

# The TarHelium



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## NC-ACS EXECUTIVE COMMITTEE

K. Levine, *Chair*  
M. Pasquinnelli, *Chair-Elect*  
S. Eckert-Tilotta, *Secretary*  
J. T. Bursey, *Treasurer*

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## Notes from the Incoming Chair: Keith Levine

It's an honor and a privilege to have the opportunity to serve the NC-ACS as Chair for 2012. First and foremost, I would like to express my sincere gratitude to *Kenneth Tomer* for his service as our Chair in 2011 and to all of the members of the NC-ACS Executive Committee for their help and guidance in preparing me for this position.

Although I have been involved with NC-ACS activities for many years, I never cease to be amazed at the professional breadth and diversity of our **Section's Membership**. One of our Section's primary goals for the coming year will be to schedule a wide variety of events to encourage participation and involvement throughout our Section. Some of the activities highlighted for 2012 include:

- There are many opportunities to get involved in helping our Section host the Southeastern Regional Meeting of the American Chemical Society (SERMACS), held at the Raleigh Convention Center on November 14-17. For additional information about the conference, please visit <http://sermacs2012.org/> or contact [Charles A. Goss](#), the General Chair.
- Become active in one of our **Section's Discussion Groups**, including the Polymer, Triangle Area Mass Spectrometry,

Triangle Chromatography, and Triangle Magnetic Resonance Discussion Groups and the Women Chemists and Younger Chemists Com-



mittees. For additional information, please click [here](#).

- Get involved with helping our Section promote chemical education by supporting our highly effective Project SEED Program for economically disadvantaged high school students, our undergraduate scholarship program, and the Chemistry Olympiad. For more information about each of these activities, please visit <http://ncacs.sites.acs.org/>.
- Learn critical networking and resume tips at an upcoming career development workshop. For more details, check future issues of this newsletter, the NC-ACS website, and NC-ACS listserver posts. Instructions on how to subscribe to the listserver can be

found at the NC-ACS website (URL above).

- Join our growing [LinkedIn](#) group to network with chemistry colleagues from across our local Section. Click [here](#) to join.
- Perform chemical demonstrations at outreach events for the general public, including the North Carolina State Fair and National Chemistry Week at the Museum of Natural History in Raleigh. For more information, check future newsletter issues, the NC-ACS website, and NC-ACS listserver posts.
- Network with other NC-ACS members at social events, including NC-ACS nights at the Durham Bulls Athletic Park and tours of local breweries, among other things. For more information, check future newsletter issues, the NC-ACS website, and NC-ACS listserver posts.
- To stay informed about these and other opportunities within our local Section, join our new volunteer listserver by sending a note to: [ncacs-volunteers@lists.ncsu.edu](mailto:ncacs-volunteers@lists.ncsu.edu).

With the current climate of economic uncertainty, there has simply never been a better time to be an active member of the NC-ACS.

We hope to see you soon!

[Keith Levine](#)

## A Note from the Outgoing Chair: Ken Tomer

I thought that my duties would be over at the end of 2011, but it seems I was intentionally trying to forget about writing a note from the Past Chair and preparing and submitting our Annual Report that goes to the National ACS. I can also say that my view of the responsibilities of the Chair-Elect and the Past-Chair (nominations and elections, etc.) probably exceed those of the Chair.

I do want to take this opportunity to thank all of our volunteers who have participated in our program this past year. They are the unsung heroes who make the section activities, such as Earth Day, National Chemistry Week, section meetings, among many activities, really work. I thank you all and hope that you will continue to be involved in Section activities as volunteers and future officers.

Because of the delay in the November issue I would like to include my notes from October. Fall got off to a great start with our Annual Section Meeting held at NCSU College of Textiles at the end of September. We really want to acknowledge the great facilities that were made available to us by the College and to the wonderful volunteers who turned a really good meeting into a great one. And special thanks go to our Chair-Elect, *Keith Levine*, who was in charge of it all. Attendance exceeded 200 members, and there were over 100 posters. As usual, the poster presenters were exceptional,

and a number of financial rewards were given out to the best. A more detailed review of the meeting appears later in this issue. I also want to thank the three specialty discussion groups that are under the auspice of the Section: the *Chromatography Discussion Group*, the *Mass Spectrometry Discussion Group* and the *Magnetic Resonance Discussion Group*, who held joint activities sponsored by the Section as part of our IYC celebration.

The next Section activity was October 25, when we continued our celebration of the *International Year of Chemistry* with a nod to one of the earliest advances in biochemistry. The meeting was held at *Aviators' Brewery* and a discussion of beer brewing and a tasting were the foci of the evening. Thanks to *Angela Stewart*, our IYC coordinator, for organizing the evening.

*James Harrington*, our National Chemistry Week coordinator, organized this year's celebration at the NC Museum of Natural Sciences and the North Carolina Museum of Life and Sciences. There was a high turnout for these events, also. Again, our volunteer workers and James did a great job.

And finally, I wish the best to our incoming Chair, *Keith Levine*, incoming Chair-Elect, *Melissa Pasquinelli*, and our new Secretary, *Sally Eckert-Tilotta*.

## NC-ACS Local Section Executive Committee Meetings

The NC-ACS Local Section Executive Committee meets on the first Wednesday of every month. Meeting dates are: April 4, May 2, June 6, August 1, September 5, October 3, November 7, and December 5. Meetings are held at the Hamner Institute in the Research Triangle Park at 4:30 p.m. All members are welcome and encouraged to attend! Get to know your Executive Committee! Get involved! Volunteer!

### Address:

The Hamner Institutes for Health Sciences  
6 Davis Drive  
PO Box 12138  
Research Triangle Park, NC 27709-2137

### Directions:

Coming from I-40 West: Exit 280 Davis Drive, right onto Davis Drive. The Hamner Institute is the second campus on the left. There is a left turn lane here.

Coming from I-40 East: Exit 280 Davis Drive, right onto Davis Drive. Continue through one stoplight. The Hamner Institute is the second campus on the left. There is a left turn lane here.

## THE TARHELIUM

*The TarHelium* is a publication of the North Carolina Section of the American Chemical Society (NC-ACS) and is published on a quarterly basis. The newsletter can be viewed at <http://ncacs.sites.acs.org/tarheliumnewsletter.htm>. The views expressed herein are not necessarily those of the Section. Public lectures and seminars, as well as announcements of interest to the ACS membership, will be listed as deemed appropriate by the editor and as space permits. Short commentaries or contributed articles will also be considered. Also, we are happy to publicize, free of charge, any job openings for chemists. We also accept paid advertisements for more extensive recruiting announcements.

*Advertisers:* Current ad prices for an entire year (4 issues) are: half page, \$200.00; quarter page, \$100.00; business-card size, \$50.00. Single issue prices are: half-page, \$100.00; quarter page, \$50.00; business-card size, \$25.00. Please send your *camera-ready* ad (preferably in .tif or .jpg format) to [Maria Francisco](mailto:maria.francisco@ncacs.org). Make checks payable to NC-ACS and mail to Dr. J. T. Bursley, 101 Longwood Pl., Chapel Hill NC 27514.



## NC Section Electronic Communications

The NC-ACS offers two services which may be of interest to members: 1) a list server and 2) a web page: <http://ncacs.sites.acs.org/>.

The list server is used for ACS meeting announcements and for job announcements. Unlike some lists, the number of postings is quite limited—usually no more than 3 or 4 a month. This list is moderated, which means that all messages must be approved by the list owner before they are posted. If you have a valid opening within the NC Section, please mail an appropriate announcement to [Bill Switzer](mailto:bill.switzer@ncacs.org). Very occasionally, openings outside of the NC Section are posted. If you wish to subscribe, please address mail to: [mj2@lists.ncsu.edu](mailto:mj2@lists.ncsu.edu). The subject field is ignored, but in the message field, type: **subscribe NCACS**. Your return address becomes your subscription address. These instructions, as well as those for removing your name, are linked to the web page.

If you have not looked at the web page recently, please do so. The Executive Committee is committed to making this page a useful resource. It is constantly being updated to include new information. Please feel free to suggest additional links and PLEASE offer to take responsibility for maintaining one or more of the local links.

