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

- Annual Meeting Highlight
- Astronomy Days Coming Up!
- Special Profile: Dr. Yuri Karash

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## NCAS Annual Meeting Highlight

*Report by: Dr. Julie Horvath, North Carolina Central University*

On behalf of the local arrangements committee, I would like to welcome you to join us for the 111<sup>th</sup> annual North Carolina Academy of Science (NCAS) meeting being held at the North Carolina Museum of Natural Sciences in Raleigh, NC where I direct the Genomics and Microbiology Research Laboratory. The Museum recently added a new wing, the Nature Research Center, which teaches visitors how we know what we know in addition to engaging the public in the process of scientific inquiry. This offers a wonderful space for members of the NCAS to



interact with and engage the public in science. The Museum's founding members, the Brimley Brothers, were a significant influence on the NCAS so the Museum, and most especially the Director, Dr. Emlyn Koster, is excited to highlight our history and grow our partnership.

Last year's meeting "Science in the Genomics Era" was a huge success and illustrated how medicine and many other disciplines of science have been revolutionized by genomics. Evolution is an important influence on many aspects of our lives so I am excited to highlight these connections in our meeting this year. The theme for this year's NCAS meeting is "Applying Evolution to Medicine and the Environment." Our goal is to bring together researchers from different disciplines of science to highlight the importance of evolution and I hope you leave the meeting with a greater appreciation for the impact evolution has on our everyday lives including human and veterinary medicine.

I encourage you to attend the meeting and to submit an abstract. This annual meeting is an important venue to present your research as well as a good place for students to present their research for the first time. I also encourage you to bring your students and colleagues to the meeting. In addition to my role at the Museum, I hold a joint faculty position through the Department of Biology at North Carolina Central University and I am excited to know that we will have students and fellow faculty as members at this year's meeting. The local arrangements committee has invited a number of great speakers and we look forward to seeing you soon at the NC Museum of Natural Sciences! Follow us on Facebook (<http://on.fb.me/1avViAn>, <http://www.facebook.com/naturalsciences>) and Twitter (@NCAcadOfSci, @naturalsciences, @NRCjulie). When you tweet or post to Facebook about the event use the #NCAS2014 hashtag.

THANKS!

## Register and Renew your Membership in One Easy Step: CVENT will make it even easier

Report by: Dr. Karen Guzman, Campbell University

Membership in the Academy is a great value! If you have ever attended our Annual Meeting, you know the fantastic speakers and workshops offered, as well as opportunities to present your own work or to encourage your students to present. If we are to continue to offer such high quality meetings, we need to expand our membership base, so I hope you will join and encourage your colleagues to join.

If you have difficulty remembering when to renew your membership, a great way to renew is by registering for the Annual Meeting as a non-member which automatically updates your membership by including membership in the non-member registration. It's that easy! We have now made registration **even easier** with a new online service we will be using called Cvent which allows easy registration from your computer or mobile device, provides a way to update your registration information and gives you a QR code in your email to provide a way to simply check-in using your mobile device. We are very excited to be using this service.

If you have not attended one of our Annual Meetings, I hope you will join us for the next one at the NC Museum of Natural Sciences on March 28-29. I think you will agree that events like this are what make membership a great value!

### Save the Date!

March 28-March 29th, 2014

The 111th annual NCAS conference will be held at the North Carolina Museum of Natural Sciences in Raleigh, N.C.

## 2014 Astronomy Days Exhibit at NC Natural History

Report by: Dr. Charlie Lytle North Carolina State University

Preparations for the 2014 Astronomy Days celebration at the Museum of Natural Sciences in Raleigh on January 25 and 26 are coming along well and we are looking forward to great NCAS exhibit. This year the Academy has a special guest from Russia, Dr. Yuri Karash, an expert on international space cooperation who will make presentations on Friday and Saturday afternoon on The Current State of the Russian Space Program. Dr. Karash is a former Aeroflot pilot and cosmonaut candidate trained both in the US and in Russia. Volun-

teers from NCAS, CANCAS, and NCSAS will staff the academy exhibit during the two-day event 9-5 on Saturday Jan. 25 and 12-5 on Sunday.

