Annual Biomedical Research Conference for Minority Students

Final Program & Exhibitor Guide

Developing Scientific Leaders through Research Training and Academic Excellence

ABRCMS 2014
San Antonio
November 12-15
The 2014 conference offers a comprehensive program of scientific sessions, professional development workshops, student oral and poster presentations, and exhibits. Full program details are provided later in this program; meanwhile, please take note of the following highlights and opportunities:

- **Free Wi-Fi at ABRCMS**
  Good news! At ABRCMS 2014, Wi-Fi will be freely available in the exhibit hall, session rooms, and convention center hallways. This service has been brought to you by generous contributions from the University of Texas Health Science Center at San Antonio and the American Society for Microbiology.

- **ABRCMS Launches Mobile App**
  Mobile App at ABRCMS! With this app, the ABRCMS program, exhibitor information, conference maps and much more are at your fingertips.

- **P&G Opportunities**
  ABRCMS has partnered with Procter & Gamble to offer internships to students interested in exploring industry opportunities. To learn more and apply, visit [http://us.experiencepg.com/](http://us.experiencepg.com/) and search for job # RND00002783.

- **ASM-LINK Mentoring Strategies Workshop**
  Applications are now being accepted for the ASM-LINK Interdisciplinary Mentoring Lab, an interactive workshop designed to foster collaborations and innovative thinking. Through guided exercises, participants will generate transformative ideas to tackle our greatest mentoring challenges, especially as they relate to building interdisciplinary research teams and broadening participation in STEM. A multidisciplinary mix of active researchers and educators willing to engage in a creative exchange of ideas, experiences, and solutions are sought for this program. To learn more, attend Session 3 on Friday, November 14 at 8:30 a.m.

- **Interactive Exhibit Floor Plan**
  Students, with more than 320 exhibit booths and just three days of dedicated exhibit hours, ABRCMS encourages you to plan ahead to set up your exhibits itinerary. Visit our online interactive exhibit floor plan today to see confirmed exhibitors and contact them in advance of the conference.

- **ABRCMS Abstracts Database**
  Starting October 8, attendees can use the online ABRCMS abstract database to find abstracts by name, topic, or discipline. Early release of abstracts helps exhibitors and attendees organize their poster visitation plans before arriving in San Antonio.

- **Networking with Disciplinary Societies**
  Networking sessions with disciplinary societies will be held on Wednesday, November 12, from 8:30 to 9:30 p.m. Led by professional society members, these informal sessions offer a forum for small-group discussions focused on the student activities offered by societies. All ABRCMS exhibitor and faculty attendees who are professional society members are strongly encouraged to attend.

- **Conference Orientation for Undergraduate and Postbaccalaureate Students**
  Your ABRCMS orientation will help you maximize your learning and networking opportunities throughout the conference. All orientation sessions will be held on Thursday, November 13, from 8:30 a.m. to 9:30 a.m.

- **Gateway to the Future: Career Paths in the Biomedical Sciences, STEM Disciplines, and Behavioral Sciences**
  Thursday, November 13, 8:00 p.m. – 9:30 p.m.
  In this session, research scientists from a variety of career sectors will engage students in small group discussions focused on “a day in the life of a research scientist.” Scientists will discuss their career pathways and educational backgrounds, what they enjoy about their work, and their strategies for professional and personal life balance. Career sectors include pharma/biotechnology/industry, media/communications, research intensive academic/staff scientist, undergraduate liberal arts academic/community college, MD-Ph.D. in academic health center, and government/policy/foundation/law.

- **ABRCMS Professional Skills Development Cafe - Saturday, November 15, 2:45 p.m.**
  The Cafe offers a unique opportunity for participants to engage in discussions with leaders in all scientific disciplines. Don't miss this chance to seek individual advice on goal setting, identifying careers and becoming successful in the sciences.

- **Keystone Travel Award for Grads and Postdocs**
  Keystone Symposia on Molecular Biology will grant two travel awards to graduate students and postdocs attending ABRCMS 2014. The award will cover the registration fee for a select conference in addition to travel and lodging expenses of up to $1,200. Award eligibility requires a brief survey during ABRCMS.

- **Early Admittance into Exhibit Hall for Exhibitors**
  Exhibitors may use their exhibitor badges to access their booths 30 minutes prior to the opening of the exhibit hall. Exhibit Hall takedown is from 1:00 p.m. to 4:00 p.m. on November 15.

- **Meet and Greet Speakers**
  Invited ABRCMS speakers will be available to meet informally with students during main exhibition hours on Thursday and Friday. This is a wonderful opportunity to meet one on one with speakers and learn more about their research and pathways to success.

- **Onsite Registration and Check-In**
  Express self-registration will be offered at ABRCMS 2014. Bring a copy of your registration confirmation letter with you to expedite the registration process.
# Table of Contents

ABRCMS Enhancements and Highlights...... Inside Front Cover
Program at a Glance......................................................... 2
Conference Welcome ..................................................... 4
(Clifford W. Houston, Ph.D.)
Greetings............................................................................. 5
(Jon Lorsch, Ph.D., Alison Hall, Ph.D.)
Important Conference Information................................... 6
Professional Development Schedule: Undergraduates & Postbaccalaureates.............................................. 10
Professional Development Schedule: Graduate Students & Postdoctoral Scientists ........................................ 10
Professional Development Schedule: Program Directors, Faculty & Exhibitors.............................................. 11
Keynote, Plenary, & Concurrent Scientific Speakers........... 14
Conference Program.......................................................... 16
Meet and Greet Speakers Schedule ................................... 40
Speaker Biographies.......................................................... 41
2001-2013 ABRCMS Statistics.......................................... 44
Abstract Information........................................................ 48
Author Index...................................................................... 52
Exhibitor List in Alphabetical Order..................................... 82
Conference Sponsors.......................................................... 126
Exhibit Hall Floor Plans...................................................... 128
Reflections/Take Home Message......................................... 148
Steering Committee, and Staff........................................... Inside Back Cover

"I can easily say that ABRCMS helped pave the path to my academic and professional success by motivating me through the seminars provided as well as the contacts I made over the conference weekend."

(StUDENT)

Join the conversation! #2014ABRCMS

facebook.com/abrcms
twitter.com/abrcms

ABRCMS Feedback Survey

ABRCMS wants to hear from you! On Friday, November 14th, ABRCMS will launch the 2014 conference survey to solicit your input and feedback. By completing the survey, you help us to continue to make ABRCMS the success that it is. Complete survey and win great prizes.
Program at a Glance

Registration Hours

Wednesday, November 12 12:00 p.m. – 8:00 p.m.
Thursday, November 13 7:00 a.m. – 7:00 p.m.
Friday, November 14 7:00 a.m. – 5:00 p.m.
Saturday, November 15 7:00 a.m. – 1:00 p.m.

Affiliated Workshops

Tuesday, November 11, through Thursday, November 13
ASM-NSF LINK (By Invitation Only)
(Sponsored by the ASM-NSF Leaders Inspiring Networks and Knowledge [LINK] Program)
Visit www.asmlink.org for schedule details.

Wednesday, November 12, 2014

2:00 p.m. – 8:00 p.m.
Exhibit Set-up

Concurrent Professional Development Sessions

2:30 p.m. – 4:30 p.m.
Session 1
Graduate Student Life: Perspectives of Graduate Students
Session 2
Succeeding Through Your Strengths: Assess and Apply Your Unique Strengths Toward Your Ideal Career
Session 3
Presentation Techniques: How to Make Effective Poster and Oral Presentations
Session 4
The Supreme Court and Affirmative Action in the 21st Century – The University of Michigan: Critical Issues, Reflections, and Implications
Session 5
Self-Awareness: the Key to Success in Life and Lab

Thursday, November 13, 2014

7:30 a.m. – 8:15 a.m.
Breakfast
8:00 a.m. – 12:00 p.m.
Exhibit Set-up
8:30 a.m. – 9:30 a.m.
Session 1
Orientation for Undergraduates and Postbaccalaureates

Session 2
Effective Mentoring for Promoting Student Success
(Session sponsored by the ASM-NSF Leaders Inspiring Networks and Knowledge [LINK] Program)
5:00 p.m. – 6:00 p.m.

Session 1
State of the ASM-NSF Leaders Inspiring Networks and Knowledge (LINK) Program

Session 2
PREP Students Networking Session (By Invitation Only)
6:30 p.m. – 7:15 p.m.
Dinner
7:15 p.m. – 8:15 p.m.
Conference Overview
Opening Remarks
Conference Welcome
Opening Keynote Address: The Importance of Science Communication
8:30 p.m. – 9:30 p.m.
Networking in Your Scientific Discipline
8:30 p.m. – 10:00 p.m.
NIH Grants Management Workshop
9:00 p.m. – 10:30 p.m.
Graduate Students and Postdoctoral Scientists Networking Mixer

Session 1
Orientation for Judges
9:45 a.m. – 10:45 a.m.
Concurrent Scientific Sessions

Session 1
Fighting Off Foes: Common Mechanisms Used by Plants and Animals to Protect Against Pathogens and Disease
(Sponsored by the American Society of Plant Biologists)

Session 2
Going Viral: From Science in the Lab to Public Health Interventions in International Communities
(Sponsored by the ASM-NSF Leaders Inspiring Networks and Knowledge [LINK] Program)

Session 3
Using Small Molecule Inhibitors to Understand Immune Function: Blocking Allergies and Finding Targets
(Sponsored by the American Society for Microbiology)

Session 4
Astrobiology: Applying What We Know to New Discoveries in the Universe

Session 5
Multivalent Control of HMG CoA Reductase, the Molecular Target of Statin Drugs
(Sponsored by the Howard Hughes Medical Institute)

Session 6
An Attractive Role for Repulsive Guidance Molecules in Shaping the Neural Tube

Session 7
Activities, Culture, and Cognitive Development in Middle Childhood

Session 8
The Joy of Science: Discovery of Victrelis™, the First HCV Protease Inhibitor to be Approved by Food and Drug Administration (FDA)

Session 1
Picking the Perfect Ph.D. Program for You/Why Choose a School with a T32

Session 2
M.D.-Ph.D. – Is It Right for Me?