## Local Section Election Results

### Chair-Elect, 2012

Melissa Pasquinelli

*Dr. Melissa A. Pasquinelli*, a member of the American Chemical Society since 1993, has been serving on the NC-ACS Executive Committee as Secretary since February 2007 and Alternate Councillor since January 2010. Through the NC-ACS Project SEED program, she has also mentored research projects for 5 high school students who have won awards on this work in numerous science competitions. In addition, through her leadership in college, her Chemistry Club was awarded an ACS "Outstanding Student Chapter" award in 1995 and 1996.



Dr. Pasquinelli works as an Assistant Professor at North Carolina State University in the Department of Textile Engineering, Chemistry, and Science. Her research expertise is in the design and application of computational approaches that predict and modulate the properties of systems at the nanoscale, including polymers, proteins, fibers, and nanoparticles. (More information about her team and their research projects can be found at <http://www.te.ncsu.edu/mpasquinelli>.) She also teaches a variety of courses each year at the undergraduate and graduate levels on topics such as computer modeling, engineering thermodynamics, and sustainability of soft materials. Prior to joining NC State, she completed two postdoctoral positions; she worked for two years as a Computational Chemist with the Office of Research and Development at the U.S. Environmental Protection Agency in the National Center for Computational Toxicology, and she also worked as a Sloan Postdoctoral Fellow at Duke University with Prof. David Beratan. She received her Ph.D. in Theoretical Chemistry from Carnegie Mellon University in 2002 and her B.S. in Chemistry with honors in 1996 from Seton Hill University in Greensburg, PA. She is originally from Saint Marys, PA, which is near the beautiful Allegheny National Forest. In addition to her research and teaching activities, Dr. Pasquinelli has a long history

of community outreach activities, which has included judging several regional and state science competitions a year, mentoring females and minorities interested in technical fields, serving as a mentor to K-12 science teachers, leading a local amateur philosophy group, and presenting science-based workshops to students in middle school and high school. In her spare time, she enjoys exploring the outdoors, playing cards, listening to music, practicing yoga and Pilates, and spending time with her family, friends, and pets.

### Secretary, 2012-2014

Sally Eckert-Tilotta

*Sally Eckert-Tilotta* is a Scientific Review Officer at the National Institute of Environmental Health Sciences (NIEHS) located in RTP. Her duties involve recruiting and managing review committees for evaluating proposals submitted to NIEHS. She received her B.S. in Chemistry from Eastern Illinois University and Ph.D. in analytical chemistry, with a concentration on robotic applications, from Utah State University. Dr. Eckert-Tilotta also held a post-doctoral appointment at Baylor University where she worked on biosensors for the detection of calcium in the bloodstream. Following her post-doctoral work at Baylor, she moved to the University of North Dakota where she conducted research on the use of supercritical fluid extraction for environmental matrices (at their Energy and Environmental Research Center) as well as establishing and managing a Water Quality Laboratory in their Geology Department. Eventually, she was selected for a position in the Office of Research and Program Development at UND and ultimately became its Acting Director. Dr. Eckert-Tilotta joined NIEHS in 2002.



Dr. Eckert-Tilotta has been a member of the ACS since 1987. She lives in Durham with her husband, Dr. David Tilotta, and two Cardigan Welsh Corgi dogs. Her latest hobby has been finding new ways of using an overwhelming supply of eggplants and peppers from her garden.

### Councillor, 2012-2014

James Lee Chao

*James Lee Chao* received his B.S. and M.S. in Chemistry from the University of Illinois-Urbana in 1975 and 1976. He earned his Ph.D. in Physical Chemistry from the University of California-Berkeley in molecular spectroscopy in 1980. He retired in 2009 from IBM Corporation after a 30-year career as a materials scientist and finishing as strategist in business development for emerging technology commercialization. For many years, Jim also collaborated on developing novel methods for time-resolved infrared spectroscopy research as an adjunct professor at Duke University.



Jim has served the North Carolina local section in a number of capacities including Chairman in 1991, alternate councillor in 1992, and councillor since 1993. While serving as chair-elect of the section, he **reinstated the section's participation in Project SEED**. In 1990, he was involved with local fund raising for the National ACS Campaign for Chemistry. From 1997-2001, he served on the International Activities committee. In 2002 he was appointed to the Committee on Patents and Related Matters and where he now serves as National committee chair. From 2008-11, he was subcommittee chair of National Awards with responsibility for preparing nominations for the ACS Board of Grants and Awards for the National Inventors Hall of Fame, the National Medal of Technology and Innovation, and the National Women's Hall of Fame.

Jim was responsible for introducing the North Carolina section to the NC State Fair in 1996 which has long been one of **the section's largest participation events**. Jim has served the section as the Undergraduate Scholarship Committee Chairman from 1992-98 and has since been a member on the selection committee. Presently, Jim is responsible for the Awards **recognition events for the section's hosting** of the upcoming SERM 2012 regional meeting. In 1997, Jim was recognized by receiving the Marcus E. Hobbs Service Award from the section.

## 125<sup>th</sup> NC-ACS Section Conference

–Contributed by Keith Levine

The 125<sup>th</sup> Conference of the North Carolina Section of the American Chemical Society (NC-ACS) was held on September 30, 2011, at North Carolina State University's College of Textiles (Centennial Campus). Building on the success of previous conferences, this year's event set NC-ACS records for both the number of presentations (129 posters) and overall attendance (nearly 250 attendees from across North Carolina). We were very excited to see the steady increase in interest and participation in this free event!

Highlights of the conference included:

- An outstanding buffet provided by 9Lyz Catering
- Four poster sessions: High School Students/Project SEED, Undergraduate Students, Graduate Students, and Post Doctoral Scientists/Professionals
- Oral presentations from undergraduate students on Catalysis by Dehaloperoxidase: Inside and Out (Mentor: Dr. Stefan Franzen)
- Recognition of outgoing Chair, Kenneth Tomer

- Acknowledgment of 50-year and 60-year ACS members
- Recognition of NC-ACS Undergraduate Scholarship winners: Rikki Horne, Isaac Ounda, Katherine Reichert, and Meghan Wilt
- Recognition of ACS Fellows from our local section
- Awards for the top posters from each session
- Presentation of the 2011 NC-ACS Distinguished Speaker award to Dr. Nicholas Oberlies, Associate Professor, Department of Chemistry and Biochemistry, University of North Carolina at Greensboro, entitled: "Needles in the Hay Stack: Structurally Diverse Anticancer Leads from Filamentous Fungi."

Without question, the success of this year's conference was a direct result of many dedicated volunteers. On behalf of our section, I wish to express a heartfelt 'thank you' to all of the volunteers who donated their time and energy before, during, and after the conference. These volunteers are listed:

Suraj Dhungana (Registration Chair)  
Amal Essader (Judging Chair)  
Stella Lam (Recruiting Chair)  
Paige Presler-Jur (Organization Chair)  
Tony Andradý (Poster Judge)  
Linda K. Bailey-Stone (Poster Judge)  
Michelle Conner (Conference Booklet)  
Lyndsay Dalby (Poster Judge)  
Lois Driggers (Registration)  
Reshan Fernando (Poster Judge)  
Eric S. Hall (Poster Judge)  
John Hines (Poster Judge)  
Jenny Holmes (Poster Judge)  
RKM Jayanty (Poster Judge)  
Karen Jordan (Registration)  
Sumith Kottegoda (Poster Judge)  
Neelima Kunta (Poster Judge)  
Michelle McCombs (Poster Judge)  
Gwen McNeil (Registration/Set-Up)  
Michelle Munoz (Registration)  
Alexandra B. Ormond (Set-Up)  
Laurie Stella (Conference Booklet)  
Jennifer Warren (Conference Booklet)  
Behnaz Whitmire (Registration)  
Meghan Wilt (Poster Set-Up)  
Ventak Yetukuri (Poster Judge)

## 2011 NC-ACS Distinguished Speaker: Nicholas Oberlies, UNC Greensboro

### Needles in the Hay Stack: Structurally Diverse Anticancer Leads from Filamentous Fungi



Nicholas Oberlies is Associate Professor in the Department of Chemistry and Biochemistry at UNC Greensboro. His research focuses on the isolation and structure elucidation of bioactive compounds from natural sources, including filamentous fungi, predator bacteria, and plants.

Such studies have ramifications both in the realm of drug discovery (in search of new anticancer and/or antibiotic agents) and in the area of herbal drugs (developing reference standards and studying herb-drug interactions).

