



Volume 1,
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April 2013

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

- *Reflection on 2013
NCAS meeting (pg 2)*
- *Dr. Julie Horvath is
this issue's Featured
Scientist (pg 3-4)*
- *How will budget cuts
affect us? (pg 5-6)*
- *Congratulations,
Award Winners! (pg
8-9)*

Inside this issue:

Message from UNCP	2
Featured Scien- tist	3-4
NC Budget Re- port	5-6
Astronomy Days	6
Jobs	7
Award Winners	8-9
NCAS Sponsors	11

NCAS 2013 from the perspectives of newcomers and oldtimers!

Report by: Karen M. McDougal PhD, Lenoir-Rhyne University

For close to 25 years now I have been coming to NCAS meetings, and have served on the board, as a judge and as a moderator for sessions. For longer than that, other Lenoir-Rhyne faculty have brought students—seniors to present their research, and juniors to get an idea of what to expect for the coming year. It seems as if it might be old-hat by how, but every year there is something new and exciting; every year the new students are impressed with the presentations and with the keynote speakers. According to Holly Baldwin, a junior at LR, “I got to see some of the things I will be experiencing next year as an honors student. It was beneficial for me to see how the presentations will run and what questions I may be faced with by the people watching me present. I also learned a lot from the various speakers that are very applicable to many of the classes I am in now. It is so cool to see how what I am doing in the classroom really does relate to the real world.” Every year students come away from the meeting thrilled with the attention that faculty and students from other schools pay to academics and student research. It is a feeling they get far too infrequently.

Another of our students, Logan Bearfield, exclaimed that she thought it was such a great experience that she would like to do it every weekend! I’m not quite that enthusiastic, but I thought this was an extremely well-conceived and well-organized meeting—one that will be difficult to surpass! The focus on “Science in the Genomics Era” was superbly carried out in the keynote address on the American Eugenics Movement by David Miklos (DNA Learning Center, CSHL) and the plenary address by Dr. Eric Green (NHGRI, NIH) on bringing genomic medicine into focus. Our students and those around us were enthralled with the speakers, and their conversations on those topics lasted well into the night and on the way home. It was great for them to be exposed to such eminent scientists and to see how the concepts they had learned in classes could have such important implications for ethical and medical decisions.

This year’s poster session was huge, and could have lasted even longer in order to get a chance to talk with all the presenters. It’s wonderful to see how this aspect of the meeting has exploded. The food provided during the posters was a real treat too! Our students were also impressed with the live music by Lakota John and Layla Locklear during the banquet on Saturday night. Overall, it was an outstanding meeting, and our students are already looking forward to next year!



NCAS Annual Meeting Held at The University of North Carolina at Pembroke

Report by: *Dr. Maria Santisteban, UNC Pembroke, Chair of the Local Arrangements Committee*



It is strange for me to think of this meeting as something of the past. It was such a big part of my life for months, and it was my number one priority the weeks preceding the meeting. This 110th annual meeting was dedicated to the memory of our colleague and friend Susan L. Stephenson. The theme of the meeting was “Science in the Genomics Era” because we recognize the enormous impact that genomics has in science and society. Two of the mission goals of the Academy are to promote public appreciation of science, and a meaningful role for science in public policy.



We were extremely fortunate to have two outstanding speakers for the plenary and keynote addresses. Friday night, Dr. Eric Green, director of the National Human Genome Research Institute at the NIH, gave us an inspiring account of the landscape on genomic medicine. Mr. Micklos, founder and executive director of the DNA Learning Center at Cold Spring Harbor Laboratory, spoke about the American Eugenics Movement at the keynote address on Saturday morning.



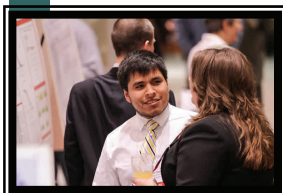
In keeping with the Academy’s third goal, of promoting scientific research, the Annual meeting provided plenty of opportunities for students and faculty to communicate, share, and obtain feedback on their research. The opening of the meeting was indeed a poster session contributed by 61 posters. Another 36 oral contributions by undergraduate students took place on Saturday morning. Undergraduate students participating in poster and oral presentations were considered for the Derieux Awards. Winners were recognized at the banquet on Saturday night.



We are thankful to The University of North Carolina at Pembroke for providing us with superb facilities and very dedicated and available staff. We were proud of blending the local culture in the meeting through Native American music, program design, and the speakers’ gifts. We are indebted to the UNCP Departments of Biology and of Chemistry and Physics, LabCorp, and the North Carolina Biotechnology Center for their outstanding sponsorships.