Session 3
How We Learn ... and How We Don’t

Session 4
The Business of Science: Leveraging Your Scientific, Business, and Social Identities to Be Competitive in Today’s Job Market

Session 5
Meyerhoff Adaptation Project: Assessed by a Multifaceted Approach

12:30 p.m. – 1:15 p.m.
Networking Lunch

1:15 p.m. – 2:15 p.m.
PLENARY SCIENTIFIC SESSION
Computational Approaches to Protein Engineering with Applications in the Life Sciences
2:15 p.m. – 6:30 p.m.
Exhibits Open

2:30 p.m. – 3:45 p.m.
POSTER SESSION 1

2:45 p.m. – 3:45 p.m.
Meet and Great Speakers

4:00 p.m. – 5:15 p.m.
POSTER SESSION 2

5:30 p.m. – 6:30 p.m.
ORAL PRESENTATION SESSIONS 1 – 12
<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>8:00 p.m.</td>
<td>Concurrent Professional Development Sessions</td>
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<tr>
<td>8:00 p.m.</td>
<td>Session 1: Gateway to the Future - Career Paths in Biomedical Sciences, STEM Disciplines, and Behavioral Sciences - Conversations with Scientists</td>
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<tr>
<td>8:00 p.m.</td>
<td>Session 2: The Business of Science in Practice - Deciphering Job Ads, Developing Targeted Resumes and Making Yourself Competitive</td>
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<tr>
<td>8:00 p.m.</td>
<td>Session 3: Jumpstart Your Research Faculty Career - Exploring Professional Development Opportunities</td>
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<tr>
<td>9:45 a.m.</td>
<td>Concurrent Professional Development Sessions</td>
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<tr>
<td>9:45 a.m.</td>
<td>Session 1: Mentoring Up - Proactively Managing Your Relationship with Your Research Mentor by Assessing and Applying Your Communication Strengths</td>
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<td>9:45 a.m.</td>
<td>Session 2: Realizing Your Dreams - What Does Time Have to Do with it?</td>
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<tr>
<td>9:45 a.m.</td>
<td>Session 3: Career Decisions - How to Find a Science Career That Fits YOU</td>
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<tr>
<td>10:45 a.m.</td>
<td>Concurrent Professional Development Sessions</td>
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<tr>
<td>10:45 a.m.</td>
<td>Session 1: The Jessica Effect - Mentoring with Attention to Culture and Family as a Mechanism for Graduate School Retention</td>
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<tr>
<td>10:45 a.m.</td>
<td>Session 2: Making the Most of the Time Between College and Graduate School &amp; Tips for Applying to a Postbaccalaureate Program</td>
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<tr>
<td>11:00 a.m.</td>
<td>Exhibits Open</td>
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<td>12:00 p.m.</td>
<td>Poster Session 1</td>
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<td>12:15 p.m.</td>
<td>Poster Session 2</td>
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<td>12:30 p.m.</td>
<td>Poster Session 3</td>
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<td>3:45 p.m.</td>
<td>Concurrent Professional Development Sessions</td>
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<tr>
<td>3:45 p.m.</td>
<td>Session 1: Effective Personal Statements for Getting into Highly Competitive Graduate Schools and Summer Programs</td>
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<td>3:45 p.m.</td>
<td>Session 2: Outclass the Competition! Etiquette Training</td>
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<tr>
<td>4:00 p.m.</td>
<td>POSTER SESSION 4</td>
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<td>5:15 p.m.</td>
<td>POSTER SESSION 5</td>
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<tr>
<td>5:30 p.m.</td>
<td>Concurrent Professional Development Sessions</td>
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<tr>
<td>5:30 p.m.</td>
<td>Session 1: Elements of the Graduate School Application Process</td>
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<tr>
<td>6:15 p.m.</td>
<td>FREE TIME! FREE TIME! FREE TIME!</td>
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<tr>
<td>7:00 p.m.</td>
<td>Concurrent Professional Development Sessions</td>
</tr>
<tr>
<td>7:00 p.m.</td>
<td>Session 1: Making the Most of the Time Between College and Graduate School &amp; Tips for Applying to a Postbaccalaureate Program</td>
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<tr>
<td>8:00 p.m.</td>
<td>Reception for Speakers, Exhibitors, Judges, and Program Directors</td>
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<tr>
<td>9:00 p.m.</td>
<td>NIGMS/TWD Organization-wide Meeting for Program Directors</td>
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**Quote:**

“I truly believe it is my duty to help prepare the future generation of scientists and I also enjoy witnessing the enthusiasm and curiosity of the students…their enthusiasm is contagious.”

*(Facility/Judge)*
Welcome to San Antonio! I am very proud to have the 2014 Annual Biomedical Research Conference for Minority Students (ABRCMS) here in my home state of Texas! Once again, it is another banner year for ABRCMS, as we continue to set growth records in the numbers of abstracts submitted, exhibit booths sold, and dollars raised for sponsorship. As a reminder, the incredible growth of ABRCMS and indeed its very existence would not be possible without the foresight of the extraordinary Adolphus P. Toliver, Ph.D., branch chief of the Minority Access to Research Careers Program from 1994 to 2012, who passed away on March 26, 2013. May we never forget the pathway laid before us by trailblazers such as Dr. Toliver. Whether you are a new or returning ABRCMS participant, you will see firsthand the power and breadth of our community. You’ll have the opportunity to meet renowned speakers, industry experts, faculty, and administrators; network with peers; learn about recent advances in the biomedical and behavioral sciences; and participate in discussions about some of the most current and important issues facing minority students specifically and society in general.

As factors such as the retirement of the baby boomer generation force us to face a dwindling U.S. workforce, now more than ever, it is important to join the ABRCMS family in preparing the next generation of scientists — particularly those underrepresented in the sciences — to address future challenges in the biomedical research enterprise and to take your rightful place as a skilled member of the future scientific workforce. The U.S. Bureau of Labor Statistics estimates that about 8.5 million new jobs will exist in STEM fields across the nation by 2018. However, the U.S. is not on track for meeting this opportunity because more students must come through the educational pipeline to meet the job demand. More women and more underrepresented minorities will be needed to fill the future workforce gap if the United States is to remain a global leader. I want to challenge ABRCMS students to be well prepared and to take full advantage of all the opportunities the conference has to offer. I hope that at the end of the conference, YOU are one of the “lucky” students recruited by our exhibitors. Remember — “luck is when preparation meets opportunity!”

The ABRCMS Steering Committee, staff, exhibitors and a host of volunteers have invested many hours of brainstorming, reviewing abstracts, planning logistics, preparing materials, and more to bring you a rewarding conference experience. This is evident by the large number of exhibitors who have come to San Antonio to recruit students! When you see any of these exhibitors at ABRCMS 2014, please give them your thanks for making this year’s conference one of the best in the nation.

ABRCMS could not happen without the help of many dedicated people and generous sponsors. I want to thank the ABRCMS Steering Committee members, ASM staff, faculty program directors, exhibitors, and volunteer judges for all of their hard work in preparation for and during the conference. I would like to acknowledge our generous sponsors who without their contributions, it would have been impossible to conduct ABRCMS at its current level. I especially want to thank the Division of Training, Workforce Development, and Diversity at the National Institute of General Medical Sciences, National Institutes of Health, whose funding has made this conference possible.

Respectfully,

Clifford W. Houston, Ph.D.
Chairperson, ABRCMS
Dear Students, Colleagues and Friends,

On behalf of the National Institutes of Health's National Institute of General Medical Sciences (NIH NIGMS), we welcome you to the 2014 Annual Biomedical Research Conference for Minority Students (ABRCMS). We're very proud to support this meeting, which brings together a community of outstanding students and scientists for stimulating discussions of research, careers, and more.

ABRCMS is one element of our many activities in the areas of training, workforce development, and diversity. Our programs range from the undergraduate level to the doctorate and beyond, and they include the Maximizing Access to Research Careers, Research Initiative for Scientific Enhancement, Initiative for Maximizing Student Development, and Postbaccalaureate Research Education programs. Many of you at this meeting are current or former NIGMS program participants.

For those of you who are attending as mentors and sponsors, we truly appreciate your dedication and many contributions to your students and our shared goals.

For those of you still in training, we hope that your involvement in this meeting further inspires and motivates you to pursue research careers and leadership roles in the biomedical sciences. During your time here, you can gain important allies for your future: a community of peers who will become your colleagues and friends, as well as a network of scientists and mentors who are deeply committed to your success in pursuit of a research doctorate and a biomedical career.

We encourage you to make the most of the meeting and take every advantage of the resources and opportunities it offers to help you prepare for the next stages of your research career.

Sincerely,

Jon R. Lorsch, Ph.D.
Director
National Institute of General Medical Sciences
National Institutes of Health

Alison K. Hall, Ph.D.
Acting Director
Division of Training, Workforce Development, and Diversity
National Institute of General Medical Sciences
National Institutes of Health
Information for All Attendees

Call for Judges
On-site judges for 12 disciplines in the biomedical and behavioral sciences, including mathematics, are needed to evaluate the approximately 1,600 poster and oral presentations at the 2014 ABRCMS. For more information, visit the judges’ lounge in Exhibit Hall.

Cell Phone Usage
Out of consideration for your ABRCMS colleagues, all cell phones must be turned off in session rooms.

Child Policies
Note that if children two years old and over attend any portion of ABRCMS (e.g., sessions, exhibits, or meals), they must be paid registrants of the conference, wear a conference badge, and be accompanied by a parent and/or guardian at all times. Please note the following policies regarding children at ABRCMS:

Meals. Anyone entering conference meal areas must be registered and show an ABRCMS name badge at the door. Children under age two may accompany their parents and/or guardians to meals as long as they are seated in a stroller or on the lap of a parent or guardian. There are no exceptions to this policy.

Sessions. The presence of young children at ABRCMS sessions is particularly discouraged because this may distract conference participants.

Exhibit hall. For any minor, regardless of registration status, a liability waiver must be completed at the registration desk by a parent or guardian. An ABRCMS staff representative will cosign the waiver and provide the parent or guardian with a copy to show security guards to gain entry into the exhibit hall. The waiver permits access to the exhibit hall only, not to meal areas or meeting rooms. No strollers are allowed in the exhibit hall. For the protection of all attendees, no dangerous or disruptive behavior will be tolerated.

Dress Code
ABRCMS attendees are expected to dress professionally for all conference activities. Student attendees should be especially mindful that they are at the beginning of their careers and first impressions are critical. It is recommended that male students wear button-down shirts with collars. Although ties are appropriate, they are not required. Female students must also dress professionally. Short skirts, half tops, and anything considered “club attire” are not appropriate attire for conferences.

Evaluation
A conference evaluation will be e-mailed to all attendees immediately following the conference. We value your feedback, and every completed evaluation helps us improve future conferences.

Exhibits Program
The ABRCMS exhibits program is an integral component of the conference, providing attendees with opportunities to learn about the many summer research opportunities, funding courses, internships, professional networks, graduate programs, etc., within the biomedical and behavior sciences, including STEM. More than 350 educational institutions, federal and government agencies, industry-based companies, foundations, professional societies and research hospitals showcase information during the ABRCMS exhibits program.

“To increase diversity in our field of profession, we have to reach out to recruit minority students at the undergrad level to inspire them for a Ph.D. in our discipline. ABRCMS is the right forum to accomplish that.”

(EXHIBITOR)
The exhibits program is located in Exhibit Hall C. The hall is open to all attendees at the following times:

**Exhibits Set- Up and Break Down**

- **Wednesday, November 12:** 2:00 p.m. – 8:30 p.m. (set-up)
- **Thursday, November 13:** 8:00 a.m. – 12:00 p.m.
- **Saturday, November 15:** 1:00 p.m. – 4:00 p.m. (break down)

**Dates and Times of Exhibition**

- **Thursday, November 13:** 2:15 p.m. – 6:30 p.m.
- **Friday, November 14:** 10:45 a.m. – 12:15 p.m. and 3:45 p.m. – 6:45 p.m.
- **Saturday, November 15:** 9:30 a.m. – 12:30 p.m.

**First Aid**

First Aid is available at the conference in room 006B. If you have an emergency please contact staff at ABRCMS registration desk.

**Name Badge Replacement Fee**

Attendees must wear their ABRCMS name badge to all conference functions. Name badges permit access to all sessions, the e-mail center, exhibits program, and conference meals. No individual without an official ABRCMS name badge will be permitted in these areas. Please note: there is a $100 fee for replacement name badges.

**Networking Meals**

ABRCMS offers many opportunities for networking. Join colleagues with similar interests to share ideas and develop research collaborations. All ABRCMS meals will be held in the Delta Ballroom and your conference registration fee covers all meals except Friday dinner. Name badges are required to enter the meals area.

**Photo Policy**

In order to protect data shared during presentations, no photos may be taken of posters or scientific session slides at ABRCMS.

**Raffle Drawings**

Raffle drawings will be held throughout the conference. Winners receive exhibitor-donated, institutional logo items such as hats, shirts, bags, mugs, etc. Students may enter to win prizes on each day of exhibits.

**Safety Tips**

Meeting participation, with its related travel, is a major component of scientific work. New cities, people, and environments move us away from our normal, routine lives and may cause us to let down our guard. It is important for ABRCMS participants to remember that no place is exempt from crime.