Before coming to UNC Greensboro, Nick spent time at RTI International in the Natural Products Laboratory, coming to RTI specifically to be mentored by Dr. Mansukh C. Wani and the late Dr. Monroe E. Wall, who are most well known as the co-discoverers of taxol and camptothecin. He rose progressively through the ranks of RTI and eventually directed the Natural Products Laboratory. He had also served the

NC-ACS as Alternate Councilor from 2004-2009.

Nick received his B.S. in Chemistry from Miami University (Oxford, Ohio) in 1992 and his Ph.D. in Medicinal Chemistry and Pharmacognosy from Purdue University (West Lafayette, Indiana) in 1997, where he studied under Professor Jerry L. McLaughlin. He then spent a year as a postdoctoral chemist at American Cyanamid (Princeton, New Jersey), where he investigated leads with insecticidal, herbicidal, and fungicidal properties from natural sources.

His research is currently supported by various institutes within the National Institutes of Health, including the National Cancer Institute and the National Institute of General Medical Sciences.

**Abstract:**  
Natural products have a long history of providing new drug leads, with taxol and camptothecin probably being the most notable examples discovered in the Triangle. Fungi, in particular,

have yielded several drugs that have had a dramatic impact on society. Indeed, it has been posited that penicillin may have had the greatest impact on life expectancy in the 20<sup>th</sup> century. Presently, the statins are one of the largest selling drugs in the history of mankind. Even the newest agent for the treatment of multiple sclerosis, fingolimod, was hailed as one of the top 10 medical inventions of 2010. Common to all of these drugs is fungi as the initial source of the lead.

For the past four years, the Oberlies Laboratory has been examining the Mycosynthetix library of >55,000 filamentous fungi grown in culture for anticancer agents. Several leads have been identified; many of these are produced in a high yield, providing an entry point into medicinal chemistry studies. The chemical diversity of the leads compares favorably to FDA-approved anticancer agents, particularly when evaluated against leads from other source materials, such as cyanobacteria and tropical plants.

## Poster Awards at the NC-ACS Sectional Conference

–Contributed by Keith Levine

Our section continued to recognize excellence in poster presentations at our sectional conference. This year, the posters were presented in four sessions: High School Students/Project SEED, Undergraduate Students, Graduate Students, and Post Doctoral Scientists/Professionals. The quality of all the posters was very high, which made for difficult judging decisions. After much discussion, however, the judges agreed on the winning posters from each session. Congratulations to all of the winners (listed below) and to all who participated!

The winners were:

### High School Students / Project SEED

Place	Name	Poster Title
1 <sup>st</sup> (\$300)	Vipul Vachharajani	The RNA-Binding Protein HuR Binds and Stabilizes Unspliced mRNA In Vivo
2 <sup>nd</sup> (\$200)	Jeehae Nam	Luminescence Quenching in Cd MOF for Enantioselective Sensing
3 <sup>rd</sup> (\$100)	Mark McKay	Biomarkers for Early Prognosis of Lung Cancer in Lung Tumor Model
Hon. Men. (\$50)	Michaelangelo Lucas	The Effects of Various Stresses on the Growth Rate of <i>Saccharomyces cerevisiae</i> and <i>Kluyveromyces lactis</i>
Hon. Men. (\$50)	<b>Ja'kee Brown</b>	Solvation Free Energy Simulations for Alternative FKBP12 Inhibitors: A Comparison and Mutation Study of FK506
Hon. Men. (\$50)	Eben Evbuomwan	Background Subtracted Fast Scan Cyclic Voltammetry for the Detection of Superoxide Anion

### Undergraduate Students

Place	Name	Poster Title
1 <sup>st</sup> (\$300)	Michael Woolford	Cellulose Fiber Length Distribution Changes During Enzymatic Hydrolysis
2 <sup>nd</sup> (\$200)	Quang Ly	How Phosphonium-based Ionic Liquid Counterions Govern Ionic Conductivity of Polyester-sulfonate Isomers
3 <sup>rd</sup> (\$100)	Katherine Reichert	Iron Transport in <i>B. Pertussis</i>
Hon. Men. (\$50)	Sayyeda Razi	Hydrophilic and Hydrophobic Copper Chelators: Pro-oxidants or Anti-oxidants?
Hon. Men. (\$50)	Meredith Hyatt	Metal Coordination Polymer Networks, A Modular Approach
Hon. Men. (\$50)	Najah Salleh	Synthesis and Characterization of Few-Layered Graphene

### Graduate Students

Place	Name	Poster Title
1 <sup>st</sup> (\$300)	Sunhee Hwang	Characterization of the Binding Interaction between Lysine-Specific Demethylase 1
2 <sup>nd</sup> (\$200)	Kiyoun Lee	Stereoselective Synthesis of Tetrahydropyrans via Tandem and Organocatalytic Oxa-Michael Reactions: Synthesis of the Tetrahydropyran Cores of ent-(+)-Sorangicin A
3 <sup>rd</sup> (\$100)	Mohammad Khan	Engineering of the Yield Properties of the Oxide Skin on a Liquid Metal Alloy
Hon. Men. (\$50)	Kamal Aferchichi	Effect of Carbon Nanotubes on <i>Bacillus anthracis</i> Cell Growth and Spore Formation
Hon. Men. (\$50)	Scott Jewett	Decreasing the Toxicity of InAs Through Adlayer Adsorption
Hon. Men. (\$50)	David Bowman	Low-Spin vs. High-Spin Ground State in Pseudo-Octahedral Iron Complexes
Hon. Men. (\$50)	Philip Gach	Magnetic Microstructures for Single Cell Sorting
Hon. Men. (\$50)	Michael Bertucci	Combinatorial Development of Peptide-Based Nucleophiles for AHL Lactonolysis
Hon. Men. (\$50)	Jonathan Halbur	Inorganic/Organic Hybrid Processes for Nonwovens

### Postdoctoral Scientists / Professionals

Place	Name	Poster Title
1 <sup>st</sup> (\$300)	Emma Nagy	Towards the Synthesis of Neuroprotective Compounds
2 <sup>nd</sup> (\$200)	Takashi Tsuchiya	Configuration Interaction Study of the Ground and Excited States of TiO <sub>2</sub> Ring Structures
3 <sup>rd</sup> (\$100)	Brittany White	Pilot Scale Production of Angiotensin I-converting Enzyme (ACE) Inhibitory Peptides from Aflatoxin Contaminated Peanut Meal

## NC-ACS Undergraduate Scholarship Awards

The North Carolina Section of the ACS (NC-ACS) is pleased to announce four recipients of 2011 NC-ACS undergraduate scholarship awards: *Rikki Horne*, *Isaac Ounda*, *Katherine Reichert*, and *Meghan Wilt*.

Rikki Horne, a student working under the direction of Dr. Alexander Deiters (NCSU) was selected to receive the Gertrude Elion NC-ACS Undergraduate Scholarship Award. Her research focused on development of novel photosensitizers, capable of specifically targeting cancer cells and/or bacteria over host mammalian tissue.

Isaac Ounda, was selected to receive the Ivy Carroll NC-ACS Undergraduate Scholarship Award. Isaac, studying under the direction of Dr. Alfred L. Williams (NCCU), conducted research which involved the design and development of a small molecule potentiator of nerve growth factor induced neurite outgrowth.

Katherine Reichert, was selected to receive the Ernest Eliel NC-ACS Undergraduate Scholarship Award. Katherine, studying under the direction of Dr. Alvin L. Crumbliss (Duke University), con-

ducted research to determine if and how Ferric Binding Protein (Fbp) interacts with multiple and varied siderophores.

Meghan Wilt, a student working under the direction of Dr. Julie A. Willoughby (NCSU), was selected to receive the Howie James NC-ACS Undergraduate Scholarship Award. Her research focused on studying the utilization of lignin, the second most abundant naturally occurring polymer, and a biorefinery co-product.

For each of the award recipients, funds (\$3,500) were sent to the academic department where the research was conducted. Funds could be used to cover reagents, instrument components, labware, copies, books, software, or travel costs associated with presentation of award research, and the student's salary. In addition, three of the students received \$500 for presenting their research findings at the 125<sup>th</sup> NC-ACS Sectional Meeting. Once again, congratulations to each of this year's winners!