We have participated in this event for the past several years and it is an important part of our public outreach effort. The Academy exhibit features information on academy programs, current scientific issues affecting North Carolina and offers special hands-on science activities for children. Astronomy Days attracts some 15

-20,000 visitors annually, including many students and families with children. Numerous astronomy, space and related organizations, including NASA, provide exhibits. This is a great event for anyone interested in science, astronomy, space exploration and related areas.

We need more volunteers to help with the Academy exhibit, and anyone interested in helping with the exhibit please contact Dr Lisa Kelly at 910-521-6377 or [lisa.kelly@uncp.edu](mailto:lisa.kelly@uncp.edu)

# NCAS Annual Meeting 2014

Report by: Dr. Julie Horvath, North Carolina Central University

The 111<sup>th</sup> Annual Meeting of the North Carolina Academy of Science will be held at the North Carolina Museum of Natural Sciences in Raleigh, NC on March 28-29, 2014.

As always, there will be undergraduate and graduate students and faculty representing colleges and universities from all over the state. Because of our Museum venue, we also anticipate many members of the public joining portions of our event. We believe this provides a unique opportunity to publicize the mission of NCAS as well as become science ambassadors. Our theme for this year is “Applying Evolution to Medicine and the Environment.”

The meeting will open with a Friday evening poster session followed by a Plenary address. Saturday will include oral sessions from submitted abstracts, a Keynote address, workshops and special sessions. These sessions include a talk by Dr. Rachel Smith, Director of the Astronomy & Astrophysics Lab in the Museum and joint faculty at Appalachian State University, on “Exploring the Solar System: Voyage to the Sun, Asteroid Belt, and Beyond,” a session by Brian Malow, curator of the Museum’s Daily Planet, on “Communicating Science With Humor,” a photography workshop with David Guzman, a panel session about graduate and professional schools, and a com-

putational skills workshop led by Dr. ClarLynda Williams-DeVane from North Carolina Central University talking about “Big Data Science and You.” We will conclude the annual meeting with an engaging banquet on the first floor of the Museum.

The Plenary speaker is Randolph Nesse, M.D., who will be speaking about



“Evolution and Medicine: The Great Opportunity” on Friday evening, March 28<sup>th</sup>. Dr. Nesse is a Professor of Life Science at Arizona State University where he directs the Center for Evolution Medicine, & Public Health. His research ranges from the neuroendocrinology of anxiety to the evolution of altruism. At the center is his preoccupation with finding evolutionary explanations for traits that leave bodies vulnerable to diseases. In collaboration with George Williams and others, this work has given rise to the field of evolutionary medicine. His mission is to establish evolutionary biology as a basic science for medicine and public health. He is eager to make connections with others who share this goal.

The Keynote speaker is Rob Dunn, Ph.D., who will be speaking on “Understanding the ecology

and evolution of human bodies and homes—lessons from students, so-



lenodons and face mites” on Saturday, March 29<sup>th</sup>. Dr. Dunn is an evolutionary biologist and writer at North Carolina State University. His research focuses on the ecology and evolution of species that live in our backyards, homes or bodies ([www.yourwildlife.org](http://www.yourwildlife.org)). His writing tells the stories of biological discovery and mystery ([www.robrdunn.com](http://www.robrdunn.com)) and appears in National Geographic, Scientific American, Natural History, Nature Magazine, BBC Wildlife, New Scientist and others. He is the author of three books: “Every Living Thing,” “The Wild Life of Our Bodies,” and (coming this spring) “The Man Who Touched his Own Heart.”

For more information on the meeting, including hotel information and online registration, please visit <http://www.cvent.com/d/c4qpbk>. Registration opens February 3rd. Register early for lower rates, and especially since some space (e.g. banquet tickets) may be limited. Looking forward to seeing all of you in March!



## Special Feature: Profile of Astronomy Days Presenter Dr. Yuri Karash

Report by: Dr. Jessica McCann, Duke University

With Astronomy Days coming up, we wanted to take advantage of an exciting opportunity to interview a former Cosmonaut candidate and international space expert, Dr. Yuri Karash. Dr. Karash will be discussing the current state of the Russian space program at Astronomy Days, presenting on both Jan 25th and 26th.