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**Alphabet Soup? A Glossary for ABRCMS Students**

Students, we realize that the many abbreviations, acronyms, and initialisms used as shorthand for scientific organizations can be a source of confusion when you are just beginning your research career. To help keep everyone on the same page, here is a glossary of common terms that you will encounter in this program — and see throughout your career.

- AAAS – American Association for the Advancement of Science
- FASEB – Federation of American Societies for Experimental Biology
- HHMI – Howard Hughes Medical Institute
- MARC – Minority Access to Research Careers
- MBRS – Minority Biomedical Research Support
- MORE – Minority Opportunities in Research
- NIH – National Institutes of Health
- NIGMS – National Institute of General Medical Sciences
- RISE – Research Initiative for Scientific Enhancement
- U-STAR – Undergraduate Student Training in Academic Research

“I was able to learn about graduate degree programs all over the country, which I would have never heard of otherwise.”

(Student)
Important Conference Information (continued)

Speaker Ready Room
The speaker ready room is located in Convention Center Room 211. Technical support staff will be available in the room to assist speakers and student oral presenters with their presentations. **All speakers should check in with the technical support staff at least one hour prior to giving their presentations.**

Student Presentations and Awards
Poster presentations are scheduled throughout the conference during exhibit hours. A small number of abstracts have been chosen for oral presentations. Undergraduate and postbaccalaureate presentations will be judged during the conference, and those receiving the highest scores will be given awards at the closing banquet on November 15. Each poster or oral presenter will receive a certificate of participation after the conference. Certificates will be mailed to the address that the student listed on the abstract submission site. **Note that students who arrive late or who do not turn in their presentations by the deadline will not be permitted to present. In addition, faculty may not coach students during their presentations. There are no exceptions to these policies.** See the schedule below for presentation schedules.

Poster Presentation Schedule

<table>
<thead>
<tr>
<th>Session 1 (A)</th>
<th>Thursday, November 13, 2:30 p.m. – 3:45 p.m.</th>
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<tbody>
<tr>
<td></td>
<td>Set-up: 2:15 p.m. – 2:30 p.m.</td>
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<td></td>
<td>Take-down: 5:15 p.m. – 5:30 p.m.</td>
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<tr>
<td>Session 2 (B)</td>
<td>Thursday, November 13, 4:00 p.m. – 5:15 p.m.</td>
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<tr>
<td></td>
<td>Set-up: 2:15 p.m. – 2:30 p.m.</td>
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<tr>
<td></td>
<td>Take-down: 5:15 p.m. – 5:30 p.m.</td>
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<tr>
<td>Session 3 (C)</td>
<td>Friday, November 14, 11:00 a.m. – 12:15 p.m.</td>
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<tr>
<td></td>
<td>Set-up: 10:45 a.m. – 11:00 a.m.</td>
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<tr>
<td></td>
<td>Take-down: 12:15 p.m. – 12:30 p.m.</td>
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<tr>
<td>Session 4 (D)</td>
<td>Friday, November 14, 4:00 p.m. – 5:15 p.m.</td>
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<tr>
<td></td>
<td>Set-up: 3:45 p.m. – 4:00 p.m.</td>
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<td></td>
<td>Take-down: 6:45 p.m. – 7:00 p.m.</td>
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<tr>
<td>Session 5 (E)</td>
<td>Friday, November 14, 5:20 p.m. – 6:45 p.m.</td>
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<td></td>
<td>Set-up: 3:45 p.m. – 4:00 p.m.</td>
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<td></td>
<td>Take-down: 6:45 p.m. – 7:00 p.m.</td>
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<tr>
<td>Session 6 (F)</td>
<td>Saturday, November 15, 9:45 a.m. – 11:00 a.m.</td>
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<td></td>
<td>Set-up: 9:30 a.m. – 9:45 a.m.</td>
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<td></td>
<td>Take-down: 12:15 p.m. – 12:30 p.m.</td>
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<tr>
<td>Session 7 (G)</td>
<td>Saturday, November 15, 11:00 a.m. – 12:15 p.m.</td>
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<td></td>
<td>Set-up: 9:30 a.m. – 9:45 a.m.</td>
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<tr>
<td></td>
<td>Take-down: 12:15 p.m. – 12:30 p.m.</td>
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<tr>
<td>Oral Sessions 1-12</td>
<td>Thursday, November 13, 5:30 p.m. – 6:30 p.m.</td>
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<tr>
<td>Oral Sessions 13-24</td>
<td>Saturday, November 15, 8:30 a.m. – 9:30 a.m.</td>
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</table>

Study Hall Locations
A private study room is available for students who need to take exams and/or study.
• Henry B. Gonzalez Convention Center, Room 006A
• Grand Hyatt Hotel, Mission A Room
• Marriott Riverwalk, Bowie Room
• Marriott River Center, Conference Room 15

“Attending and winning in my category was one of the best experiences in my scientific life. Coming from my background, I doubted myself in the past. I now feel confident because when I presented my poster I left like I belonged. This conference really made me believe that I can pursue a career in science.”
(STUDENT)
ABRCMS offers many opportunities for networking. Join colleagues with similar interest to share ideas and develop research collaborations. Networking is strongly encouraged throughout the conference however attendees are asked to sit in your respective disciplines during lunch and dinner on Thursday, lunch on Friday and lunch on Saturday. Disciplines tables are identified by napkin colors. See table below.

**Chemistry, Biochemistry, Engineering, Physics & Mathematics**
(Black Napkins)

**Microbiology, Immunology**
(Red Napkins)

**Neuroscience, Physiology, Developmental Biology**
(Ivory Napkins)

**Cell Biology, Molecular Biology & Computational Biology, Cancer Biology**
(Blue Napkins)

**Social and Behavioral Science and Public Health**
(Green Napkins)
Program Highlights

Professional Development Sessions

Undergraduates and Postbaccalaureates

Wednesday, November 12, 2014
2:30 p.m. – 4:30 p.m.

- Graduate Student Life: Perspectives of Graduate Students
- Succeeding Through Your Strengths: Assess and Apply Your Unique Strengths Toward Your Ideal Career
- Presentation Techniques: How to Make Effective Poster and Oral Presentations

8:30 p.m. – 9:30 p.m.

- Networking in Your Scientific Discipline

Thursday, November 13, 2014
8:30 a.m. – 9:30 a.m.

- Orientation for Undergraduates and Postbaccalaureate Students

11:00 a.m. – 12:15 p.m.

- Picking the Perfect Ph.D. Program for You/Why Choose a School with a T32
- M.D.-Ph.D. – Is It Right for Me?
- How to Be Successful in Your Summer Research Experience
- Community College Students: Tips for Transitioning to a Four-Year Institution

8:00 p.m. – 9:30 p.m.

- Gateway to the Future: Career Paths in the Biomedical Sciences, STEM Disciplines, and Behavioral Sciences – Conversations with Scientists

Friday, November 14, 2014
8:30 a.m. – 9:30 a.m.

- Embracing Diversity, Embracing Ourselves
- Three Techniques for Building Relationships during Science Communications

9:45 a.m. – 10:45 a.m.

- Mentoring Up: Proactively Manage Your Relationship with Your Research Mentor by Assessing and Applying Your Communication Strengths
- Realizing Your Dreams: What Does Time Have to Do with it?
- Effective Personal Statement for Getting into Highly Competitive Graduate Schools and Summer Programs
- Outclass the Competition! Etiquette Training
- Preparing an Effective Graduate Fellowship: Hear from the Experts (Recommended for undergraduate seniors)

7:00 p.m. – 8:00 p.m.

- Elements of the Graduate School Application Process
- Making the Most of the Time between College and Graduate School & Tips for Applying to a Postbaccalaureate Program (Recommended for students considering postbaccalaureate training)

Saturday, November 15, 2014
2:45 p.m. – 4:45 p.m.

- ABRCMS Professional Skills Cafe: Explore a Variety of Topics in Small Group Discussions

Graduate Students and Postdoctoral Scientists

Wednesday, November 12, 2014
2:30 p.m. – 4:30 p.m.

- Self-Awareness: The Key to Success in Life and Lab

9:00 p.m. -10:30 p.m.

- Graduate Students and Postdoctoral Scientists Networking Mixer

Thursday, November 13, 2014
8:30 a.m. – 9:30 a.m.

- Getting Published: Advice for Graduate Students and Postdoctoral Scientists

11:00 a.m. – 12:15 p.m.

- The Business of Science: Leveraging Your Scientific, Business, and Social Identities to Be Competitive in Today’s Job Market
- How We Learn …and How We Don’t

8:00 p.m. – 9:30 p.m.

- Gateway to the Future: Career Paths in the Biomedical Sciences, STEM Disciplines, and Behavioral Sciences – Conversations with Scientists
- The Business of Science in Practice: Deciphering Job Ads, Developing Targeted Resumes and Making Yourself Competitive

“ABRCMS attracts a highly diverse group of students of the highest caliber, preparation, and professionalism. I was very impressed with the students we met.”
(EXHIBITOR)
Friday, November 14, 2014

8:30 a.m. – 9:30 a.m.
❖ Navigating Your Way into a Postdoctoral Position and Having a Successful Experience
❖ Three Techniques for Building Relationships During Science Communications

9:45 a.m. – 10:45 a.m.
❖ Career Decisions: How to Find a Science Career that Fits YOU

2:30 p.m. – 3:45 p.m.
❖ Preparing an Effective Graduate Fellowship: Hear from the Experts
❖ Achieving Your Goals: Goal-Setting Strategies for Scientific and Career Success, Developing Your IDP

Saturday, November 15, 2014

2:45 p.m. – 4:45 p.m.
❖ ABRCMS Professional Skills Cafe: Exploring a Variety of Topics in Small Group Discussion

Faculty, Program Directors, and Exhibitors

Tuesday, November 11, through Thursday, November 13, 2014

❖ ASM LINK Mentoring Strategies (By Invitation Only) (Sponsored by the ASM-NSF Leaders Inspiring Networks and Knowledge [LINK] Program)
Visit asmlink.org for details.

Wednesday, November 12, 2014

2:30 p.m. – 4:30 p.m.
❖ The Supreme Court and Affirmative Action in the 21st Century – The University of Michigan: Critical Issues, Reflections, and Implications
❖ Effective Mentoring for Promoting Student Success (Sponsored by the ASM-NSF Leaders Inspiring Networks and Knowledge [LINK] Program)

8:30 p.m. – 10:00 p.m.
❖ NIH Grants Management Workshop

Thursday, November 13, 2014

8:30 a.m. – 9:30 a.m.
❖ Orientation for Judges
11:00 a.m. – 12:15 p.m.
❖ The Business of Science: Leveraging Your Scientific, Business, and Social Identities to be Competitive in Today’s Job Market
❖ Meyerhoff Adaption Project: Assessed by a Multifaceted Approach

Ken Olden (speaker) meets with student during “Meet and Greet” session.