For additional information about the NC-ACS scholarship, please contact *Jeremy Feducia* by [email](#) or look in future issues of this newsletter.

## Pictures from Local Section Meeting



## NC-ACS to Host SERMACS in Raleigh November 2012

**SERMACS 2012**  
The Southeastern Regional Meeting  
of the American Chemical Society

**Catalyzing Sustainable Innovation**

**14-17 November 2012**  
Raleigh Convention Center  
Raleigh, North Carolina

Website: [www.SERMACS2012.org](http://www.SERMACS2012.org) available in 2011

**SERMACS 2012**  
The Southeastern Regional Meeting  
of the American Chemical Society

**Catalyzing Sustainable Innovation**

<b>Symposia Highlights</b> ♦ Energy and Sustainability ♦ Chemistry and Medicine ♦ Nanochemistry ♦ Chemical Biology ♦ Polymers ♦ Chemical Education ♦ Food and Agriculture ♦ Environment and Safety	<b>VENDOR EXPOSITION</b>	<b>Other Events</b> ♦ Awards Ceremony ♦ Workshops ♦ High School Program ♦ Project SEED ♦ Entrepreneurial Chemistry ♦ WCC & YCC
	<b>SCI-MIX</b>	
	<b>GRADUATE FAIR</b>	
	<b>UNDERGRADUATE PROGRAM</b>	
	<b>SOCIAL NETWORKING</b>	

14-17 November 2012, Raleigh Convention Center, Raleigh, North Carolina

NC-ACS will be hosting the Southeastern Regional Meeting of the ACS (SERMACS) November 14–17, 2012. In the months leading up to this event, the Planning Committee meets on the second and fourth Wednesday of each month in person at GlaxoSmithKline in RTP and online via WebEx (for those who want to attend remotely).

Volunteers are needed for the following positions:

- Fundraising
- Academic Exhibits

If you are interested in joining the organizing committee, please contact [Charlie Goss](#). Thank you!

The current Planning Committee members are listed in the table below:

Position	Name	Position	Name
General Chair	<a href="#">Charles A. Goss</a>	Treasurer	<a href="#">Sol Levine</a>
General Program	<a href="#">Marc ter Horst</a> (chair)	Graduate Fair	<a href="#">Ana Mureson</a>
Registration	<a href="#">Keith Dawes</a>	Awards	<a href="#">Jim Chao</a>
AV	<a href="#">David Elam</a>	Project SEED	<a href="#">Alan Tonelli</a> (chair)
Public Relations	<a href="#">Danna Mattocks</a>	Signage	<a href="#">Anderson Cox</a>
Internet and Social Media	<a href="#">Anderson Cox</a>	Webmaster	<a href="#">Dustin Wheeler</a>
Program Book	<a href="#">Lyn Francisco</a>	Events	<a href="#">Christie Okoruwa</a>
Workshops	<a href="#">Catherine R. Brennan</a>	ACS Meeting Planning Office	<a href="#">Michelle Stevenson</a>
Symposia	<a href="#">Kenneth Tomer</a> (chair) <a href="#">Richard Palmer</a> <a href="#">Alan Tonelli</a> <a href="#">Shri Kulkarni</a> <a href="#">Yara Yingling</a>	Site Planning	<a href="#">Charles Goss</a> <a href="#">Sol Levine</a> <a href="#">Keith Dawes</a> <a href="#">John Hines</a> <a href="#">Bill Switzer</a> Carson Burrington
Undergraduate Symposium	<a href="#">Dan Shin</a> <a href="#">Dan Barber</a> <a href="#">W. Lin Coker, III</a>	Vendor Exposition	<a href="#">John Hines</a> (chair) <a href="#">Reshan Fernando</a>
Unassigned	<a href="#">Steve Meyerhoffer</a> <a href="#">Melanie Silinski</a> <a href="#">Ken Lyle</a>		<a href="#">John Mathis</a> <a href="#">Blake Derrick</a> <a href="#">Kassy Mies</a>
		<a href="#">Jim Parise, Jr.</a>	

## NC-ACS Participates in National Chemistry Week Activities

–Contributed by James Harrington

The annual National Chemistry Week activities were held this year on October 15<sup>th</sup> and 22<sup>nd</sup> at the North Carolina Museum of Natural Science in Raleigh and at the North Carolina Museum of Life and Science in Durham, NC, respectively. At the Museum of Natural Science activity, eleven groups from local universities and companies took part, presenting interactive displays on the theme of “Chemistry—Our Health, Our Future.” Participating groups included professional scientists and students who came to teach the guests, young and old, about the importance of chemistry in their everyday lives. Some of the groups who volunteered included the student chapter of Alpha Chi Sigma of North Carolina State University, the Duke University Chemistry Demonstration team, and the Meredith College Student Affiliate Chapter of the ACS. Groups that were arranged by the local section were joined by a demonstration by ArtSpace on the chemistry and production of Batiks and Emily Fennel, a local Girl Scout, who gave a presentation on environmental science and chemistry for her Gold Award. The topics that were presented ranged from density demonstrations to the electrochemistry of the brain by the laboratory of Dr. Leslie Sombers at NC State University. Another popular activity, presented by GlaxoSmithKline, included

synthesis of play-dough and quality control procedures. Dr. Sol Levine also gave the popular States of Matter presentation three times during the day, providing the pops, bangs, and flashes that never fails to excite the audience.

Total attendance at the event was approximately 1750 people who came to enjoy the



fun and educational activities. Following the event, one of the museum organizers, Bonnie Eamick commented, “I think it was a great event, I loved the number of hands-on activities that the visitors were able to take part in! I really felt that the nature of the activities worked well for our visitors, since we have a large age range from young children to adults.” She cited the family-

based audience at the museum and praised how the demonstrators were able to explain chemistry to everyone. “I liked how a small child was able to go up to a table and have something explained to them, and then the parents could talk to the same table and get something with more depth so that they could also learn something.”

The following weekend, an event was held at the NC Museum of Life and Science featuring chemistry demonstrators from Duke University. A series of six experiments were available for the visitors of the museum focusing on blood pH regulation, stomach acids, tooth brushing, and other health-related topics. The event was held alongside a group of scientists from Alpha Chi Sigma, who were giving an interactive presentation on the topic of chemiluminescence. An estimated 150 visitors took part in the activities, allowing more one-on-one attention for the young learners. Both events were well-received and provided an opportunity for young learners to get a glimpse of how ubiquitous chemistry is in their lives.

If you are interested in taking part in the NCW activities for 2012, please click [here](#) to contact James Harrington by email

## Make Your Own Chemistry Challenge Kits—International Year of Chemistry 2011

Upper elementary and middle school teachers: you can make your own Chemistry Challenge Kits for use with your students.



The program, which was established to celebrate International Year of Chemistry 2011, is called [Chemistry: Investigating Your World](#), and it comes with a teacher’s guide as well as a complete list of materials you’ll need to put together this kit.

This kit is useful for an entire classroom of

students to explore the four clues of chemical change:

- Production of a gas
- Formation of a precipitate
- Color Change
- Change in temperature

Check out the four lessons to find out how meeting scientists around the world, investigating clues of chemical change, and real-life applications are woven together to make learning chemistry relevant and fun.

All the information you need is available at the Chemistry: Investigating Your World website. Click [here](#) or the picture for more details. The website for making up your own kit may be found by clicking [here](#).



## Duke Chemistry Outreach Program Brings Chemistry to Community

The Duke Chemistry Outreach Program was initiated in August 2005 in response, in part, to President Brodhead's desire for Duke to play a greater role in the surrounding community. The program provides opportunities and the necessary training for Duke University students to share their interest in and enthusiasm for doing chemistry with the community. From August 2005 through August 2008, solely volunteers, including undergraduate and graduate students, members of the instructional and office staff, some professors of chemistry, and family members, among others, ran the program. Volunteers have been, and continue to be the lifeblood of the Duke Chemistry Outreach Program.

The CHEM 109 Chemistry Outreach Service Learning Course was created out of my desire for Duke students to earn academic credit for what they have already been doing voluntarily. With the support of the Departments of Service Learning and of Chemistry, the course was created and first offered in the Fall 2008 term. CHEM 109 is in its fourth year, eighth semester of operation. To date, 99 students have successfully completed the course providing more than two thousand hours of service to the community.