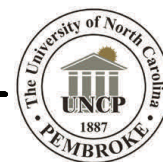
Lastly, this report would not be complete without recognizing the hard work of the local arrangements committee, with a special mention of Dr. Lisa Kelly, who stood by my side from beginning to end. I will share with you a secret: when pressure was high, her husband joked that he wondered if we would talk to each other after the meeting. We still are, and in my opinion this experience got us closer personally and professionally.



For more about the meeting and some great quotes, go to <http://www.ncacadsci.org/NCAS/calendar.html> and scroll down to Previous Events.

Congratulations, Award Winners!

Check out pages 9-10 for 2013 poster and oral presentation Derieux Award winners.



Featured Researcher: Dr. Julie Horvath, Nature Research Center

Report by: Dr. Beth Overman

This year we've decided to highlight the diversity of institutions and researchers that are part of NCAS through our Featured Scientist Articles, and for this issue we're highlighting one researcher at the Nature Research Center. Dr. Julie Horvath is the Director of the Genomics and Microbiology Research Lab at the NRC and is jointly appointed as a Research Associate Professor in the Biology Department at North Carolina Central University. She is interested in understanding how evolutionary forces have shaped primate genomes and how this leads to different characteristics and disease susceptibilities. Many of Horvath's research projects have a connection with human health and disease. When asked how she became interested in her current field of study, it seems like a lifelong interest, fueled by a love of the outdoors and an undergraduate research opportunity. "I grew up in Michigan but spent most of my summers at a cottage in the deep woods of Northern Wis-

consin. I spent a lot of time outdoors fishing and hiking and observing animals (primarily birds, chipmunks and squirrels). As I spent more time outside, I noticed that some species (and even different individuals of one species) would let me get closer to them than others. I became interested in why different species and different individuals exhibited different behaviors. When I started my undergraduate degree at Michigan State University, I thought I wanted to study animal behavior so I took a lot of animal behavior classes. But it wasn't until I took a genetics class that I was really intrigued. I started conducting research with a faculty member who studied a genetic disease in goats and cows...and so began my career in research." Dr. Horvath since went on to obtain a graduate degree at Case Western Reserve University in Human Genetics, and has pursued several collaborative projects investigating the genetic basis of behavior, focusing on primate genetic and genomic research.

When looking back, she reflects that the relationship with her faculty mentor and research experience as an undergrad was really the most influential experience that made her want to be a scientist. "I had such a positive undergraduate research experience I am sure that is why I am still doing research. My undergraduate mentor, Dr. Karen Friderici, was always positive and supportive. She gave me enough independence to try (and sometimes fail) on my own, while providing enough direction to keep me moving forward. Because of my love for animals and wanting to help them, my research in her lab studying Beta-mannosidosis in goats and cows kept me interested and engaged. I LOVED going into the field to collect blood and buccal (cheek swab) samples from the goats to get up close and personal experiences with the animals. Then I would take the samples back to the lab to isolate their DNA for downstream genetic testing.

"My undergraduate mentor, Dr. Karen Friderici, was always positive and supportive. She gave me enough independence to try (and sometimes fail) on my own, while providing enough direction to keep me moving forward."

Featured Researcher: Dr. Julie Horvath

“Research takes dedication and you have to find what you are passionate about,” she says.

“I would encourage all undergraduates to find a good research mentor and a good lab where they can pursue research. Experiment with different labs and different topics since it might take a few tries before finding the right fit!”

We tested to see which animals were carriers for the autosomal recessive disease so we could help the farmers determine which animals to breed so their herds could remain healthy.”

Because a faculty mentor helped her get her start in research, Dr. Horvath continues to work with and mentor undergraduates (and high school students) in her current research at the NRC. She shares, “When I was an undergraduate I had some great mentors at Michigan State University. Since I had such positive research experiences it really provided a great basis for me to pursue a PhD and go on to continue research. I love working with undergraduates now so I can mentor them as they develop their careers and continue to pursue their curiosity in scientific research.” It’s hard to pick just one favor-

ite thing about her job, but working with and mentoring undergrads, she says, is one of her favorite parts of her research. “I love working with and training students in primate genetic and genomics research.” That, and armpit microbes. “My most recent collaborative project (with Rob Dunn’s group at NCSU and Dr. Julie Urban at the NRC) studying the microbes that live on human and non-human primate armpits is engaging to the public I interact with, as well as the students I mentor so has been really rewarding.” And really, who wouldn’t enjoy a research project on armpit microbes?