Dr. Karash has had a varied career to date and his path to cosmonaut candidacy was less than direct. He told us that he had always wanted to become a pilot, inspired by his grandfather who was a fighter pilot during the Second World War. He studied history at the Lomonosov Moscow State University, majoring in Latin American Studies, and trained to be an aerobatic pilot at Chkalov Central Aeroclub in Moscow on the side. He continued on with graduate studies at the Institute of Latin America of the Soviet Academy of Sciences and was working primarily as a journalist while continuing to fly.

The itch to become involved in space flight was sparked by a little by nationalist pride. In 1989, the Tokyo Broadcasting System entered into an agreement with the Glaykosmos Soviet Space agency to send a Japanese reporter, Akiyama

Toyohiro, to the Mir Space Station. Dr. Karash told us that, "Soviet journalists felt insulted by the fact that the first reporter in space will be a Japanese citizen and that he will do it in the Soviet spacecraft and space station." To counteract this, the Union of Journalists of the USSR held a contest among Soviet journalists to win a chance to be the first journalist in space. Dr. Karash entered the contest. 'I appreciated flight mostly from the operational standpoint which views controlling an aircraft as more exciting business that controlling a spacecraft which is mostly "driven" by Sir Isaac Newton,' he said. But he was curious and adventurous by nature. While Dr. Karash was selected as a finalist in the contest, he ultimately did not make it to space. But the experience led him to pursue advance degrees in space policy and further his pilot training.

In 1991, Dr. Karash was selected by the US International Research Exchange as a visiting scholar to do research at Paul Nitze School Advanced International Studies at Johns Hopkins University. In 1992, he achieved his Masters of International Public Policy. He stayed in the US and completed



his Ph.D. at American University and George Washington University, majoring in International Relations and Space Policy. He has since become a major influence on the development of Russian space policy through his articles and presentations in both Russian and American mass media.

One thing we think about as scientists is how to best allocate limited resources to answer the most pressing questions in our research. We asked Dr. Karash where he thought space exploration research dollars are best spent. He answered that if, "the ultimate goal of space research is to extend human habitat beyond Earth, I believe that space science should above all be concentrated on the questions related to the origin of life in the Universe, search of such life, search and study of extraterrestrial planets, especially those which may have habitable conditions." He also suggested that protecting Earth from potentially hazardous asteroids should not be neglected.

## Dr. Yuri Karash: Continued

Report by: Dr. Jessica McCann, Duke University

We also asked him some questions about US space policy. Privatization of space flight has been a point of major discussion in the US of late, concurrent with the reduction of federal funding for space programs. When asked about his opinion on private firms taking over some space capabilities from government control, Dr. Karash told us that he is, "100% behind this tendency." He followed by telling us that, "by allowing private entrepreneurs to utilize near-Earth space and beyond, governments of space faring countries free much needed resources for deep space exploration." He thinks that even these government-funded activities will ultimately pave the way for the involvement of private business deep into and potentially outside the Solar System.

Finally, when asked about advice for students who want to become involved in space exploration, Dr. Karash told us this: "I have no special advice for them other than being persistent in the pursuit of their professional goals. Space exploration in this respect is not much different from the other areas of human activity. Those who want to fly in space should have some psychological and physical qualities above those of average person, or to possess what Mercury astronauts called 'the right stuff.'"

Thanks, Dr. Karash, for your time and insight, and see you at Astronomy Days!

Footnotes: Dr. Yuri Karash re-

ceived his Ph.D. in International Relations with a concentration in Space Policy from American University. His dissertation is titled: "The Superpower Odyssey: A Russian Perspective on Space Cooperation" and was published by the American Institute of Aeronautics and Astronautics.

Photo description: Dr. Karash sits near the Soyuz spacecraft full flight simulator. The simulator is located in Gagarin Cosmonauts' Training Center (a.k.a. Star City) in the outskirts of Moscow. Photo credit: Sergey Zalyotin.

### Graduate Student Opportunity: Blue

Applications will be accepted until 9 p.m. EST on February 3 for the Blue Waters Graduate Fellowship Program, an opportunity supported by the National Science Foundation. The program enables select graduate students from across the U.S. to spend a year focused on high-performance computing research. It includes a \$38,000 stipend, a tuition allowance up to \$12,000 and an allocation on the powerful Blue Waters petascale computing system at the National Center for Supercomputing Applications.