In the Durham area, we've staged presenta-

tions for Hillandale, Easley, Forest View, E. K. Powe, Club, Hope Valley, Burton, Watts, & Creekside Elementary Schools; Githens and Rogers-Herr Middle Schools; Triangle Day School, Bethesda Christian Academy, The Nativity School, and Kestrel Heights School. We also have a very close working relationship with the NC Museum of Life & Science for whom we've staged numerous presentations.

The program is not limited to Durham. Presentations have been staged in Raleigh, Cary, Chapel Hill, Hillsborough, Holly Springs, Coats, Roxboro, Mebane, Greensboro, Morgantown, and Marion. And we have gone interstate performing at an elementary school in Roanoke, Virginia. This past October the Duke Chemistry Team participated in the USA Science & Engineering Festival held in Washington, DC, sharing chemistry on Freedom Plaza with thousands of attendees.

In addition, we support numerous other Duke/Durham initiatives, including FEMMES, SPLASH, Techtronics, Science U, BOOST, Alumni Weekend, Science Days, Durham PAGE, the NC Section of the American Chemical Society, and Durham Girls & Boys Club, among others. The program continues to expand, mostly by word of mouth, taking on new commu-

nity partners and venues. More than 300 people attended the 7<sup>th</sup> Annual Science under the Stars event last October 20<sup>th</sup>. This event has been expanded to not only include Duke Chemistry but also Physics, Biology, Engineering, IGSP, and several student-run Duke initiatives. It was a festival atmosphere emphasizing Duke Science. Various stations were set up where the attending audience interacted with and participated in the science. A short demonstration spectacular show concluded the evening's program. A good time was had by all. For pictures of this event, please click [here](#) to view them on our [Facebook](#) page.

Thanks to the support of the Duke-Durham Partnership, GlaxoSmithKline, Biogen idec, the Duke Department of Service Learning, The Duke Endowment, and the Duke Department of Chemistry, we've not only been able to continue the outreach program and CHEM 109, but also expand the program taking on new community partners and enabling us to put more science into the hands of young children.

If you desire to more know of this program or the CHEM 109 course, please click [here](#) to contact Dr. Ken Lyle by email.

–Submitted by Ken Lyle



Left: Duke students Peter Farmer and Naomi Kelly demonstrate the unusual properties of Oobleck, Duke Alumni Weekend, April 2011.

Above: CHEM 109 Class, Spring 2011

## Wetzel Named 2011 Astellas-NSTA Fellow



Natalie Wetzel, a Chemistry teacher at [Kestral Heights School](#) in southeast Durham, was named a 2011 Astellas-[New Science Teacher Academy](#) fellow. Funded by the [National Science Teacher Association](#) (NSTA), this fellowship provides Wetzel with membership in the NSTA, online planning tools and access to web-based professional development activities, an online mentor, networking opportunities with other science educators, and pays all expenses to attend the national NSTA meeting, which will take place in March 2012 in Indianapolis, IN. Wetzel received her BS in Chemistry from Emory University and a MA in Teaching from Duke University.

The NSTA, cofounded by the Amgen Foundation, is a professional development initiative created to help promote quality science teaching, enhance teacher confidence and classroom excellence, and improve teacher content knowledge. They use mentoring and other professional development resources to support science teachers during their initial teaching years and helps them stay in the profession.

## Johnson Inducted in Medicinal Chemistry Hall of Fame

M. Ross Johnson, co-founder and CEO of Parion Sciences and former CEO of Trimeris, became the 66th member inducted in the ACS' Medicinal Chemistry Hall of Fame at the Fall 2011 National Meeting in Denver. Ross is an internationally renowned medicinal chemist and expert in drug design and drug discovery who has had a long and productive career as an inventor, discoverer, executive, and entrepreneur in the Pharmaceutical and Biotech industries. His extensive contributions to drug discovery and development and basic science have resulted in over 300 scientific publications, patents, and invited presentations which include 131 issued US Patents and three landmark primary research publications averaging over a thousand citations each.



Prior to his involvement with Trimeris and Parion, Johnson was Vice President of Chemistry at what eventually became GlaxoSmithKline (GSK), where he was part of the original scientific founding team for Glaxo's research entry in the US. He had also served in key scientific and research management positions with Pfizer. He received his BS degree in Chemistry from UC Berkeley and a Ph.D. in organic chemistry from UC Santa Barbara.

## Maurice and Joan Burse Honored for Their Service to NC-ACS

Long-time members *Maurice and Joan Burse* were honored for their service to the NC-ACS at the NC-ACS Annual Appreciation Dinner that took place January 6, 2012 at Mez Contemporary Mexican Restaurant.

Joan's 25-year service as treasurer was honored with flowers and a gift certificate from appreciative section members.

Maurice celebrated 40 years of service with the NC-ACS, having started serving as secretary, and then moving on to other positions, including councilor and chairman.

At the dinner, Maurice told amusing stories about his experiences serving various positions within the section, including 9 years service to the national board of the ACS. He claimed to be a "useless appendage on the Executive Committee" ever since he rotated off the national board to much objections to members, eliciting an ovation when he declared, "I do proof the minutes."

Among the memories he shared was his service with the Hospitality Committee, which was around before Research Triangle Park was in existence. Members of the committee included one representative

each from UNC, Duke, and NC State. "The committee members' job was to turn up to the social hour before lectures with all the alcohol," Maurice said.

"North Carolina was dry at the time," Joan added.



Maurice continued amidst much laughter, "The following year, I couldn't always get someone from the local county, so I would run around with a two-box collection of alcohol in the trunk of my car, knowing that it was illegal to transport them because the box contained open bottles of alcohol. About the time I finished my service with the Hospitality Committee, I found out it was illegal to transport alcohol, open or sealed, over a county line, but nobody ever stopped me."

"Those were the good old days!" Joan declared.

"That's how the NC-ACS started," Maurice said, tongue-in-cheek.

The ovation the Burses received from those present illustrated how much their service means to the NC-ACS, and we are most grateful and appreciative for their many years of service, as well as their time and their talent.

## Recognizing 50- and 60-year Members of ACS

The North Carolina ACS section would like to recognize 50- and 60-year members of the ACS. THANK YOU!!!

50-Year ACS Members	60-Year ACS Members
Radhakrishnamurthy Bhandaru Joseph James Bufalini Raymond Bernard Davison Seymour Hochheiser Joel M. Padmore Donald William Regula Doris J. Smith Larry D. Spicer	Ronald C. Greene Richard G. Hiskey Gunther C. Holsing Henry L. King Edward A. Rick