Because of her experiences, she encourages undergraduates to really find their passion to find their fit in science. “Research takes dedication and you have to find what you are passionate about,” she says. “I would encourage all undergraduates to find a good research mentor and a good lab where they can pursue research. Experiment with different labs and different topics since it might take a few tries before finding the right fit!”

Currently at the NRC, Dr. Horvath has the unique experience to work with not only undergrads, but citizen scientists who visit the museum. “The Nature Research Center is a very fun, interactive, dynamic and awesome place to work! I love that my lab has walls made of glass so the public can view research in action while the students and researchers inside the lab can showcase their research on a daily basis. Since our main mission is to teach people how we know what we know, it is very rewarding to interact with the public through small discussions as well as through larger public research presentations where we highlight our ongoing research projects. Engaging the public in our citizen science research projects has been very fun and has provided an opportunity to expand my research in directions I never envisioned before I arrived!” With these resources and a passion for research, Dr. Horvath is in a perfect position to share that passion with others, inspire students to pursue careers in research, and engage the public in scientific discovery.



Photo Credit: Nik Swaen

Proposed North Carolina Budget Affects Science in the State

Report by: Dr. Jessica McCann

The McCrory budget for the state of North Carolina, unveiled in late March and set to run from July of 2013 through June of 2015, targets three initiatives: “Economy. Education. Efficiency.” While the governor’s budget anticipates a 3.6% revenue growth over the next two years, drastic cuts still loom and any surplus that may result is being added to a “rainy-day fund” to help cover federal sequestration cuts. Below is an outline of how the proposed budget may affect science and science education in the state of North Carolina.

Higher education takes a hit

McCrory’s budget recommends further reductions of nearly \$139 million next year to the state’s higher education system. This amounts to a further reduction of 5.4 percent over recent decreases in funding. The state system will be hindered in raising new funds, as in-state tuition increases are not an option under the new budget proposal. While this is good news for NC folks looking to make their way to college in-state, McCrory does recommend increasing out-of-state tuition by 12.3 percent in six of the high-demand campuses, including NC State and UNC-Chapel Hill. In a press release, UNC President Tom Ross said the following:

“I am very concerned by the magnitude of the new cuts proposed for our campuses, particularly in light of the more than \$400 million in permanent budget reductions we absorbed two years ago. I worry about the impact additional reductions will have on our ability to provide high-quality educational opportunities to our residents and to assist in North Carolina’s economic recovery.”

A potential boon may come from the recommended state infrastructure improvement budget, however. A \$300 million dollar figure is slated to improve public buildings, approximately half of which are owned by the university system. Therefore, about \$150 million should be funneled to campus improvements.

The community college system would be hit with a \$20 million loss in funds for enrollment support. Stu-

dents will also see an increase in tuition and fees, equating to \$32 dollars more per year for in-state students and \$128 extra per year for out-of-state students. On the flip side, Governor McCrory proposes to spend more money on technical enhancements to support community college degree programs that train students in fields with high employee demand.

Reductions in natural resource funding

The McCrory budget proposes to lose a net 33 positions from the Department of Natural and Environmental resources, with most of the losses coming from positions that have remained vacant for at least 6 months. Agency wide, total recommended reductions add up to \$2.6 million over the next two years, with specific reductions to the Sustainable Communities Task Force and the Environmental Assistance and Outreach programs. The NC State University Sea Grant program is slated to lose funding for one position and \$364,000 over two years, while the NC Zoo will also take a hit, with funds reduced by \$211,000 and a directive to improve efficiency.

NC Biotech Center loses out

The non-profit North Carolina Biotechnology Center is funded by the General Assembly and has a mission, as stated on the Biotech Center’s website, “to provide long-term economic and societal benefits to North Carolina through support of biotechnology research, business, education and strategic policy statewide.” The Biotech Center will be funded at \$7.2 million in 2013-2015, down from the \$17.2 million it received in the 2012-2013 fiscal year, slashing its budget by over 40%. Most of the Biotech Center budget is dedicated to issuing grants and loans to startups, faculty recruitment, and educational programs. The budget cut will

Sources:

<http://osbm.nc.gov/thebudget>

<http://wunc.org/post/mccrory-budget-targets-unc-system-cuts-0>

<http://www.newsobserver.com/2013/03/20/2766800/mccrory-budget-would-add-pre-kindergarten.html#storylink=cpy>

<http://www.newsobserver.com/2013/03/20/2765714/mccrorys-budget-includes-pay-hike.html#storylink=cpy>

<http://www.bizjournals.com/charlotte/news/2013/03/22/proposed-budget-cuts-to-nc-biotech.html?page=all>

drastically hobble the ability of the Biotech Center to support growth and development of the biotech sector in the state, which currently stands 237,000 jobs and has a \$59 billion impact on the state's economy.