Friday, November 14, 2014

8:00 p.m. – 9:30 p.m.
❖ Jump Start Your Career: Professional Development Opportunities for Research Faculty
❖ NIGMS Program Director Discussions (All programs meet as large group and breakout into smaller groups)

8:30 a.m. – 9:30 a.m.
❖ Appreciative Inquiry: Learning from What’s Worked (Sponsored by the ASM-NSF Leaders Inspiring Networks and Knowledge [LINK] Program)
❖ Meyerhoff Adaption Project: Design and Early Outcomes

9:45 a.m. – 10:45 a.m.
❖ The Jessica Effect: Mentoring with Attention to Culture and Family as a Mechanism for Graduate School Retention

2:30 p.m. – 3:45 p.m.
❖ PULSE – Moving Life Science Education Departments and Institutions from Vision to Change

7:00 p.m. – 9:00 p.m.
❖ Reception for Speakers, Exhibitors, Judges, and Program Directors

9:00 p.m. – 10:30 p.m.
❖ NIGMS/TWD Organization-wide Meeting for Program Directors (All programs meet as large group and breakout into smaller groups)

Saturday, November 15, 2014

❖ NONE
Conference Program
### OPENING KEYNOTE ADDRESS

**The Importance of Science Communication**  
Derrick Pitts, B.S., The Franklin Institute, Philadelphia, PA

### Thursday, November 13, 2014, 1:15 p.m. – 2:15 p.m.

#### PLENARY SCIENTIFIC SESSION

**Computational Approaches to Protein Engineering with Applications in the Life Sciences**  
Stephen L. Mayo, Ph.D., California Institute of Technology, Pasadena, CA

### Thursday, November 13, 2014, 9:45 a.m. – 10:45 a.m.

#### CONCURRENT SCIENTIFIC SESSIONS

- **Fighting Off Foes: Common Mechanisms Used by Plants and Animals to Protect Against Pathogens and Disease**  
  Sponsored by the American Society of Plant Biologists  
  Javier E. Irazoqui, Ph.D., Massachusetts General Hospital, Harvard Medical School, Boston, MA  
  Mehdi Kabbage, Ph.D., University of Wisconsin-Madison, WI

- **An Attractive Role for Repulsive Guidance Molecules in Shaping the Neural Tube**  
  Rachel M. Brewster, Ph.D., University of Maryland–Baltimore County, Baltimore, MD

- **Using Small Molecule Inhibitors to Understand Immune Function: Blocking Allergies and Finding Targets**  
  Sponsored by the American Society for Microbiology  
  Avery August, Ph.D., Cornell University, Ithaca, NY

- **Activities, Culture, and Cognitive Development in Middle Childhood**  
  Monica Tsethlikai, Ph.D., Arizona State University, Tempe, AZ

- **Multivalent Control of HMG CoA Reductase, the Molecular Target of Statin Drugs**  
  Sponsored by the Howard Hughes Medical Institute  
  Russell DeBose-Boyd, Ph.D., UT Southwestern Medical Center, Dallas, TX

- **Astrobiology: Applying What We Know to New Discoveries in the Universe**  
  Derrick Pitts, B.S., The Franklin Institute, Philadelphia, PA

- **The Joy of Science: Discovery of Victrelis™, the First HCV Protease Inhibitor to be Approved by Food and Drug Administration (FDA)**  
  Sponsored by the American Chemical Society  
  George Njoroge, Ph.D., Eli Lilly and Company, Indianapolis, IN

- **Going Viral: From Science in the Lab to Public Health Interventions in International Communities**  
  Sponsored by the ASM-NSF Leaders Inspiring Networks and Knowledge (LINK) Program  
  Jesse Kwiek, Ph.D., The Ohio State University, Columbus, OH  
  A. Oveta Fuller, Ph.D., University of Michigan, Ann Arbor, MI
Friday, November 14, 2014, 1:15 p.m. – 2:15 p.m.

PLENARY SCIENTIFIC SESSION

The Fever: The Role of Poverty and Environmental Disruption in Epidemics from Malaria to Ebola

Sonia Shah, B.A., Science journalist and prize-winning author

Saturday, November 15, 2014, 1:15 p.m. – 2:15 p.m.

CLOSING KEYNOTE ADDRESS

The Brown World Is Round

Richard Rodriguez, M.A., American writer who became famous as the author of Hunger of Memory.

“It was extremely inspiring to see so many people of color and minority women in one place. At times it gets overwhelming being the only one in class or in a lab who is a minority, but to be surrounded by so many who excelled and broke barriers has reminded me what my end goal is.”

(Student)

“Having attended ABRCMS I felt more adventurous and more inclined to pursue opportunities that are out of my comfort zone. Before ABRCMS I hadn’t come across a lot of minority students like myself, pursuing similar goals in life. My experience at ABRCMS was very encouraging for me to continue with my goal to be a research scientist.”

(Student)
Tuesday, November 11, through Thursday, November 13

Affiliated Workshops

ASM-NSF LINK Mentoring Strategies Workshop (By Invitation Only)
Sponsored by the ASM-NSF Leaders Inspiring Networks and Knowledge (LINK) Program
(Recommended for research investigators and educators – multiple disciplines)
With the ever-changing landscape of science, researchers recognize the importance of high quality mentoring in building culturally diverse, interdisciplinary research teams. We have brought together a diverse group of experts to tackle our greatest mentoring challenges. They will engage in cutting-edge solution-finding and the creative exchange of ideas, experiences, and solutions. This workshop will support emerging interdisciplinary partnerships and encourage collaborations to execute the transformative mentoring initiatives generated during the session.
Visit www.asmlink.org for schedule details.

Facilitators
Andy Burnett, Knowinnovation, Ltd., Buffalo, NY
Julia Figliotti, Maggie Dugan, Knowinnovation, Ltd., Buffalo, NY

Wednesday, November 12, 2014

12:00 p.m. – 8:00 p.m.  Registration Open
2:00 p.m. – 8:00 p.m.  Exhibit Set-up
2:30 p.m. – 4:30 p.m.  Session 1

Session 1
Graduate Student Life: Perspectives of Graduate Students
(Recommended for undergraduate, postbaccalaureate, and master’s students)
Hear graduate students share their experiences in discussions that include goal setting, selecting a mentor, time management, and balancing academic and social activities.
Speakers
To Be Determined

Moderator:
Jayne Ruben, Ph.D., University of South Carolina School of Medicine, Greenville, SC

Session 2
Succeeding Through Your Strengths: Assess and Apply Your Unique Strengths Toward Your Ideal Career
During ABRCMS, you will hear lots of advice and suggestions, but how do you know what advice is best for you? Not all suggestions are suitable for everyone, because we each have our own set of strengths and preferences in communication and working styles. Our unique strengths impact how we make critical decisions, and understanding our strengths will help us find careers that match our interests and experiences. To help you discover and develop your strengths, this workshop will introduce you to some simple and effective self-assessment tools drawn from the latest research and evidence-based approaches. Once you assess your strengths, you can then apply them as you make decisions toward a career that fits your vision of success.
Speaker
Steven P. Lee, Ph.D., University of California–Davis, Davis, CA

Session 3
Presentation Techniques: How to Make Effective Poster and Oral Presentations
(Recommended for first-time presenters and non presenters)
Effective communication is essential to every stage of a scientific career. This workshop offers strategies for making the most of every opportunity to attend a scientific meeting and present your work. Learn the essentials of designing compelling oral and poster presentations, including developing a clear conceptual framework, adding graphics, polishing delivery, and responding to questions.
Speaker
Shelley Payne, Ph.D., University of Texas at Austin, Austin, TX
Wednesday, November 12, 2014

Session 4
Location: Henry B. Gonzalez Convention Center, 217 A
The Supreme Court and Affirmative Action in the 21st Century – The University of Michigan and Beyond: Critical Issues, Reflections, and Implications
(Recommended for exhibitors and graduate school deans/administrators)
The major challenge to diversity and inclusion in American life over the last 25 years has been a series of judicial actions, voter referenda, and executive orders that ban the use of affirmative action in higher education. The University of Michigan was the focal point for many of these actions. In the late 1990s, Jennifer Gratz, a white woman filed a lawsuit against the University of Michigan, claiming that she had been denied admission in favor of less qualified underrepresented minorities. The University prevailed when the case reached the Supreme Court, but the victory was nullified by a 2006 voter referendum—The Michigan Civil Rights Initiative (Proposal 2). What was the campus environment like before, during, and after these actions? How were public colleges and universities able to maintain a campus environment that fostered diversity and inclusion? The Michigan experience has major implications for the whole of higher education. This presentation seeks to demonstrate how through its teaching, research, and engagement programs, the University of Michigan succeeded in sustaining diversity as an essential element of campus culture and continues to remain at the pinnacle of diversity in all phases of institutional life.
Speaker
Lester Monts, Ph.D., University of Michigan, Ann Arbor, MI

Session 5
Location: Henry B. Gonzalez Convention Center, 217 C
Self-Awareness: The Key to Success in Life and Lab
(Recommended for graduate students, postdoctoral scientists, and early-career scientists)
We each bring our unique personalities and work styles to the classroom, lab, workplace, and home. Understanding your style and appreciating that others have different styles can enhance your interactions and help you succeed. This workshop will explore differences in personalities and work styles that impact the way we communicate, take in information, make decisions, engage in conflict, learn, and plan our day. The workshop will include group activities and hands-on experiences related to working successfully in educational and research team environments.
Speaker
Sharon Milgram, Ph.D., Office of Intramural Training & Education, NIH, Bethesda, MD

Session 6
Location: Henry B. Gonzalez Convention Center, 212 A/B
Effective Mentoring for Promoting Student Success
(Sponsored by the ASM-NSF Leaders Inspiring Networks and Knowledge [LINK] Program)
(Recommended for research investigators and faculty, administrators, program directors, and deans)
The importance of mentoring and effective mentoring relationships for promoting student success and advancement is widely recognized. However, many students and faculty recognize that these relationships are challenging and often do not lead to intended outcomes. In this interactive workshop, the fundamentals of mentoring, methods for establishing and maintaining successful mentoring partnerships, and strategies for mentoring students towards academic success and professional advancement will be discussed by Christine Grant, president and CEO of Creative Growth Solutions for You.
Speaker
Christine S. Grant, Ph.D., Creative Growth Solutions for You, Raleigh, NC

5:00 p.m. – 6:00 p.m.
Session 1
Location: Henry B. Gonzalez Convention Center, 210 B
State of the ASM-NSF Leaders Inspiring Networks and Knowledge (LINK) Program
The ASM-NSF Leaders Inspiring Networks and Knowledge (LINK) Program aspires to facilitate meaningful interactions, including mentoring relationships and collaborations, between established scientific investigators, educators, junior investigators, and trainees. Specifically, the program seeks to develop skills in communications, teaching and mentoring, ethics, career planning, management and leadership, and interpersonal relationships through a structured-mentoring program. The complex environmental and social problems that are facing us nationally and globally require input from scientists with a diversity of backgrounds, disciplinary knowledge, and experimental approaches. The LINK program supports scientists to build developmental relationships with trainees and educators at two nationally renowned conferences – ABRCMS and the Annual ASM Conference for Undergraduate Educators (ASMCUE) – Continued on next page
with the goal of successful participation of mentees in emerging and interdisciplinary sciences. This session will introduce prospective mentors to the LINK program and provide an update of program activities, including National Science Foundation (NSF) research and education award opportunities.

Speakers

Beronda Montgomery, Ph.D., Michigan State University, East Lansing, MI  
Kelly Diggs-Andrews, Ph.D., American Society for Microbiology, Washington, DC  
Amy Chang, M.S., American Society for Microbiology, Washington, DC  
Suzanne Barbour, Ph.D., National Science Foundation, Arlington, VA

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**Session 2**

**PREP Students Networking Session (By Invitation Only)**

Location: Henry B. Gonzalez Convention Center, 210 A

6:30 p.m. – 7:15 p.m.  Dinner

7:15 p.m. – 8:15 p.m.  Conference Overview  
*John Fitzgerald Gates, Ph.D., Criticality Management Consulting, New York, NY*

Opening Remarks  
*Clifford W. Houston, Ph.D., University of Texas Medical Branch, Galveston, TX*

Conference Welcome  
*Alison Hall, Ph.D., National Institute of General Medical Sciences, NIH, Bethesda, MD*

Opening Keynote Address  
**The Importance of Science Communication**  
What is the role of the scientist in communicating science to the public? Every day the public is bombarded with science information. While it is great that science is being delivered through the media, the real difficulty is that the general public does not possess a strong enough scientific background to understand the science in context with how it is being delivered. There is a tremendous amount of misinformation and misunderstanding about science at a time when people really need to understand science better so they can deal with issues surrounding new discoveries. It is critical for students in science today to understand the importance of being a good science communicator. They need to be able to articulate what their research is about so they can receive grants and other support and so the public can appreciate and understand what they do.

