

*By Dr. David Parker, Elon University*

Following a fascinating keynote address from Dr. Jonathan Chekan, the afternoon was taken up with exciting workshops and panels. In one undergraduate-led panel, I learned about what it has been like to be a student in these difficult times. Getting this new perspective was valuable. For example, some students like zoom classes, which goes against every assumption I held about virtual teaching.

As the meeting wound down, I reflected on my experiences there. Yes, the meeting was intellectually stimulating, with a high level of science. Friendly and fun? Most certainly. However, I didn't anticipate an essential component of the NCAS meeting that one has to attend to appreciate. I wasn't expecting the supportive community that revealed itself through the encouraging and inclusive atmosphere of the conference. It was an excellent student-centered meeting for young scientists to hone their skills and make new connections in a positive environment. I left with new friends and new knowledge. I am already looking forward to meeting 119.

## ***Don't miss out! Yarbrough Last Call for Grant Proposals is April 15th***

The Yarbrough Research Grants program supports undergraduate research. Top awards may receive as much as \$500 or more. Awardees earn more than just funding for their research. Receiving a grant is an honor that tangibly demonstrates your critical thinking and communication skills and looks great on anyone's resume!

Talk to your research advisor and apply today. For more information, visit the [Grants & Awards webpage](#).

## ***Bryden Graduate Research Awards***

The Robert R. Bryden Research Award grants up to \$1000 to support graduate research, equipment and/or expenses related to attendance of scientific meetings. The application deadline is typically in early March. Although the Bryden Committee did not receive any proposals this year, they are gearing up for the next grant cycle and want to hear from you. Sirena Hargrove-Leak, Associate Professor of Engineering at Elon University, will be joining Helen Caldwell, Associate Professor at Lenoir-Rhyne University, on the committee. Start developing your research plans now so you can secure next year's award! They are looking forward to receiving your proposal.

# A Sincere “Thank You” to Derieux Judges

*From Dr. Laura Reichenberg, Pfeiffer Univ. & Carly York, Lenoir-Rhyne Univ., CASCAS Co-Directors*

John Havran  
Luc Dunoyer  
Eric Anderson  
Judy Moore  
Stephen Holly  
Sarah Goforth  
Catherine Key  
Michael Larsen  
Laura Reichenberg  
Darryl Bing  
David Cartrette  
Jennifer Perkins  
Maria Pickering  
David Parker

## Institutions with CASCAS Group Membership:

- Campbell University
- Pfeiffer University
- Elon University
- Lenoir-Rhyne University
- UNC- Pembroke

On behalf of the Collegiate Academy of the North Carolina Academy of Sciences, we would like to thank our judges for offering their time and expertise for our Derieux Award for Excellence in Undergraduate Research Competition and for providing valuable feedback to our student presenters. Your willingness to volunteer was critical to the success of this event. We appreciate your generous support and hope that you will consider supporting us again in the future.

## Welcome to the new CASCAS Leadership board!



CASCAS Board 2022-2023 (from left to right). President: Anthony Herring from East Carolina University; Vice President: Chase White from Lenoir-Rhyne University; Secretary: Tamera Hutchinson from Campbell University; Historian: Ainsley Shan from Elon University

# Support the Academy: Consider Institutional Sponsorship

Report By NCAS Finance Committee

As an individual, you have many ways to support the Academy: become a member, attend the Annual Meeting, or talk to your administrator about Institutional Sponsorship. What is Institutional Sponsorship and what is it not?

Institutional Sponsorship is a way for institutions to support the sciences and to gain recognition for doing so.

Institutional Sponsorship is not a form of membership so does not provide discounts for events or other memberships

We hope your institution will consider becoming a sponsor!

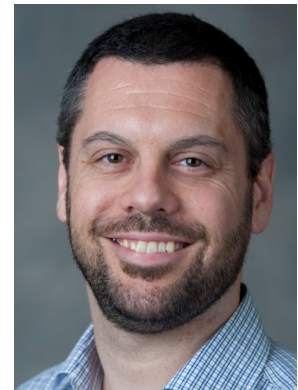
If you are interested and need more information, contact the NCAS Treasurer, Dr. Evan Reynolds, [ereynolds@campbell.edu](mailto:ereynolds@campbell.edu)

## Welcoming New Board Members

Election results are in for the 2022-2023 board. Welcome to our first-time members as of March 2022: David Parker (Education Committee Chair), Anthony Herring (CANCAS President). We have some board members continuing in their positions from last year, while others have taken on a new role. Welcome back to these members as well. You can see the full list on the **Board of Directors** page under **About** in the menu of our [website](#).