Additions to regulatory oversight, hazardous site monitoring

On the positive side, McCrory plans to restore \$500,000 per year in funding for an agricultural water resources assistance program. This program would encourage farmers and landowners to increase efficiency in water usage. The Wine and Grape Growers Council would also see restoration of \$500,000 per year to encourage growth of the wine industry in North Carolina.

Increases are also recommended for data management and monitoring of inactive hazardous sites with known water supply and well contamination. Two positions at \$250,000 per year are proposed, but given the state's history in this area, this may be woefully insufficient.



Take Action!

Have an opinion on how state dollars should be spent? Be sure to tell your representatives. Budget negotiations are in full swing, with a final budget proposal expected in mid June. Be sure to emphasize the financial impact that science research and education has on the state economy. North Carolina has one of the fastest growing research communities in the country, and these budget cuts could slow that growth significantly. Senators Harry Brown, Peter Brunstetter and Neal Hunt serve as appropriations co-chairmen. Follow the progress of and contact members of the appropriations committee by going to the committee's website at:

http://www.ncleg.net/gascripts/Committees/Committees.asp?sAction=ViewCommittee&sActionDetails=Senate+Standing_89

Academy Exhibiting at Astronomy Days January 26-27

Report by: Dr. Charles Lytle

Academy members conducted a very successful public exhibit at the annual Astronomy Days celebration at the NC Museum of Natural Sciences in Raleigh on January 26 and 27. We hosted many enthusiastic visitors of the 14,000 plus visitors at the two-day event. We did not count visitors to our exhibit, but estimate that we had several hundred visitors including many families with children from preschool to high school ages. Volunteers from the Senior and Collegiate Academies greeted visitors, sharing information about the Academy activities and some bits of science with the children. News clips about climate change, natural gas exploration, and nuclear energy and other topics of public interest to North Carolinians were displayed and children were encouraged to construct unusual paper airplanes while learning some basic principles of flight. We are already looking forward to Astronomy Days on January 25 & 26, 2014, and hope that you can join us for this interesting experience.

Job Openings in the Scientific Community

For more information on how to apply, go to <http://www.ncacadsci.org/NCAS/jobOpportunitiesRegistration.html>

1. Tenure-Track Assistant Professor (Immunology), University of Pennsylvania, Philadelphia PA
Qualifications: Have an MD or MD/PhD degree, and applicants are being considered in all immunology-related disciplines.

2. Biotechnology Communications Positions, The Ruth Group, New York City NY
A leading biotechnology investor relations firm is seeking a motivated Biotechnology Communications professional.

3. 2 Quantitative Scientists/Biometricians Positions, University of Florida, Gainesville FL
University of Florida is searching for up to two Quantitative Scientists/Biometricians that use cutting-edge theoretical and applied statistical tools to conduct interdisciplinary, and hypothesis-driven research bridging the gap between quantitative tools and biological or social sciences.

4. Senior Research Specialist (Structures/Earthquakes), FM Global, Norwood MA
FM Global is a leading commercial property insurer of the world's largest businesses, providing more than one-third of FORTUNE 1000-size companies with engineering-based risk management and property insurance solutions.

5. Research Scientist III, BASF, RTP NC
This position is for a Research Scientist II/III in the Insecticide Research Group (APR/IM) at BASF's research facility in Research Triangle Park, NC, specializing in the molecular biology and genetics of mode of action elucidation for chemical optimization. The successful candidate will join an interdisciplinary program focused on the mode of action characterization and discovery of novel chemistries for insect control.

6. Tenure-Track Occupational Exposure Assessor, National Cancer Institute, Bethesda MD
The Occupational and Environmental Epidemiology Branch (OEEB) in the Division of Cancer Epidemiology and Genetics (DCEG), National Cancer Institute (NCI), National Institutes of Health (NIH), Department of Health and Human Services (DHHS) has a tenure-track/tenure-eligible position for an Occupational Exposure Assessor. The studies of occupation-related risk carried out by OEEB include retrospective assessment of historical exposures, through industry and questionnaire-based evaluations in case-control and cohort studies, on-site evaluation of exposures through air, dermal and biological monitoring, and studies of early biologic effects and genetic susceptibility.