Speaker  
*Derrick Pitts, B.S., The Franklin Institute, Philadelphia, PA*

Introducing Speaker:  
*John Fitzgerald Gates, Ph.D., Criticality Management Consulting, New York, NY*

8:30 p.m. – 9:30 p.m.  Networking in Your Scientific Discipline (All Disciplines)  
The focus of this informal session is helping students transition to the next level – being involved with their disciplinary societies and attending professional society meetings. Disciplinary society members will lead the session, interacting one on one with students,
Wednesday, November 12, 2014

discussing student-centered activities and programs offered by their organizations, and offering advice on career pathways and work and personal life balance. Program directors will also be available to mentor students.

Session Leaders
To Be Determined

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<tr>
<th>Microbiology &amp; Immunology</th>
<th>Location: Henry B. Gonzalez Convention Center, 217 D</th>
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<tbody>
<tr>
<td>Cell Biology &amp; Molecular &amp; Computational Biology</td>
<td>Location: Henry B. Gonzalez Convention Center, 214 A</td>
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<tr>
<td>Social and Behavioral Sciences</td>
<td>Location: Henry B. Gonzalez Convention Center, 217 C</td>
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<tr>
<td>Biochemistry</td>
<td>Location: Henry B. Gonzalez Convention Center, 214 B</td>
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<td>Neuroscience</td>
<td>Location: Henry B. Gonzalez Convention Center, 217 B</td>
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<tr>
<td>Developmental Biology &amp; Genetics</td>
<td>Location: Henry B. Gonzalez Convention Center, 214 C</td>
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<tr>
<td>Physiology</td>
<td>Location: Henry B. Gonzalez Convention Center, 210 A</td>
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<td>Engineering, Physics &amp; Mathematics</td>
<td>Location: Henry B. Gonzalez Convention Center, 212 A/B</td>
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<tr>
<td>Plant Biology</td>
<td>Location: Henry B. Gonzalez Convention Center, 210 B</td>
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<td>Cancer Biology</td>
<td>Location: Henry B. Gonzalez Convention Center, 213 A/B</td>
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<tr>
<td>Public Health</td>
<td>Location: Henry B. Gonzalez Convention Center, 205</td>
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<tr>
<td>Chemistry</td>
<td>Location: Henry B. Gonzalez Convention Center, 214 D</td>
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8:30 p.m. – 10:00 p.m.  NIH Grants Management Workshop
(Recommended for program directors and faculty)
This session offers updates from the National Institute of General Medical Sciences Minority Opportunities in Research Program, including current budget information, (i) clarification of requirements for the use of human subjects, (ii) use of the “Streamlined Noncompeting Award Process” for applications, and (iii) areas of interest in the Minority Biomedical Research Support and Minority Access to Research Careers Programs.

Speakers
Lori Burge, B.S., National Institute of General Medical Sciences, Bethesda, MD
Bob Altieri, M.A., National Institute of General Medical Sciences, Bethesda, MD
Michael Mace, M.A., National Institute of General Medical Sciences, Bethesda, MD

9:00 p.m. – 10:30 p.m.  Graduate Students and Postdoctoral Scientists Networking Mixer
Location: Henry B. Gonzalez Convention Center, Lonesome Dove
Graduate students, postdoctoral scientists, and recruiters of postdoctoral positions are invited to this mixer, a great opportunity to share experiences, relax, and network. This event is NOT open to undergraduates or postbaccalaureates.

“ABRCMS broadened my networking circle. I was introduced to many different fields and professionals at this conference. The talks were very stimulating, and I feel like I was more informed and knowledgeable after going to ABRCMS.”

(Student)
### Thursday, November 13, 2014

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>7:00 a.m. - 7:00 p.m.</td>
<td>Registration Open</td>
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<tr>
<td>7:30 a.m. - 8:15 a.m.</td>
<td>Breakfast</td>
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<tr>
<td>8:00 a.m. - 12:00 p.m.</td>
<td>Exhibit Set-up</td>
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<tr>
<td>8:30 a.m. - 9:30 a.m.</td>
<td><strong>Session 1</strong></td>
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<td><strong>Orientation for Undergraduates and Postbaccalaureates</strong></td>
<td>Location: Henry B. Gonzalez Convention Center, Grand Ballroom</td>
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<td>(Mandatory for undergraduates and postbaccalaureates)</td>
<td>This orientation sets the tone of the conference, provides an overview of ABRCMS for attendees, and prepares them to take advantage of the many opportunities available at the meeting. Featured topics include tips on (i) following essential conference etiquette, (ii) making the best of a scientific meeting, (iii) navigating a national conference, (iv) establishing mentoring relationships, (v) learning about networking opportunities and techniques, and (vi) maximizing professional growth opportunities.</td>
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<td><strong>Networking as a Required Life Skill and Professionalism as a Necessary Attribute for Students</strong></td>
<td>Howard G. Adams, Ph.D., H.G. Adams and Associates, Norfolk, VA</td>
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<td><strong>Program Overview and Making the Most of ABRCMS</strong></td>
<td>Sandra Murray, Ph.D., University of Pittsburgh, Pittsburgh, PA</td>
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<td><strong>Session 2</strong></td>
<td>Location: Henry B. Gonzalez Convention Center, 217 D</td>
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<tr>
<td><strong>Getting Published: Advice for Graduate Students and Postdoctoral Scientists</strong></td>
<td>Victor DiRita, Ph.D., University of Michigan, Ann Arbor, MI</td>
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<tr>
<td>(Recommended for graduate students, postdoctoral scientists, and early-career scientists)</td>
<td>Publishing your work is the key to expanding your success and influence in science. This session will help you choose a journal, prepare and submit your manuscript, deal with requests for revision, and cope with occasional rejection. It will also explain the ethics of scholarly publishing, including authorship, multiple submissions, and redundant publication. The session ends with a Q&amp;A period.</td>
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<td><strong>Session 3</strong></td>
<td>Location: Henry B. Gonzalez Convention Center, 007A/007B</td>
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<tr>
<td><strong>Orientation for Judges (All 12 Disciplines)</strong></td>
<td>Location: Henry B. Gonzalez Convention Center, 007A/007B</td>
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<td>Pick up your judging packet and learn the ins and outs of the ABRCMS judging process.</td>
<td>Location: Henry B. Gonzalez Convention Center, 006C/006D</td>
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<tr>
<td>• Biochemistry</td>
<td>Location: Henry B. Gonzalez Convention Center, 006C/006D</td>
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<td>• Cancer Biology</td>
<td>Location: Henry B. Gonzalez Convention Center, 006C/006D</td>
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<td>• Cell Biology</td>
<td>Location: Henry B. Gonzalez Convention Center, 006C/006D</td>
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<td>• Chemistry</td>
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<td>• Developmental Biology and Genetics</td>
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<td>• Engineering, Physics and Mathematics</td>
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<td>• Immunology</td>
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<td>• Microbiology</td>
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<td>• Molecular Biology and Computational Biology</td>
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<td>• Neuroscience</td>
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<td>• Physiology</td>
<td>Location: Henry B. Gonzalez Convention Center, 006C/006D</td>
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<tr>
<td>• Social and Behavioral Science &amp; Public Health</td>
<td>Location: Henry B. Gonzalez Convention Center, 006C/006D</td>
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**“It was a great opportunity to see the extraordinary research being conducted in the country and also to encourage and offer thoughtful advise to the future scientists.”**

(FACULTY/JUDGE)
Thursday, November 13, 2014

9:45 a.m. – 10:45 a.m.  Concurrent Scientific Sessions (Eight Session Options)

**Session 1**
Location: Henry B. Gonzalez Convention Center, 213 A/B

**Fighting Off Foes: Common Mechanisms Used by Plants and Animals to Protect Against Pathogens and Disease**
*Sponsored by the American Society of Plant Biologists*

Biological organisms have both beneficial and detrimental relationships with bacteria. When the relationship is detrimental and leads to disease, the bacteria are referred to as pathogens. In recent years, it has become apparent that plants and animals use similar molecular and biochemical mechanisms to detect pathogens and to mount an active defense against them to resist diseases. These mechanisms are known as organismal immune responses. In this session, the molecular players involved in the detection of invaders and the immune responses that are initiated in plant and animal research models will be discussed. Commonalities of the immune response pathway in a range of eukaryotic organisms will be the focus of the session.

*Speaker*
Javier E. Irazoqui, Ph.D., Massachusetts General Hospital, Harvard Medical School, Boston, MA
Mehdi Kabbage, Ph.D., University of Wisconsin-Madison, Madison, WI

*Introducing Speaker*
Beronda Montgomery, Ph.D., Michigan State University, East Lansing, MI

**Session 2**
Location: Henry B. Gonzalez Convention Center, 214 A/B

**Going Viral: From Science in the Lab to Public Health Interventions in International Communities**
*Sponsored by the ASM-NSF Leaders Inspiring Networks and Knowledge [LINK] Program*

Multi- and interdisciplinary partnerships and interactions are becoming increasingly recognized as critical for successfully addressing multidimensional, complex problems that require input from a variety of disciplines. In this session, two researchers working in immunology and virology will discuss their efforts to take their scientific knowledge from the laboratory to the community to inspire increased public understanding and to contribute to public health interventions.

*Speakers*
Jesse Kwiek, Ph.D., The Ohio State University, Columbus, OH
A. Oveta Fuller, Ph.D., University of Michigan, Ann Arbor, MI

*Introducing Speaker*
Kelly Diggs-Andrews, Ph.D., American Society for Microbiology, Washington, DC

**Session 3**
Location: Henry B. Gonzalez Convention Center, 206 A/B

**Using Small Molecule Inhibitors to Understand Immune Function: Blocking Allergies and Finding Targets**
*Sponsored by the American Society for Microbiology*

Most cells play critical roles in allergic responses, and calcium signaling controls the function of these cells. In addition, a role for actin in regulating calcium influx into cells has been suggested. This lecture will discuss the identification of a target for the immunosuppressant BTP, which blocks activation of mast cells and the symptoms of allergies in murine models. Also to be discussed are the (i) chemical and genetic approaches that were used to confirm the target of BTP and (ii) function of the target of BTP in mast cells, explaining why it regulates the symptoms of allergies.

*Speaker*
Avery August, Ph.D., Cornell University, Ithaca, NY

*Introducing Speaker*
Mary Sanchez Lanier, Ph.D., Washington State University, Pullman, WA

**Session 4**
Location: Henry B. Gonzalez Convention Center, 205

**Astrobiology: Applying What We Know to New Discoveries in the Universe**

While we have a good understanding of how life functions here on this planet, how can we apply what we know to possibly understanding life elsewhere? In this session on astrobiology — life elsewhere in the universe — astronomer Derrick Pitts will lay out a basic framework to answer this question.