## Welcome to our Newest NC-ACS Local Section Members!

- |   |   |   |   |  |   |
|---|---|---|---|--|---|
| Abdelrahman Abdelgawad, Jr<br>Mariko Ago<br>Carlos Ernesto Aizpurua<br>Farhan Akhtar<br>Julie Albert<br>Eric Allen<br>Edward S. Alperin<br>Katherine Alser<br>Virginia Katherine Alspaugh<br>Rasidul Amin<br>Samuel B. Anderson<br>Julio Arboleda<br>Ali S. Ayoub<br>Lawrence Barak<br>Heather Baxter<br>Ross Beattie<br>Rebecca Bedford<br>William Bell<br>Kate Bender<br>Alan Bergold<br>Camille Bernasconi<br>Michael Anthony Bertucci<br>Silvia Bezer<br>Tarun Kumar Bhardwaj<br>Jessica Bingham<br>Constance Marie Bond<br>Judith S. Bond<br>Toni Angelena Bost<br>Charles Bowerman<br>Ramiz Boy<br>Laura M. Brandt<br>Chelsa A. Brilla<br>Alex Brinkmann<br>Kalyn Brown<br>Robert Charles Bruce<br>Thomas Byrne<br>Ashley Cairns<br>Linyou Cao<br>Rui Cao<br>Carlo Alberto Carrillo<br>Susan Carroll<br>Emma M. Cating<br>Thomas Chen<br>Sarah Choyke | Colleen Connelly<br>Amanda Kathleen Corder<br>Stephen Craig<br>Barbara Y Croft<br>Bryan Cummings<br>William F. M. Daniel, Jr<br>Aaron Davenport<br>Cody Dawson<br>Sean Ekins<br>Zhen Fang<br>Effrat L. Fayer<br>Timothy J. Fischer<br>Walter Albritton Flomer<br>Manjori Ganguly<br>Erwin M. Garcia<br>Laura Gardner<br>Sanchayita Ghose<br>Rudresh Ghosh<br>Lawrence J. Giles<br>Rachel Gilman<br>Matt Goldfogel<br>Stephen Shawn Gonzales<br>Hannah Goodwin<br>Harry Gordon<br>Kenneth Robert Graham<br>Beth A. Greene<br>Rashi Grewal<br>Erik Grumstrup<br>Rana Gurarlan<br>Takudzwa Gutuza<br>Xueying Hai<br>Stephen Handley<br>Steven M. Harris, I<br>Allison Hastings<br>William Paul Hauser<br>Elizabeth Hecht<br>Harmin Herrera<br>Peter Albert Hesbach<br>Charles Hills<br>Douglas E. Hines<br>Ryan Holzem<br>Nico Hotz<br>Feier Hou<br>Allen Li Hsu | Weigang Huang<br>Sheng-yang Huang<br>Hsin-Yi Hung<br>Mary Iroha<br>Nafisa Islam<br>Ana Ison<br>Akitaka Ito<br>Jimmy Jackson<br>Matthew Vincent Joannou<br>Justin Johnson<br>Abhay Sham Joijode<br>Yosuke Kanai<br>Michelle Kangkolo<br>Rachel Keck<br>Patricia K. Kilmer<br>UnJu Kim<br>John Derrick Knight<br>Bradley Everett Kosiba<br>Krystian Andrzej Kozek<br>Catherine Kramer<br>Theresa Kummerer<br>Sabu K. Kundu<br>Mary E. Kushman<br>Lisa Ann Lanning<br>Katherine Lavoie<br>Ann Lee<br>Hyosung F. Lee<br>Sung Jun Lee<br>Erick Lindsey<br>Minetta Little<br>Xiaohua Liu<br>Qingyang Liu<br>Jia Liu<br>Anibal Lopes<br>Jeanne Luh<br>Bonnie Anne Lyon<br>Katherine Marusak<br>Justin Masin<br>Joshua Patrick McClure<br>Louis McIntyre<br>Matthew P. McLaughlin<br>Jessica Danielle McLeod<br>Rebecca Lynn McMahan<br>Heather Leigh Meiggs<br>Stefano Menegatti<br>Timothy Merkel | Kenneth Mineart<br>Lubos Mitas<br>Anindya Mukherjee<br>Kingsley Horton Nelson<br>Hanh-Thuy Thi Nguyen<br>Scott Nichols<br>Zhenbin Niu<br>James D. Noel<br>Jason Norman<br>Megan M. Nunes<br>Graeme Ossey<br>Steven Otto<br>Rodda Akela Ouma<br>Jason J. Pajski<br>Megan L Pajski<br>Rebecca Panter<br>Brian Nicholas Papas<br>Kirk Pappan<br>Jessica Hyyi-Su Park<br>Andrew James Peat<br>Degao Peng<br>Phuong Phan<br>Joshu G. Pierce<br>Joan M. Pierce<br>Celia Steward Ponder<br>Dawanne E. Poree<br>Philip Ramirez<br>Maurice M. Rapport<br>Diana Leigh Raymond<br>Erin A. Redman<br>Kyle G. Reeves<br>Jason Roberson<br>James Rowe | Derek M. Ryan<br>Christie Sayes<br>Nicole Scarborough<br>Kenneth D. Schlecht<br>Katie E. Scholl<br>Heather Joy Schrader<br>Alexandria N. Schray<br>Alex Scopton<br>Carey Scortichini<br>Alexander Sedykh<br>Sanghamitra Sen<br>Adam Sendor<br>Michael Shaner<br>Dakin Sharum<br>Jialong Shen<br>Abhinav Shukla<br>Marvin Ira Siegel<br>Xingci Situ<br>Matthew Smola<br>Ana Soares<br>Wenjing Song<br>Mary-Gray Claire Southern<br>Mathew A. Steadman<br>Grayson Walker Stowell<br>Samuel L. Straight<br>Candace Stroud<br>Zhaoming Su<br>Eric Joseph Suda<br>Ian Sullivan<br>Arles Taylor<br>David Charles Tilotta<br>Iliya Stanislavov To | dorov<br>Jessica Torres-Kolbus<br>Elise E. Traversa<br>Philip Travisano<br>Cristina Trevino<br>Vinay Tripuraneni<br>Jewel M. Trollinger<br>Valerie L. Tsang<br>Ashley Tucker<br>Rukayat Adeola Usman<br>Monique Vines, Jr<br>Jennifer Voyksner<br>Gufeng Wang<br>Shunzhi Wang<br>Cheng Wang<br>Elizabeth Warren<br>Ryan Walter Webb<br>Jessica Dara Webb<br>Kylie Weigel<br>Rachel Wilson<br>Laura M. Wingler<br>Joao Vinicios Wirbitzki da Silveira<br>Dominica HC Wong<br>Brittany Virginia Worley<br>Jonathan Wormald<br>William Yang<br>Zhixia Ye<br>Peng Zhang<br>Tong Zhang<br>Hongbo Zhang |
|---|---|---|---|--|---|

The NC-ACS extends condolences to the families of those members who have passed away.



Harry Gordon  
 Stephen Joseph Metro  
 James W.L. Monkman  
 Edward Sherman  
 Ashby Whitehurst Spratley, Jr.

## Mellor and Bennett to Speak at TAMS Night

The [Triangle Area Mass Spectrometry Discussion Group \(TAMS\)](#) will be meeting at the Ruvane Auditorium on the GSK campus on Wednesday, March 14, starting at 6:00 pm. The topics covered feature new technology as well as a historical perspective on LC-MS/MS. All are welcome to attend, however, you are asked to sign up at the [TAMS website](#) so food and drinks may be provided to all who are present.



☪☪☪

*Dr. Scott Mellor*, Research Associate at the Lineberger Comprehensive Cancer Center at UNC-Chapel Hill, will give a talk titled, “Microfluidic Devices with Integrated Electrospray Ionization for the Analysis of Peptides and Proteins.”

Abstract: As a platform for analytical separations, microfluidic devices offer a number of potential advantages over conventional methods. Microfluidic separations have been described that demonstrate major improvements in speed, sample consumption, automation, integration, separation power, and ease of use. However, the vast majority of these methods were limited by a lack of mass spectrometry detection. We have recently developed a sensitive, stable, and efficient

microchip electrospray interface that enables the integration of MS detection with several different microfluidic separation methods. The interface uses an electro-osmotic pump to drive fluid out of the microchip and electrospray ionization (ESI) is performed directly off of a corner of the device. These devices yield ESI performance as good as a pulled capillary emitter without sacrificing the quality of microfluidic separations. The first application that was demonstrated was microchip capillary electrophoresis with integrated electrospray ionization (CE-ESI). Highly efficient separations of peptides and proteins were demonstrated. Since that initial proof of concept we have been working to achieve theoretically optimal performance while applying this technology to challenging analytical problems. The work presented here will be focused on two related applications: The characterization of complex biological drugs, and proteomics. Results for microfluidic CE-ESI and comprehensive LC-CE-ESI will be discussed.

☪☪☪

The guest invite lecture will be presented by *Patrick Bennett*, who is the Director of Global Strategic Marketing—Pharma at Thermo Fisher Scientific. Bennett was part of the team that discovered and illuminated Phospholipid-based matrix effects. His talk is titled, “The Progression of LC/MS/MS in DMPK and Quantitative Bioanalysis: Speaking from Experience.”

Abstract: The first formal DMPK groups were created in the early 1980’s. The format was typically a mixture of pharmacokineticists, analytical chemists/chromatographers, toxicologists and those with broad range of experience as these specialties developed through the 60’s and 70’s. The offices I first occupied at Bristol-Myers still smelled of cigarettes. It was a different time. Early quantitative instrumentation was primarily HPLC based with UV, EC or FL detection. These were from a wide variety of vendors – many were consumed by larger companies and results were recorded on strip chart recorders and to a variety of heavily customized LIMS systems through A/D connections. A few methods used GC/MS or ELISA. By the late 1980’s and through the early 1990’s API based LC/MS/MS techniques were available by Finnigan (Thermo Fisher Scientific), VG (Waters), Sciex (AB Sciex) and Nermag. Or, LC/MS in the case of HP, Extrel, Hitachi and Vestec. These techniques were not limited to ESI or APCI. By the mid 1990’s, ESI and APCI based LC/MS/MS systems were becoming the norm. This talk will go through this progression as well as what life was like for early practitioners. It will include the misconceptions and eventual resolutions of the technology. The evolution of LIMS systems, regulatory compliance, CRO’s, DMPK departments and instrument vendors will be presented as well from a personal perspective.