For more information: <https://bluwaters.ncsa.illinois.edu/fellowships>

### Thank you, Sustaining & Institutional Members!

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Bennett College  
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Gardner-Webb University  
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Lenoir-Rhyne University  
University of Mount Olive  
North Carolina Central University  
William Peace University  
St. Andrews Presbyterian College  
University of North Carolina at Chapel Hill  
University of North Carolina at Charlotte  
University of North Carolina at Greensboro  
University of North Carolina at Pembroke  
Wake Forest University  
Warren Wilson College  
Western Carolina University

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## **Job Openings in the Scientific Community**

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

### **1. Assistant Editor, Nature Methods, New York, NY**

Nature Methods seeks an Assistant Editor to join the editorial team based in New York. The journal is specifically looking for candidates with expertise in neuroscience, microscopy, or biophysics but will also consider exceptional candidates with other backgrounds. **Deadline to apply:** Jan 27, 2014.

### **2. Equity Research Associate (Healthcare/Biotechnology), Cowen and Company, New York NY**

Cowen and Company is seeking an Equity Research Associate to work in the New York office for the Healthcare, Biotechnology Equity Research team.

### **3. Principal Scientist (Cell Culture), Johnson & Johnson, Malvern PA**

Janssen Research & Development, LLC, a Johnson and Johnson Company is hiring a Principal Scientist to be located in Malvern, PA. Janssen Research and Development develops treatments that improve the health and lifestyle of people worldwide. Research and development areas encompass novel targets in neurologic disorders, gastroenterology, oncology, infectious disease, diabetes, hematology, metabolic disorders, immunologic disorders, and reproductive medicine.

### **4. Research Position (Neural Stem Cells), Ohio State Wexner Medical Center, Columbus OH**

We are looking to hire a postdoctoral fellow to study molecular biology of neural stem cells responses to neuroinflammation. We are interested in the genes and molecular pathways that are essentials for neural stem cells responses in models of multiple sclerosis. The postdoctoral fellow will participate in research projects involving stem cell culture, molecular biology, and gene expression analysis.

### **5. Clinical Trial Liaison, PRA International, Raleigh NC & Other Locations**

The Clinical Trial Liaison (CTL) will develop relationships with clinical trial investigators and research site staff to facilitate recruitment of subjects in pharmaceutical industry clinical trials for which PRA serves as the contract research organization (CRO). The CTL will work in concert with PRA's clinical research associates (CRAs) to ensure that investigators and site staff have a thorough understanding of the investigational agents being used in the study, the trial's eligibility criteria, and all study procedures.

### **6. Computational Toxicologist, Integrated Laboratory Systems, RTP NC**

### **7. Research Associate I, Integrated Laboratory Systems, RTP NC**

### **8. Research Positions (Biostatistics/Computational Biology), NIEHS, RTP NC**

The National Institute of Environmental Health Sciences (NIEHS), part of the National Institutes of Health (NIH), is recruiting for multiple full-time appointments at either the tenure-track or tenure-eligible level (Assistant, Associate, and Full Professor equivalents) in the areas of biostatistics, bioinformatics, and computational biology. The positions are within the Biostatistics Branch (<http://www.niehs.nih.gov/research/atniehs/labs/bb/index.cfm>) which enjoys ties to nearby departments of statistics and biostatistics.

### **9. Senior Medical Science Liaison (Diabetes), Janssen Scientific Affairs, NC and TN**

Janssen Scientific Affairs, LLC, a member of Johnson & Johnson's Family of Companies, is recruiting for a Senior Medical Science Liaison (Diabetes) to cover the following region: North Carolina & Tennessee. We are dedicated to providing medical information and consultative support to a number of J&J's pharmaceutical companies. The company's mission is to create the pre-eminent model of scientific excellence in the promotion of public health.

### **10. Equity Research Associate (Healthcare/Specialty Pharmaceuticals), Cowen and Company, New York NY**

Equity research analysts follow the progress of public pharmaceutical companies and make stock recommendations to institutional investor clients. This position is ideal for someone with a passion and background in both science and investing who wants to become better skilled at applying their knowledge towards generating good investment ideas.

### **11. Sell-Side Equity Research Associate (Biotechnology/Pharmaceutical), ISI Group, New York NY**

ISI is a full service broker-dealer offering macro and fundamental research, sales, and rating.



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Check us out on the web!  
<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
- 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