*Speaker*
Derrick Pitts, B.S., The Franklin Institute, Philadelphia, PA

*Introducing Speaker*
William Walden, Ph.D., University of Illinois at Chicago, Chicago, IL
Thursday, November 13, 2014

Session 5
Location: Henry B. Gonzalez Convention Center, 212 A/B

Multivalent Control of HMG CoA Reductase, the Molecular Target of Statin Drugs
(Sponsored by the Howard Hughes Medical Institute)

The DeBose-Boyd laboratory focuses on the regulation of HMG CoA reductase, the key enzyme in the synthesis of cholesterol. Inhibitors of HMG CoA reductase, collectively called statins, have revolutionized the treatment of high blood cholesterol levels in humans. Statins trigger effects that result in the decrease of blood cholesterol, thereby reducing the incidence of heart attacks and prolonging the lives of subjects with pre-existing coronary artery disease. The cholesterol-lowering effect of statins is limited by the regulatory system that comes into play when the reductase is inhibited. This regulatory system leads to a major increase in the amount of HMG CoA reductase enzyme that becomes progressively harder to inhibit. Thus, a complete understanding of the HMG CoA reductase regulatory system is essential, not only for scientific reasons, but also because it is at the heart of clinical medicine.

Speaker
Russell DeBose-Boyd, Ph.D., UT Southwestern Medical Center, Dallas, TX

Introducing Speaker:
Kennie Shepherd, Ph.D., Morehouse School of Medicine, Atlanta, GA

Session 6
Location: Henry B. Gonzalez Convention Center, 214 C/D

An Attractive Role for Repulsive Guidance Molecules in Shaping the Neural Tube

Repulsive guidance molecules (RGMs) are membrane-bound or secreted molecules known to function as repulsive signaling cues for retinal axons and inhibitors of axonal regeneration following spinal cord injury. Intriguingly, members of this family appear to promote the directed migration of neural progenitor cells towards the midline of the neural plate, seemingly functioning as attractive rather than repulsive guidance molecules. This novel role for RGMs and their receptor neogenin is explored using the zebrafish as a model system. The Brewster Lab demonstrated that loss of the ligand or receptor results in severe neural tube defects caused in part by a disorganization of the microtubule cytoskeleton. The open tube phenotype of mouse RGMa mutants further points to a conserved role for this family of ligands in shaping the neural tube.

Speaker
Rachel M. Brewster, Ph.D., University of Maryland–Baltimore County, Baltimore, MD

Introducing Speaker:
Cecelia Yates-Binder, Ph.D., University of Pittsburgh, Pittsburgh, PA

Session 7
Location: Henry B. Gonzalez Convention Center, 207 A/B

Activities, Culture, and Cognitive Development in Middle Childhood

Monica Tsethlikai’s research has examined how children’s participation in activities impacts the development of memory and basic cognitive skills commonly referred to as executive functions (i.e., skills that promote the development of logical thinking, good planning skills, and adaptability). In this session, Tsethlikai will share the results of several studies that provide preliminary evidence that active participation in cultural activities promotes cognitive and social development in American Indian children. Additionally her research with primarily White children revealed that active family engagement and training in arts-based activities were both associated with better cognitive functioning in middle childhood. Currently, Tsethlikai’s research is exploring how factors such as housing and neighborhood quality are related to stress physiology (i.e., cortisol levels in hair) as risk factors that potentially impair the development of executive functions and the role active cultural engagement may play in possibly moderating the negative effects of high-stress environments in American Indian communities.

Speaker
Monica Tsethlikai, Ph.D., Arizona State University, Tempe, AZ

Introducing Speaker:
Janice Reuben, Ph.D., University of Michigan, Ann Arbor, MI

Session 8
Location: Henry B. Gonzalez Convention Center, 210 A/B

The Joy of Science: Discovery of Victrelis™, the First HCV Protease Inhibitor to be Approved by Food and Drug Administration (FDA)
(Sponsored by the American Chemical Society)

This is an inspiring story by Dr. F. George Njoroge, a Kenyan born scientist based in USA. Dr. Njoroge with take us through the journey that led to discovery of Victrelis, a Hepatitis C virus (HCV) protease inhibitor drug that was discovered by his team in New Jersey, USA and approved by Food and Drug Administration (FDA) on May 13	th 2011 for the treatment of the aforementioned
indication. HCV affects about 200 million people worldwide and the previous standard of care, interferon-ribavirin was suboptimal. The team undertook a structural based drug discovery effort that lead to discovery of this important medicine. The science behind this discovery will be discussed in this presentation and will highlight aspects that made his team to be inducted to the coveted ‘Hall of Fame’ as Heroes of Chemistry by American Chemical Society (ACS).

Speaker
George Njoroge, Ph.D., Eli Lilly and Company, Indianapolis, IN

Introducing Speaker:
Brittny Johnson, MSc., American Chemical Society, Washington, DC

Thursday, November 13, 2014

11:00 a.m. – 12:15 p.m. CONCURRENT PROFESSIONAL DEVELOPMENT SESSIONS (Seven Session Options)

Session 1
Picking the Perfect Ph.D. Program for You/Why Choose a School with a T32
(Recommended for undergraduates interested in the Ph.D. track)
Because pursuing a doctorate requires a major investment of time and energy – at least four years of working as hard as you have ever worked and deferring earnings – picking the Ph.D. program that will provide you with the best chance of success is crucial. Clearly you want to select a program with research strengths that match your interests. This workshop provides you with strategies for answering several important questions: Is the program structure compatible with my strengths and goals? How successful is the program at producing Ph.D.s? What careers are Ph.D.s from the program pursuing? Will the program provide me with the professional skills I need to succeed? Will I have the support I need to complete the program?

Speakers
Sharon Milgram, Ph.D., Office of Intramural Training & Education, NIH, Bethesda, MD
Alison Hall, Ph.D., National Institute of General Medical Sciences, NIH, Bethesda, MD
Shiva Singh, Ph.D., National Institute of General Medical Sciences, NIH, Bethesda, MD
Nancy Street, Ph.D., University of Texas Southwestern, Dallas, TX
Naomi Rosenberg, Ph.D., Tufts University, Boston, MA
Jabar Bennett, Ph.D., Brown University, Providence, RI

Session 2
M.D.-Ph.D. – Is It Right for Me?
(Recommended for undergraduates interested in the M.D.-Ph.D. track)
This session will provide you with information needed to (i) decide if the M.D.-Ph.D. is the correct pathway for you, (ii) prepare and plan for the M.D.-Ph.D. admissions process, and (iii) create and submit a competitive application packet. Other topics include school selection, criteria evaluated by M.D.-Ph.D. programs, necessary research experience, national program data, the interview process, matriculation, the M.D.-Ph.D. curriculum, and post-training pathways. The session ends with a Q&A period, and several M.D.-Ph.D. directors and administrators will be present to speak with students individually.

Speakers
Juanita Merchant, M.D., Ph.D., University of Michigan, Ann Arbor, MI
Joseph Barbieri, Ph.D., Medical College of Wisconsin, Milwaukee, WI
Peter Preusch, Ph.D., National Institute of General Medical Sciences, NIH, Bethesda, MD

Session 3
How to Be Successful in Your Summer Research Experience
(Recommended for undergraduates and community college students)
Summer programs are essential for enhancing your graduate school admissions file. This session discusses the importance of summer internships and how to (i) navigate the ABRCMS exhibit hall to identify the best summer program for you, (ii) select and apply to these programs, (iii) establish a good relationship with your faculty mentor, and (iv) have a successful summer research experience. Don’t miss this opportunity to take home strategies for getting accepted into the best summer programs!

Speakers
John Augusto, Ph.D., University of Kansas, Lawrence, KS
Krishan Arora, Ph.D., National Institute of General Medical Sciences, NIH, Bethesda, MD
Carolyn Bobach, Ph.D., University of Idaho, Moscow, ID

Continued on next page
Session 4

Community College Students: Tips for Transitioning to a Four-Year Institution
(Mandatory for community college students)

For many of you, this is probably the first national scientific conference that you have attended. This session helps you maximize the benefits of ABRCMS as they apply specifically to community college students. It emphasizes (i) tools for transitioning from a community college to a four-year institution, (ii) what you will take back to your program or institution, (iii) how to take full advantage of both the scientific talks and the educational development sessions, (iv) ways you can “work” effectively with the exhibitors, and (v) how to maximize all of the networking possibilities.

Speakers
Shari Rochelle, MPH, Portland Community College, Portland, OR
Leslie Bassett, B.S., National Heart, Lung, and Blood Institute, NIH, Bethesda, MD

Session 5

How We Learn ... and How We Don’t
(Recommended for all attendees)

Changes in the functional capacities of learners are visible manifestations of changes in the physical structure of the brain. Although we seldom think of learning experiences as brain-reorganization activities, they most certainly are precisely that. We will look at why formal education often fails to make substantive and lasting changes in how we think and behave, and we’ll consider how to design learning experiences that lead to advantageous changes in cognition, affect, and behavior, all of which are components of expertise in every discipline.

Speaker
Robert A. Duke, Ph.D., University of Texas at Austin, Austin, TX

Session 6

The Business of Science: Leveraging Your Scientific, Business, and Social Identities to Be Competitive in Today’s Job Market
(Recommended for graduate students, postdoctoral scientists, and faculty)

This SciPhd training workshop introduces 24 business competencies valued in industry, relates them to postdoctoral research experiences, and demonstrates how to identify those competencies and relate them to job ads and descriptions. We will also discuss the industry’s perceived strengths and weaknesses of academic scientists, along with how to leverage this knowledge and your own real capabilities to advance your career. The session will introduce the kinds of companies and jobs available for scientists, developing your personal brand (your scientific, business, and social identities), and relating the scientific method to common business.

Speaker
Randall Ribaudo, Ph.D., Human Workflows, Rockville, MD

Session 7

Meyerhoff Adaptation Project: Assessed by a Multifaceted Approach

The Meyerhoff Adaptation Project is an alliance forged between the University of Maryland–Baltimore County (UMBC), Pennsylvania State University (Penn State), and the University of North Carolina at Chapel Hill (UNC) and funded by Howard Hughes Medical Institute. The project seeks to promote institutional and cultural changes at UNC and Penn State that lead to significant increases in the number of high-achieving underrepresented minority Ph.D. scientists and mathematicians that matriculate to academic and other leadership positions in the United States. UMBC’s Meyerhoff Scholars Program serves as the foundational roadmap for the development of programs at UNC and Penn State. A major component of the project is to assess the implementation and impact of the UNC and Penn State programs. The implementation assessment will contribute to understanding the important facilitating factors, barriers, and related contextual influences (such as leadership, climate, and culture) that influence successful adaption. The impact assessment will contribute to understanding the nature and extent of the value-added impact of the programs on student and institutional outcomes, and the key program components and mechanisms that contribute to these impacts. In this session, the multiple facets of the assessments will be described and preliminary findings will be shared.

Speakers
Mariano Sto. Domingo, Ph.D., University of Maryland–Baltimore County, Baltimore, MD
Karen Watkins-Lewis, Ph.D., University of Maryland–Baltimore County, Baltimore, MD
Jeanine Staples, Ph.D., Pennsylvania State University, University Park, PA
Thursday, November 13, 2014

12:30 p.m. – 1:15 p.m.  Networking Lunch

1:15 p.m. – 2:15 p.m.  PLENARY SCIENTIFIC SESSION  
**Computational Approaches to Protein Engineering with Applications in the Life Sciences**  
Proteins are key macromolecules central to biological processes, ranging from DNA replication, to metabolism, to immune function. In this session, Caltech’s Stephen Mayo will describe his laboratory’s work in developing computational approaches to engineering proteins that have desired functional characteristics. In addition, he will provide application examples ranging from creating enhanced enzymes for biofuel production to supercharging antibodies for fighting viral infections.