7. Tenure-Eligible Principal Investigator, NCI-NINDS, Bethesda MD
The National Cancer Institute (NCI) and the National Institute of Neurological Disorders and Stroke (NINDS) of the National Institutes of Health (NIH), Department of Health and Human Services (DHHS), are seeking a tenure-eligible physician-scientist to lead a joint program focusing on basic, translational, and/or clinical research in neuro-oncology.

8. Associate Editor (Science Signaling), AAAS, Washington DC
The American Association for the Advancement of Science seeks an Associate Editor to join the dynamic editorial team at Science Signaling, the leading weekly research journal and online knowledge environment devoted to cellular signal transduction from the publisher of Science.

Derieux Awards: Poster Presentations 2013

Award	Category	Title	Authors	From
1 st Place		Handedness of wild capuchin monkeys in positioning events.	Rachael Cole , and Freya Liu	UNCP
2 nd Place	Behavioral Science, Health Science, and Physics	Geographic variation in polyandry of the eastern honey bee supports division of labour hypothesis for multiple mating in social insects.	Dominick S. DeFelice , Caitlin Ross, Michael Simone-Finstroem, Prachaval Sukumalanand, and Olav Rueppell.	UNC G
3 rd Place		Microwave-assisted transesterification of (\pm)Menthol and Methyl-2-chloropropionate	William J. Lloyd , and Elizabeth D. Blue.	CU
1 st Place	Cell and Development, Physiology and Microbiology	The effects of acrylamide (AA) ingestion on liver and sciatic nerve function.	Allison L. Nogi	EU
2 nd Place TIE		Investigating the differential binding affinity of genistein to ERs α and β using site-directed mutagenesis of ER β b, an estrogen receptor subtype found in a teleost fish.	Ameya S. Kulkarni and Mary Beth Hawkins	NCSU
2 nd Place TIE		Site-directed mutagenesis of a single amino acid in the ligand-binding domain of teleost ER β a alters its binding affinity to RU486	Franklin Trent Beeninga and Mary B. Hawkins	NCSU
3 rd Place TIE		Cloning and expression of the Coxiella burnetii macrophage infectivity potentiator gene into Escherichia coli.	Jeffrey R. Lawson , Ben Dyer, and Michelle S. Thomas	CU
3 rd Place TIE		Isolating fluoroquinolone resistant gram-negative organisms from porcine fecal matter.	Chris Smith , Erin Byrd, Natalia Goh, Michelle Thomas, Erik Hill and Sharon Mason	CU
1 st Place	Biotechnology, Genomics and Molecular Biology	Development of non-peptidyl small molecules for positive lysosomal modulation and protection against protein accumulation disorders.	Sarah Hafner , Uzoma S. Ikonne, Marsalis Smith, Meagan L. Wisniewski, Dennis J. Hoover, Kishore Viswanathan, Heather Romine, Dennis L. Wright, and Ben A. Bahr.	UNC P
2 nd Place TIE		Endothelin-1 signaling via the adaptor protein p66 Shc in renal glomerular mesangial cells.	Emelie Andersson , Andrey Sorokin, and Bradley Miller.	MOC
2 nd Place TIE		Mutagenesis of estrogen receptor β a reveals novel role in binding of RU486.	Jordan D. Taylor and Mary Beth Hawkins	NCSU
3 rd Place TIE		Effect of environmental stressors on molecular pathways that control ion homeostasis in Saccharomyces cerevisiae and Danio rerio.	Anthony F. Fata , Brett Schuchardt, Srikrupa Chandrasekaran, and Linda M. Niedziela.	EU
3 rd Place TIE		A model of brain damage to study early and delayed responses with focused opposing gene profiles that make up the brain's response to injury.	Armando Corona , Heather Romine, Ebru Caba, Robert C. Elliott, Hsin-wei Wang, Charles Giardina, Don-Guk Shin, and Ben A. Bahr.	UNC P
1 st Place	Zoology, Botany, Environmental Science, Ecology	Effects of ocean acidification on growth of a marine hydroid.	Marlon R. Barber and Constance Rogers-Lowery.	CC
2 nd Place TIE		A phylogeographic profile of the salamander genus, Pseudotriton.	Chantia M. Stewart , LaShonda M. Caine, and David A. Beamer.	Nash CC
2 nd Place TIE		Diversification of seepage salamanders across a complex geologic landscape.	LaShonda M. Cain , Jessica M. Avila, David A. Beamer, and Sean P. Graham.	Nash CC
3 rd Place TIE		Morphological variation within mountain dusky lineages (Desmognathus).	Jessica M. Avila , Brenten L. Bottoms, and David A. Beamer.	Nash CC
3 rd Place TIE		Plankton diversity of Krinshaw Pond.	Anna Sanford and Patricia Sellers.	UNCP