## Volunteers Needed for Area Scientific Competitions

–Submitted by Reshan Fernando

There are a couple of upcoming science-related events in which members of the NC-ACS are particularly encouraged to participate.

NC Student Academy of Science (NCSAS) State Competition, Friday, March 23, Afternoon and Evening at the NC School of Science and Mathematics in Durham, NC. The schedule of events may be found by clicking [here](#). NCSAS is in need of volunteers to judge papers and presentations by middle school- and high school-aged students for their annual NCSAS State Competition in the following categories: Behavioral Science, Biological Science, Biotechnology, Chemistry, Engineering/Technology, Environmental Science, Mathematics/Computer Science, Physical Science, Physics, Soil and Atmospheric Science, and Water Quality Science. Papers are sent to judges electronically at least one week ahead of the competition. NCSAS provides dinner and an opportunity to touch the lives of bright, motivated students. To volunteer, please contact Executive Director Stephen Warshaw by [email](#) or by calling 919-416-2886.

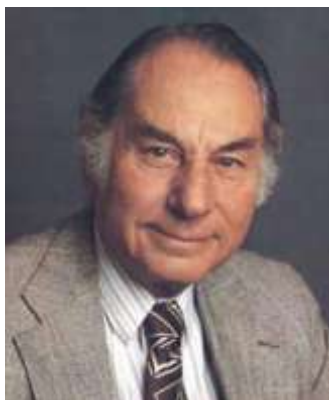


NC Science and Engineering Fair, Friday March 23—Saturday, March 24 at Meredith College, Raleigh, NC. Event details are available by clicking [here](#). NC Science and Engineering Fair is in need of volunteers to help with event preparation and day of activities such as registration, set-up, display and safety checks, and awards ceremonies. This event provides an opportunity for students, 3<sup>rd</sup>–12<sup>th</sup> grades, who are interested in science and technology to pursue their personal areas of interest and to display their research as a presentation in a public competitive forum. In addition, it works to create enthusiasm in science and technology while encouraging project-based inquiry. This fair gives students in our community the chance to compete for college scholarships, awards, honors programs, and other prizes.

To sign up to volunteer, click [here](#) to complete the online volunteer form. For more information, please contact the director, [Judy Day](#), or the volunteer coordinator, [Andrew Miller](#).

## Call for 2012 NC-ACS Undergraduate Scholarship Applications

–Contributed by Jeremy Feducia



Dr. Ernest Eliel



Mr. Howie James



Dr. Ivy Carroll

The North Carolina Section of the ACS (NC-ACS) is pleased to announce its annual call for undergraduate scholarship applications. Up to four scholarships of \$4,000 each may be awarded to undergraduate students who will actively be conducting research in the chemical sciences. The decision to award one or more scholarships, and the amount(s) of these scholarships, are within the sole discretion of the Executive Committee of the NC-ACS. Three of the scholarships will be named in honor of distinguished NC-ACS members Dr. Ernest Eliel, Mr. Howie James, and Dr. F. Ivy Carroll.

*Dr. Ernest Eliel* was a W. R. Kenan, Jr. Professor of Chemistry at the University of North Carolina, Chapel Hill and was a central figure in the field of stereochemistry. Some of his many awards, accomplishments, and recognitions include being a member of the National Academy of Sciences, a Guggenheim Fellow, and receiving the Lavoisier Medal of the Chemical Society of France. He served as President of the American Chemical Society, and received its highest recognition, the Priestley Medal, in 1995.

*Mr. Howie James* was an Executive Technical Sales Representative with the Waters Corporation and a long standing member of the Triangle Chromatography Discussion Group (TCDG). He was very active in planning and executing TCDG workshops, seminars, and the annual Triangle Symposium and Instrument Exhibit.

*Dr. F. Ivy Carroll* is a Distinguished Fellow in Medicinal Chemistry at RTI International. His many scientific achievements include the development of a diagnostic agent for Parkinson's disease and of other compounds as potential treatments for cocaine and nicotine addictions and other central nervous system disorders. In recognition of his work, Dr. Carroll was inducted into the American Chemical Society Medicinal Chemistry Hall of Fame in 2007. Additional details and eligibility criteria for the undergraduate scholarships are presented below. If you have any questions concerning the application instructions or requirements, please contact [Jeremy Feducia](#).

### How to Apply:

- To be considered for a scholarship, the student must be an undergraduate attending and conducting research at a university within the Local Section. *Applications from outside of the NC-ACS geographical area will not be considered.*
- Applications must be submitted online. Click [here](#) to apply.
- In addition to the application, a letter of recommendation from the student's research advisor must be sent as an e-mail attachment to the scholarship committee chair, [Jeremy Feducia](#).
- To be considered, applications must be submitted by **April 10, 2012**.
- Applicants are *not* required to be ACS members.
- All applicants will be notified by e-mail about the status of their application by May 7, 2012. The NC-ACS will begin distributing awards on May 14, 2012.

### Award Details and Requirements:

- Award recipients will be required to present their research findings at a local, regional or national ACS meeting, TCDG Conference, or similar venue.
- Award funds will be distributed in two payments. The first payment (\$3,500) will be sent to the academic department where the student is conducting research. These funds can only be used by **the student or the student's advisor to pay for reagents, instrument components or labware, copies, books, software, student travel costs for presentation of scholarship-funded research results, and the student's research salary.**
- The second payment (\$500) will be presented directly to the student upon completion of a presentation of research findings at one of the above described venues.
- The F. Ivy Carroll Scholarship will preferentially be awarded to the highest scoring application from an institution with an enrollment of less than 10,000 students.

save  
date

### NC-ACS Upcoming Events—Watch the Listserv for Info!

- Brewery Tour, March 28, 2012, Big Boss Brewing Company
- Earth Day Activities at the NC Museum of Natural Sciences, April 20–21
- ACS/Durham Bulls Nights—Two events, one in June, one in August.
- Call for volunteers for Festival on the Eno in July and National Chemistry Week in October.

## Call for Nominations: Marcus E. Hobbs and Distinguished Lecturer Awards

The Marcus E. Hobbs award was established in 1988 to recognize members who have made significant, long-term contributions to the North Carolina Section of the American Chemical Society.

The award was named for Marcus E. Hobbs, Department of Chemistry, Duke University, a model member who worked closely with the North Carolina Section since becoming Chair in 1945. The Executive Committee invites all NC-ACS members to nominate worthy individuals for the Marcus E. Hobbs Service Award and the NC-ACS Distinguished Lecturer Award.

Descriptions of these awards are listed below. Both awards will be presented at the 2011 NC-ACS Local Section Dinner Meeting in the fall.

Nomination packages should be forwarded to Dr. Marc ter Horst at the contact information listed at the end of this article. The nomination deadline for both awards is May 31, 2012.

### Distinguished Lecturer Award:

The NC-ACS Distinguished Lecturer award was established in 1982. The nomination package should include a nominating letter summarizing the nominee's research contributions, a CV, and up to two additional letters of support. Past award winners can be found by clicking [here](#).

### The Marcus E. Hobbs Service Award:

The Marcus E. Hobbs Service Award was established in 1988 to recognize members who have made significant, long-term contributions to the North Carolina Section of the American Chemical Society. The award was named for Marcus E. Hobbs, Department of Chemistry, Duke University, a model member who worked closely with the North Carolina Section since serving as Chair in 1945. Past award winners can be found by clicking [here](#).



The nomination package should include a nominating letter summarizing the contributions the nominee has made to the NC ACS Local Section and a CV.