**Speaker**  
**Stephen Mayo, Ph.D., California Institute of Technology, Pasadena, CA**

**Introducing Speaker:**  
**John Fitzgerald Gates, Ph.D., Criticality Management Consulting, New York, NY**

2:15 p.m. – 6:30 p.m.  Exhibits Open

2:30 p.m. – 3:45 p.m.  POSTER SESSION 1

2:45 p.m. – 3:45 p.m.  Meet and Greet Speakers

4:00 p.m. – 5:15 p.m.  POSTER SESSION 2

5:30 p.m. – 6:30 p.m.  Oral Presentation Sessions 1 – 12 (All 12 Disciplines)

**Oral Session 01: Biochemistry**  
Location: 210 A/B

**O01**  
IRS1/2 Signaling Preserves Contractile Function in the Adult Heart  
**Nicholas S. McCarty, University of Iowa, Iowa City, IA**

**O02**  
Structure of the HIV-1 Core Encapsidation Signal  
**Gregory C. Carter, Jr., University of Maryland, Baltimore County, Baltimore, MD**

**O03**  
β-catenin Creates a Sexual Dimorphic Response to Hepatic Iron Overload  
**LaCheyla J.N. Blount, Virginia Union University, Richmond, VA**

**O04**  
Functionality of Gating Tyrosine Mutations in the RPB2 Subunit of RNA Polymerase II in Yeast  
**Sarah S. Rader, Wichita State University, Wichita, KS**

**Session Moderator:**  
**Michael Summers, Ph.D., University of Maryland, Baltimore County, Baltimore, MD**

**Oral Session 02: Cancer Biology**  
Location: 214D

**O05**  
Targeting Triple Negative Breast Cancer in African-American Women  
**Michelle A. Jaldin, Trinity Washington University, Washington, DC**

**O06**  
Effects of Lung Carcinogens on PPARgamma Activity in A549 Cell Line  
**Nestor D.L. Carrasco, University of Puerto Rico at Ponce, Naguabo, Puerto Rico**

**O07**  
Detection of Melanoma Cells in Cerebral Spinal Fluid for the Diagnosis of Leptomeningeal Metastasis in Patients with Melanoma  
**Larisa Shagabayeva, CUNY Hunter College, New York, NY**

**O08**  
Treatment of Liver Cancer Cells with A Histone Deacetylase Inhibitor Increases Thioredoxin Interacting Protein  
**Assata F. Pyatt, Bowie State University, Bowie, MD**

**Session Moderator:**  
**Juanita Merchant, Ph.D., University of Michigan, Ann Arbor, MI**

“ABRCMS is the most important way for us to connect with committed science students.”

(Exhibitor)

Continued on next page
Thursday, November 13, 2014

Oral Session 03: Cell Biology

**O09** Mutations of Arginine Residues in Ricin A Chain Reduce Ricin Cytotoxicity

_Maria de L. Pagan, University of Puerto Rico at Mayaguez, Mayaguez, PR_

**O10** Quiescent Stem Cells in GAlert are More Sensitive than Stem Cells in G0 to Oxidative Stress

_Chambia Ma, Yale University, New Haven, CT_

**O11** Using Live Zebrafish Larvae to Elucidate the Role of Endocytic Trafficking in Intestinal Cholesterol Absorption

_Oscar E. Reyes Gaido, Johns Hopkins University, Baltimore, MD_

**O12** Confirming the Deletion of Proteins Relative to Adaptation in Response to Small Bowel Resection

_Carmen A. Marable, North Carolina A&T State University, Greensboro, NC_

_Session Moderator: Brent Berwin, Ph.D., Dartmouth Medical Center, Lebanon, NH_

Oral Session 04: Chemistry

**O13** Chemical Characterization of Phytoliths with Raman Spectroscopy: What is inside?

_Jessica Sanchez, California State University of Fullerton, Fullerton, CA_

**O14** Constructing a Small-Peptide Drug Library Using Combinatorial Synthesis

_Kimberly R. McRae, The University of South Carolina, Columbia, SC_

**O15** Computational Investigation of the Electronic Structure of [60] and [70] Used in Polymer-fullerene Composite Solar Cells

_Jeremy N. Webb, Chicago State University, Chicago, IL_

**O16** Preparation of (α-allyloxy-t-butyldimethyl)-10-trimethylsilyl-9-borabicyclo[3.3.2]decane, a New Asymmetric Reagent for the Allylboration of Aldehydes and Aldimines

_Attabey Rodriguez, University of Puerto Rico, San Juan, PR_

_Session Moderator: Alison Williams, Ph.D., Oberlin College, Oberlin, OH_

Oral Session 05: Developmental Biology and Genetics

**O17** Oil Dispersants Alter Development of Xenopus Laevis Frog Embryos

_Rachel L. Lester, Jacksonville State University, Jacksonville, AL_

**O18** Genetic and Behavioral Analysis of a Novel Circler Mutation in Zebrafish

_Krizia-Ivana T. Udquim, University of Maryland Baltimore County, Baltimore, MD_

**O19** Investigating the Molecular Genetics of Alcohol Dependence: SWSN-9 Gene Influences Acute Functional Tolerance Development in C. elegans

_Makeda Austin, Virginia Commonwealth University, Richmond, VA_

**O20** Genetic Control of Temperature-Sensitive Egg-Laying Rate in _Caenorhabditis elegans_

_Kevin P. McPherson, Emory University, Atlanta, GA_

_Session Moderator: DiAnna Hynds, Ph.D., Texas Woman's University, Denton, TX_

Oral Session 06: Engineering, Physics and Mathematics

**O21** Quantitative Characterization of Elastin in the Wall of the Human Femoropopliteal Artery

_Andreas Seas, University of Maryland, Baltimore County, Baltimore, MD_

**O22** Photothermal Lens Spectrometry of Nanoparticles

_Aaron Villette, Delaware State University, Dover, DE_

**O23** Using Droplet Microfluidics for High-Throughput in vivo Drug Screening

_Carlos J. Brambila, San Diego State University, Chula Vista, CA_

**O24** Novel Methodologies to Induce Lineage Specific Differentiation of Human Mesenchymal Stem Cells for Biomedical Applications

_Marissa E. Wechsler, The University of Texas at San Antonio, San Antonio, TX_

_Session Moderator: Chris Bassey, Ph.D., Azusa Pacific University, Azusa, CA_
Thursday, November 13, 2014

Oral Session 07: Immunology

O25 Janus-faced Microglia: Stiffness Dependent Activity of Murine Microglia
Hee Jin Cheon, Cornell University, Ithaca, NY

O26 Combined Effect of Tgfβ1 and Fluvastatin on Expression and Phosphorylation of Signaling Proteins in Mast Cells
Tamara T. Haque, Virginia Commonwealth University, Richmond, VA

O27 TIM-3 Regulation of IgE Receptor-Proximal Mast Cell Signaling in MC/9 Cells
Alina K. Lorant, University of Oklahoma, Norman, OK

O28 Role of pH in the Alternative Activation of Macrophages
Om Neelay, Gonzaga University, Spokane, WA

Session Moderator: Avery August, Ph.D., Cornell University - College of Veterinary Medicine, Ithaca, NY

Oral Session 08: Microbiology

O29 The Application of CRISPR Genome Engineering to the Study of Host Antiviral Factors
Tolu N. Omokehinde, University of Maryland, Baltimore County, Baltimore, MD

O30 Fighting While Parasitized: Can Nematode Infections Affect the Outcome of Staged Combat in Beetles?
David Vasquez, Jr., Virginia Tech, Blacksburg, VA

O31 Does HIV-1 Manipulate Cellular Stress Responses?
Andra L. Bates, Jr., University of Arkansas - Pine Bluff, Pine Bluff, AR

O32 Species Composition of Fungal Endophytes from Varieties of Asimina triloba (L.) Dunal in North Carolina, USA
Edem J. Tchegnon, University of North Carolina at Greensboro, Greensboro, NC

Session Moderator: Alfredo Torres, Ph.D., University of Texas Medical Branch, Galveston, TX

Oral Session 09: Molecular and Computational Biology

O33 PIN2 Localization in Arabidopsis PP2A-C Mutants
Erin Johnson, Spelman College, Atlanta, GA

O34 Comparative Analysis of Fasciola hepatica
Darius M. Bost, North Carolina Agricultural and Technical State University, Charlotte, NC

O35 MYST1 is the New Co-activator that Regulates the Proliferation of PCa Cells
Marc Philizaire, Medgar Evers College, City University of New York, Brooklyn, NY

O36 High throughput Small Molecule Screen Identifies Compounds Capable of Blocking Chondrocyte Hypertrophy
Jacob M. Bogdanov, University of California, Los Angeles, Los Angeles, CA

Session Moderator: Marlene de la Cruz, Ph.D., University of California, Irvine, CA

Oral Session 10: Neuroscience

O37 The Effect of Inflammation on Muscle Sensory Afferent Responses in Adult Male Mice
Anusha Allawala, San Jose State University, San Jose, CA

O38 Neuroprotective and Neurotoxic Interactions of the Endocannabinoid and Metabotropic Glutamate Receptor Systems in the Olfactory System
Paul T. Austin, University of the District of Columbia, Washington, DC

O39 Determining the Fundamental Unit of Song in Zebra Finches
Jennifer L. Watts, University of Texas at San Antonio, San Antonio, TX

O40 A Disease-Toxicant Interaction Reveals Cadmium Exposure as a Potential Modulator in Huntington’s Disease Neuropathology
Edmund Korley, Oberlin College, Oberlin, OH

Session Moderator: Richard King, Ph.D., University of Utah, Salt Lake City, UT

Continued on next page
### Thursday, November 13, 2014

#### Oral Session 11: Physiology  
**Location:** 207B

<table>
<thead>
<tr>
<th>Session</th>
<th>Title</th>
<th>Presenter</th>
<th>Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>O41</td>
<td>The Effect of Bisphenol Derivatives on Adipose Stem Cells</td>
<td>Brandi Biagas</td>
<td>Xavier University, Cincinnati, Ohio</td>
</tr>
<tr>
<td>O42</td>
<td>The Effect of Adenosine Diphosphate on Platelets Induced by Shear Stress and Secondhand Smoke and Its Role in Platelet Aggregation</td>
<td>Sarah E. Georges</td>
<td>Stony Brook University, Stony Brook, NY</td>
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<tr>
<td>O43</td>
<td>Investigating the Role of the Gut Microbiota and the Circadian Clock in Metabolism</td>
<td>Diane Hernandez</td>
<td>University of Texas at El Paso, El Paso, TX</td>
</tr>
<tr>
<td>O44</td>
<td>Use of Mitotane in Adrenocortical Carcinomas: Risk and Benefit</td>
<td>Betty Y. Lung</td>
<td>Hunter College of City University of New York (CUNY), New York, NY</td>
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**Session Moderator:** Christine Beeton, Ph.D., Baylor College of Medicine, Houston, TX

#### Oral Session 12: Social and Behavioral Science and Public Health  
**Location:** 214B

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<tr>
<th>Session</th>
<th>Title</th>
<th>Presenter</th>
<th>Institution</th>
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<tbody>
<tr>
<td>O45</td>
<td>Cardiovascular Health Risk Factors among College-Aged Adults</td>
<td>Temitope F. Adeoye</td>
<td>Morgan State University, Baltimore, MD</td>
</tr>
<tr>
<td>O46</td>
<td>Wired for Health: Recruitment Methods to Engage Medically Underserved Populations in Research about Digital Technology Usage</td>
<td>Daniel K. Schadrac</td>
<td>University of South Florida, Tampa, FL</td>
</tr>
<tr>
<td>O47</td>
<td>Investigating Associations Between School Climate, Professional Burnout, and Staff Openness to Innovation</td>
<td>Deanna Loh</td>
<td>Johns Hopkins University, Baltimore, MD</td>
</tr>
<tr>
<td>O48</td>
<td>ROC Curve Analysis of the Accuracy of Diabetes Risk Score and Waist Circumference in the Prediction of Pre-diabetes (type-2) in Eastern Cape</td>
<td>Devon Scott</td>
<td>Oakwood University, Huntsville, AL</td>
</tr>
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**Session Moderator:** C. Debra M. Furr-Holden, Ph.D., Johns Hopkins University, Baltimore, MD

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<tr>
<th>Time</th>
<th>Activity</th>
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<tr>
<td>6:45 p.m. – 7:30 p.m.</td>
<td>Dinner</td>
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<tr>
<td>8:00 p.m. – 9:30 p.m.</td>
<td>Professional Development Sessions (Three Session Options)</td>
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**Session 1**  
**Title:** Gateway to the Future: Career Paths in the Biomedical Sciences, STEM Disciplines, and Behavioral Sciences – Conversations with Scientists  
(Recommended for undergraduate, postbaccalaureate and graduate students)

In this session, research scientists from a variety of career sectors will engage students in small group discussions focused on “a day in the life of a research scientist.” The session will explore the wide variety of careers available in the biomedical sciences, the physical sciences, engineering, and the behavioral sciences, as well as the many types of training that can help students reach their goals. Scientists will discuss their career pathways and educational backgrounds, what they enjoy about their work, and their strategies for professional and personal life balance. At the end of the session, participants will have a clearer understanding of why graduate training (including postbaccalaureate, master’s, and doctoral programs) is the gateway to future opportunities. Career sectors include pharma/biotechnology/industry, media/communications/nonprofits, research-intensive academic/staff scientists, undergraduate teaching/academic/community colleges, MD-Ph.Ds. in academic health centers (medical schools), and government/policy/foundation/law.