Derieux Awards: Oral Presentations 2013

Award	Category	Title	Authors	From
1 st Place	Microbiology, Molecular Biology, Biotechnology, Cell Biology, and Development	The response of differentiating colorectal cancer cells to the DNA topoisomerase II inhibitor, Etoposide	S a r a h L e w i s , Jennifer Floyd, Aldo Castillo, Ann Ballance, Lyndsey McIntyre, Cara Paxson, and April Tucker	MOC
2 nd Place TIE		Isolation and purification of nifN gene from <i>Klebsiella pneumoniae</i>	Kristine Elizabeth Parks and Janna Nicole Kukelhan	MC
2 nd Place TIE		Development of an efficient real-time PCR assay for <i>Rickettsia</i> and <i>Ehrlichia</i> bacteria using <i>Amblyomma americanum</i> DNA	Agape Lucas , Darwin Operario, and Eric Houpt	NCA T
3 rd Place		Identification of a novel, developmental-stage-specific enhancer in the Cd4 gene.	Greg A. Swan and Sophia D. Sarafova	DC
1 st Place	Chemistry, Physics, Science Education and Health Science	The effect of vitamin C (ascorbic acid) on the growth of <i>Escherichia coli</i> .	Melissa Rhoney	LRU
2 nd Place TIE		The effect of vitamin E supplementation on the maintenance of tetanus antibody levels in <i>Equus caballus</i>	Leah Sigmon	LRU
2 nd Place TIE		Aflatoxins in peanut butter measured using enzyme linked immunosorbant assay (ELISA).	Mary Reding and D. Kahl.	WWC
3 rd Place TIE		Gamma ray emitting isotopes in the environment and their relative intensities	Nicholas Mangum and Jason Ezell.	CU
1 st Place	Zoology, Botany, Ecology and Environmental Science	An evaluation of hybrid intermediacy in the germination ecology of Ashe's Sumac, <i>Rhus asheii</i> (<i>Rhus michauxii</i> X <i>Rhus glabra</i>).	Mary Podgorak-Lagro and Jay Bolin	CC
2 nd Place TIE		A preliminary phylogeny of the endemic Hawaiian genus <i>Nototrichium</i> (Amaranthaceae).	Krystal T. Payne , Ross A. McCauley, and J. Christopher Havran.	CU
2 nd Place TIE		Sexual determination in freshwater jellyfish <i>Medusae</i> , <i>Craspedacusta sowerbii</i> , captured in Lake Fontana, North Carolina.	Chelsea Kay and P. Bartels.	WWC
3 rd Place TIE		Migration of metals from a coal ash pond into the sediment of the French Broad River.	Amelia Snyder and J. Brock.	WWC
3 rd Place TIE		Risk and response of box turtles to prescribed fire.	Kristoffer Wild and John H. Roe	UNCP

Abbreviations: CU: Campbell University, MC: Meredith College, MOC: Mount Olive College, Nash CC: Nash Community College, NCSU: NC State University, UNCG: University of NC at Greensboro, UNCP: University of NC at Pembroke, EU: Elon University, CC: Catawba College, LRU: Lenoir-Rhyne University, WWC: Warren Wilson College, DC: Davidson College



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<http://www.ncacadsci.org/home.html>

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
- CANCAS Undergraduate Research Workshop
- Presentation Opportunities at Annual Meetings

- Journal of the North Carolina Academy of Science

Promote science in public policy

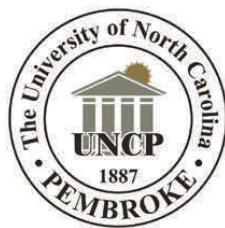
- Symposia
- News Releases
- Position Statements
- Interactions with Public Officials



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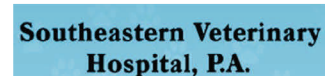
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