Anthony Herring,  
East Carolina University



Dr. David Parker,  
Elon University

### Zhang Elected to the NAAS Board of Directors

Dr. Lei Zhang, Past President of NCAS, will be serving a 2-year term as Secretary on the Board of Directors of the National Association for Academies of Science (NAAS). Congratulations and thank you for your service to both NCAS and NAAS!

# Derieux Award Winners

## Oral Presentation Derieux Awards

Category	Award	Name	Institution	Title
Ecology, Botany, & Zoology	1 <sup>st</sup> Place	Maggie Keller	Lenoir-Rhyne University	The Role of the Lateral Line System in Prey Acquisition Behaviors of <i>Xenopus laevis</i>
	2 <sup>nd</sup> Place	Rebecca Carranza	Elon University	Examining the potential for evolutionary divergence by describing treehopper host plant use and mating signals
	3 <sup>rd</sup> Place	Maggie Lou Carter	Lenoir-Rhyne University	Copper tolerance in tardigrades ( <i>Hypsibius exemplaris</i> ) modeled by Na/K ATPase inhibition
Chemistry, Engineering & Physics, Science Education	1 <sup>st</sup> Place	Terry V. Chavez	UNC Pembroke	Faraday rotation in air and the dispersion of its verdet constant
	2 <sup>nd</sup> Place	Harrison Boston	Lenoir-Rhyne University	Self-guided payload using grid-fins to translate
Cell Biology, Molecular Biology, & Physiology	1 <sup>st</sup> Place	Philip Oji	Campbell University	Interrogation of AADACL1 Function
	2 <sup>nd</sup> Place	Jared Tuton	UNC Pembroke	Integrin inhibitor attenuates synaptotoxic pathogenic cascade following paraoxon exposure in hippocampal explants.
Microbiology	1 <sup>st</sup> Place	Gabriel Corn	Lenoir-Rhyne University	The dispersion of aerosolized mouth bacteria when playing the trumpet

# Derieux Award Winners

## Poster Presentation Derieux Awards

Category	Award	Name	Institution	Title
Ecology, Botany, & Zoology	1 <sup>st</sup> Place	Imani Gordon	UNC Pembroke	Factors affecting diversity and abundance of butterflies in pollinator gardens
	2 <sup>nd</sup> Place	Taylor Marshall	Campbell University	Campbell university herbarium curation and an assessment of Harnett county specimens using SERNEC
	3 <sup>rd</sup> Place	Melissa Creech - Sutton	UNC Pembroke	Identification and isolation of genomic DNA from pollen and the intestines of native solitary bees
Chemistry, Engineering & Physics, Science Education	1 <sup>st</sup> Place	Kendall Poythress	Campbell University	Ruthenium-catalyzed oxidations to synthesize benzyl silyl esters from silyl ethers
Cell Biology, Molecular Biology, & Physiology	1 <sup>st</sup> Place	Ryan Peterson	Campbell University	Exploring the substrate scope of the E1 subunit of the 2-oxoglutarate dehydrogenase complex for abiological catalysis
	2 <sup>nd</sup> Place	Jacqueline Swann	UNC Pembroke	Investigation the effects of rabbit tobacco on Parkinson's disease in <i>C. elegans</i>
	3 <sup>rd</sup> Place	Tamera Hutchinson	Campbell University	Use of COPUS to characterize teaching techniques in Campbell University's Biological Sciences Department
Microbiology	1 <sup>st</sup> Place	Zachary Norman	Lenoir-Rhyne University	The effect of nicotine on biofilm formation by ESKAPE pathogens
	2 <sup>nd</sup> Place	Anna Braaten	Campbell University	An investigation of the microbial diversity and antibiotic production potential of commercial, pasteurized kefir and raw, goat milk kefir
	3 <sup>rd</sup> Place	Leah Frazier	UNC Pembroke	Recreating carcinogenic missense mutations through CRISPR, altering <i>Saccharomyces cerevisiae</i> CDC42

# Photos from the Annual Meeting

Photographers: Andy Steele, Lisa Kelly, and Karen Guzman



## Thank you to our sponsors

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College of Arts & Sciences



# Photos from the Annual Meeting

Photographers: Andy Steele, Lisa Kelly, and Karen Guzman







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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

### 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