Completed applications should be sent no later than **MAY 31, 2012** to:

[Dr. Ken Tomer](#)  
NIEHS/NIH  
MD F0-03  
PO Box 12233  
Research Triangle Park, NC 27709

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## ACS Fellows Program—Call for Nominations



The [ACS Fellows Program](#) recognizes members for their contributions to the chemical sciences and outstanding service to ACS. Nominations for 2012 ACS Fellows are now being accepted. The nomination submission deadline is **April 23, 2012**. See the [Program Guidelines](#) for complete eligibility requirements and details on the nomination process.

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## NC-ACS Position Available

Chemical Safety Specialist (EHS Professional) at North Carolina State University

A full-time Chemical Safety Specialist is being sought in the [Environmental Health and Safety Department](#) at [NC State University](#).

The primary focus of this position will be to develop or participate in the development or refinement of laboratory chemical safety programs, conduct health and safety audits, inspections, chemical and physical hazard reviews, safety training, edit, revise, develop health and safety design guidelines, and to communicate effectively, both verbally and in writing, recommendations for improvement of workplace safety conditions. This employee will be part of a health and safety team dedicated to the anticipation, recognition, identification, and control of chemical and physical agents at NC State University. These activities, aimed at controlling conditions which may adversely affect worker or student health or safety, or may violate OSHA and other state/federal regulations, will be conducted principally at the main campus of NC State University in Raleigh, NC, yet may include infrequent visits to NC

State property located throughout the state of North Carolina. This employee will have the capability to review processes and equipment to identify health hazards and related chemical and physical safety hazards, with minimal assistance. Primary responsibilities include participation in laboratory chemical safety and health hazard reviews. Assistance, as needed, with safety training, chemical storage and compatibility, exposure prevention and assessment programs, non-ionizing radiation safety, infrequent emergency response to chemical incidents and chemical odor complaints, chemical exposure/ incident investigations, and monitoring and documentation of environmental exposures to specific hazardous agents. Duties also include review and guidance to laboratory employees and students on the proper selection and use of engineering controls, protective equipment, and other control techniques

This position requires an experienced health and safety professional who can participate in program development/implementation and can conduct health hazard assessments and investigations in an extremely large, diverse, and highly technical environment. The in-

cumbent should be capable of functioning effectively on matters of routine exposure assessment, hazard reviews, health and safety inspections, including air sampling techniques with minimal supervision due to previous experience and training. A demonstrated ability to communicate effectively in both written and verbal correspondence is also required.

Work Schedule: 8:00 A.M. - 5 P.M. Monday through Friday

This position reports to the Manager of Laboratory Safety at the Environmental Health and Safety Center.

A criminal background check is required for this position.

Further information and application instructions are available at <https://jobs.ncsu.edu> Search key word category by "chemical."

EOE/AA. In addition, NC State welcomes all applicants without regard to sexual orientation.

## General NC-ACS Section Announcements



Younger  
Chemists'  
Committee

We are interested in reinvigorating the YCC. If you are interested in helping, please [email an Executive Committee member](#). Thank you!



Members of the American Chemical Society who live in the region covered by the North Carolina Section can utilize this group to network, participate in topical discussions, post jobs and events, etc.

Visit the local section on LinkedIn by clicking on this [link](#).

### Local Section Discussion Groups

Information on the NC-ACS Local Discussion Groups can be found at the following link: <http://ncacs.sites.acs.org/discussiongroups.htm>

#### Discussion groups include:

- [Polymer Discussion Group](#)
- [Triangle Area Mass Spectroscopy Discussion Group](#)
- [Triangle Chromatography Discussion Group](#)
- [Triangle Magnetic Resonance Discussion Group](#)
- [Women Chemists Committee](#)
- [Younger Chemists Committee](#)

Check them out and consider joining a discussion group.



### Science Café Web Links

RTP: <http://www.rtp-sigma.org/events.shtml>

UNC: <http://www.moreheadplanetarium.org>

Duke: <http://www.ncmls.org/periodictables>

Raleigh: <http://naturalsciences.org/programs/events/science-talks>

### Does ACS Have Your Current Contact Information?

It is extremely important to keep ACS informed of your current contact information. If you had a change in your address, phone number, or email address, please contact ACS to update your information. In addition to your old and new contact information, include your membership ID, which is the 8-digit number in the upper left hand corner of the C&EN address label when you correspond with ACS.

Manager, Member & Subscriber Services, ACS  
PO Box 337  
Columbus, OH 43210  
Toll-Free Phone: 800-333-9511  
Phone: 614-447-3776  
E-mail: [service@acs.org](mailto:service@acs.org)

Dear friends—

I am very sorry for having missed an issue of the *TarHelium*. As you can see, this issue is packed with news and information spanning five months. Your story ideas and other items are always welcomed! Please feel free to send me an [email](#) at any time to let me know what you think or to submit ideas for future stories.

Please note that there are *embedded links* scattered throughout this newsletter. The embedded links appear in blue and are underlined. For example, if you click on the nameplate on page 1, you will be taken to the *TarHelium* main page. Clicking on the pictures on page 7 will bring you to the SERMACS 2012 homepage. Clicking on any of our names on page 16 will allow you to send us e-mail, which alleviates concerns about bots scavenging e-mail addresses for spam purposes.

Lyn



A Note  
from the Editor

## Your Ad May Go Here!



We are accepting camera-ready advertisements for inclusion in the *TarHelium*. Please note our current ad prices in the masthead on page 2. We can accommodate three sizes: half-page, quarter page, and business-card sizes.

For more information, please contact [Lyn Francisco via e-mail](#).

## NC-ACS Local Section Executive Committee – Spring 2012

Name	Affiliation	Office	Term	Phone
<b>Voting Members</b>				
<a href="#">Keith E. Levine</a>	RTI International	Chair	2012	919-541-8886
<a href="#">Melissa Pasquinelli</a>	NCSU	Chair-Elect	2012	919-515-9426
<a href="#">Sally Eckert-Tilotta</a>	NIEHS	Secretary	2012-2014	919-541-1446
<a href="#">Joan T. Bursey</a>	NCBA at EPA	Treasurer	2011-2013	919-541-2253
<a href="#">Maria E. Francisco</a>		<i>TarHelium</i> Editor		919-688-9719
<a href="#">Alvin L. Crumbliss</a>	Duke University	Councilor	2010-2012	919-660-1540
<a href="#">Richard A. Palmer</a>	Duke University	Councilor	2010-2012	919-660-1539
<a href="#">Sara Paisner</a>	PN&S Consulting, LLC	Councilor	2011-2013	919-830-5275
<a href="#">Laura S. Sremaniak</a>	NCSU	Councilor	2011-2013	919-515-2937
<a href="#">James Lee Chao</a>	IBM (retired)	Councilor	2012-2014	919-481-2060
<a href="#">Dorian A. Canelas</a>	Duke University	Alternate Councilor	2010-2012	919-660-1537
<a href="#">Alan E. Tonelli</a>	NCSU	Alternate Councilor	2010-2012	919-515-6588
<a href="#">Suraj Dhungana</a>	RTI International	Alternate Councilor	2011-2013	919-541-6601
<a href="#">Reshan Fernando</a>	RTI International	Alternate Councilor	2011-2013	919-541-6730
<a href="#">Melissa Pasquinelli</a>	NCSU	Alternate Councilor	2011-2013	919-515-9426
<a href="#">Kenneth Tomer</a>	NIEHS	Past Chair 2011		919-541-1966
<a href="#">Marc ter Horst</a>	UNC-CH	Past Chair 2010		919-843-5802
<a href="#">John Hines</a>	RTI International	Past Chair 2009		919-541-6647
<b>Non-Voting Members</b>				
<a href="#">Melinda Box</a>	Duke University	Webmaster		
<a href="#">Maurice M. Bursey</a>	UNC-CH (retired)	<i>Ex Officio</i>		919-493-3025
<a href="#">Kenneth A. Cutler</a>	NCCU	Project SEED, <i>Ex Officio</i>		919-530-6172
<a href="#">Stephen D. Cooper</a>	RTI International	TCDG, <i>Ex Officio</i>		
<a href="#">Thomas M. O'Connell</a>	UNC-CH	TMRDG, <i>Ex Officio</i>		919-483-1535
<a href="#">Michael C. Fitzgerald</a>	Duke University	TAMS, <i>Ex Officio</i>		
<a href="#">Larry K. Krannich</a>	Alabama Academy of Science	Director, District IV	2011-2013	

Updated: January 5, 2012