**STEM Career Choices: What’s Available and How to Succeed**

**Speaker**  
Richard Weibl, M.Ed., Association for Women in Science, Alexandria, VA

**Moderators**

Nancy Schwartz, Ph.D., University of Chicago, Chicago, IL  
Victoria Freedman, Ph.D., Albert Einstein University, New York, NY

**Speakers**  
To Be Determined
Thursday, November 13, 2014

Session 2  
**The Business of Science in Practice: Deciphering Job Ads, Developing Targeted Resumes, and Making Yourself Competitive**  
(Recommended for doctoral graduate students, postdoctoral scientists, and early-career scientists)

This SciPhD session will help you demystify job ads, identifying the explicit and implicit job requirements they contain. You will then be shown how to use that information — in conjunction with your own experiences and through additional intelligence through smart networking — to help make yourself competitive for jobs you desire. Additionally, understanding the social context of these competencies, and how they relate to each other provides a foundation not just for obtaining industry jobs, but also for excelling and succeeding in an industry career. This presentation will specifically focus on how to identify the specific business and social skills valued for specific jobs, how to relate your own experiences to those skills, and how to use that knowledge to develop targeted resumes and prepare for the interview process.

**Speaker**

*Randall Ribaudo, Ph.D.*, Human Workflows, Rockville, MD

Session 3  
**Jump Start Your Career: Professional Development Opportunity for Research Faculty**

This workshop will introduce newly-established researchers to peer review at NIH's Center for Scientific Review and will describe the Early Career Reviewer Program, which was developed to educate young investigators about the review process and to help them develop into critical and effective reviewers by providing them with review experience.

**Session Goals:**

The goals of this workshop are to introduce new investigators to the National Institutes of Health funding opportunities, grant application review process, and the Early Career Reviewer (ECR) Program. Through PowerPoint enhanced lecture and group discussion the participants will:

1. Gain information about research grant and career development mechanisms available through the NIH
2. Have a better understanding of the NIH peer review process
3. Know where to look for information and who to contact when planning a research grant application
4. Learn the qualifications and how to apply for the Early Career Reviewer Program

**Speaker:**

*Anna Riley, Ph.D.*, National Institutes of Health, Bethesda, MD

8:00 p.m. – 9:30 p.m.  
**NIGMS Program Director Discussions**

This is a meeting of all TWD program directors. Meetings will be arranged by program areas and held in separate rooms assigned by TWD programs.

**PREP and IMSD Programs Facilitator**

*Michael Bender*, National Institute of General Medical Sciences, NIH, Bethesda, MD

**T32 Program Directors Facilitator**

*Joe Gindhart*, National Institute of General Medical Sciences, NIH, Bethesda, MD

**RISE and Bridges Program Facilitator**

*Robin Broughton*, National Institute of General Medical Sciences, NIH, Bethesda, MD

**IDEA and F30 Program Facilitators**

*Krishon Arora*, National Institute of General Medical Sciences, NIH, Bethesda, MD

*Regine Douillard, M.D., M.P.H.*, National Institute of General Medical Sciences, NIH, Bethesda, MD

**MARC and F31 Program Facilitator**

*Shawn Gaillard, Ph.D.*, National Institute of General Medical Sciences, NIH, Bethesda, MD

“ABRCMS broadened my career experience. ABRCMS helped me see the larger picture of the profession I was getting into.”

(STUDENT)

Continued on next page
Friday, November 14, 2014

7:00 a.m. – 5:00 p.m.  Registration Open
7:30 a.m. – 8:15 a.m.  Breakfast
8:30 a.m. – 9:30 a.m.  CONCURRENT PROFESSIONAL DEVELOPMENT SESSIONS (five Session Options)

Session 1
Embracing Diversity, Embracing Ourselves
(Recommended for undergraduate and postbaccalaureate students)
The greatest asset of the National Institute of Environmental Health Sciences (NIEHS) is the talented federal workforce who fuels our innovation and advances. By actively building a rich and diverse faculty, we can ensure future successes within the institute. Through the integration of diverse perspectives, the scientific community has expanded both its vision and capabilities. But maintaining a diverse workforce requires a focus on the individuals, allowing for individualized support and work-life balance. In this session, NIEHS director Linda Birnbaum will discuss the importance of work-life balance and diversity while sharing her own winding career path.

Speaker
Linda S. Birnbaum, Ph.D., D.A.B.T., A.T.S., National Institute of Environmental Health Sciences and National Toxicology Program, NIH, Bethesda, MD

Session 2
Three Techniques for Building Relationships During Science Communications
(Recommended for all attendees)
Traditional science communication techniques are based on scientific/technical experts providing content and are dependent on the trust and credibility of both the expert presenter and the presenting institution. A behavioral description would describe traditional science communications as “telling and selling.” Yet our “social brain” challenges presentations by experts and very reluctantly places trust in institutions. Our social brain is first and foremost relational centric and seeks to identify with individuals that demonstrate trust in the judgment of the listener. Designed for the social brain, three science communication techniques will be presented, practiced, and reinforced during the conference. Each technique seeks to build a relationship and reinforce personal trust before providing scientific content.

Speaker
Larry Petcovic, M.Sc., Human Workflow, Bethesda, MD

Session 3
Appreciative Inquiry: Learning from What’s Worked
(Sponsored by the ASM-NSF Leaders Inspiring Networks and Knowledge [LINK] Program)
(Recommended for research investigators and faculty, but open to all)
In this session, Knowinnovation’s Andy Burnett discusses the power of a physical environment to generate innovative ideas and solutions. Burnett has dedicated his career to facilitating creative thinking within companies, organizations, and government and academic institutions. Over the last 30 years, spaces intended for creative thinking and sharing have been developed. In recent years, these spaces are being built more and more to complement specific types of creative and innovative thinking, and to provide real experiences. Research shows that different spaces, away from cubicles, can have significant impacts on the solutions people come up with. The problem is that a only very small percentage of people in the world will ever experience these unusual and unique spaces. This isn't ideal, because many of the world's largest problems today require creative thinking and solutions. Here Burnett outlines why senior executives need to pay more attention to the type of environment they are creating for employees.

Speaker
Andy Burnett, Ph.D., Knowinnovation, Ltd., Buffalo, NY

Session 4
Meyerhoff Adaptation Project: Design and Early Outcomes
The Meyerhoff Adaptation Project supports a partnership between the University of Maryland–Baltimore County (UMBC), the University of North Carolina at Chapel Hill (UNC), Pennsylvania State University (Penn State), and the Howard Hughes Medical Institute. The overarching goal of the project is to promote institutional cultural changes at UNC and Penn State that lead to significant increases in the number of high-achieving underrepresented minority Ph.D. scientists and mathematicians that matriculate to academic and other leadership positions in the United States. The Meyerhoff Scholars Program at UMBC serves at the foundational roadmap for the development of individualized programs that consider local demographics, historical outcomes, and existing strengths and weaknesses at the PI’s. A second major goal is to determine whether this form of inter-institutional partnership can serve as an
effective mechanism for promoting the adaptation of “effective practices.” Although the Meyerhoff Adaptation Project programs at Penn State and UNC are just over a year old, early outcomes, progress, and barriers have been evaluated and will be presented.

Speakers

Michael F. Summers, Ph.D., University of Maryland–Baltimore County, Baltimore, MD
Keith Harmon, M.M., University of Maryland–Baltimore County, Baltimore, MD
Starlette Sharp, M.S., Pennsylvania State University, State College, PA
Joseph Templeton, Ph.D., University of North Carolina–Chapel Hill, Chapel Hill, NC

Session 5
Location: Henry B. Gonzalez Convention Center, 210 A/B
Navigating Your Way into a Postdoctoral Position and Having a Successful Postdoctoral Experience
(Recommended for doctoral-level graduate students and postdoctoral scientists)
This session will focus on the many critical issues that graduate students and postdoctoral scientists face when selecting first and second postdoctoral positions. These issues include securing funding, expected duration, racial and ethnic composition of the postdoctoral pool, health care and other benefits, job responsibilities, and career development activities. The forum will encourage candid conversations focused on everything that graduate students and postdoctoral scientists want to know but are afraid to ask.

Speakers
Alfredo Torres, Ph.D., University of Texas Medical Branch at Galveston, Galveston, TX

9:45 a.m. – 10:45 a.m.
CONCURRENT PROFESSIONAL DEVELOPMENT SESSIONS (four Session Options)

Session 1
Location: Henry B. Gonzalez Convention Center, Lila Cockrell Theatre
Mentoring Up: Proactively Managing Your Relationship with Your Research Mentor by Assessing and Applying Your Communication Strengths
(Recommended for undergraduate, postbaccalaureate, and master’s students)
As a young scientist, your relationship with your research mentor is the most vital of your academic career. It is vital to learn how to “mentor up,” i.e., proactively manage the relationship by assessing your communication strengths and applying them strategically. The concept of mentoring up is adapted from the business world’s concept of managing up. In this session, critical skills in mentoring up will be presented for interactive discussions. Participants will take a brief self-assessment test and discuss a case study of a mentee learning how to mentor up.

Speaker
Steven P. Lee, Ph.D., University of California–Davis, Davis, CA

Session 2
Location: Henry B. Gonzalez Convention Center, 213 A/B
Realizing Your Dreams: What Does Time Have to Do with It?
Setting goals is an excellent way to provide yourself with direction and purpose. The more you can clearly define your goals (and revise them as needed), the more likely you are to achieve success. Goals can help you to channel your energy towards meaningful activities as you continue along your journey. In this session you will review your goal setting and time management skills while reviewing some of the simple techniques for effective time management. The purpose of this workshop is to help you accomplish your goals through an organized process made easy for you. The audience will be asked to participate in time management skill building activities.

Speaker
Sandra Murray, Ph.D., University of Pittsburgh, Pittsburgh, PA

Session 3
Location: Henry B. Gonzalez Convention Center, 214 C/D
Career Decisions: How to Find a Science Career that Fits YOU
(Recommended for senior-level doctoral graduate students and postdoctoral scientists)
Of course you want to find a career that you’ll enjoy and find rewarding! But how do you find the right path, especially when there are so many career directions scientists can follow? For instance, there are more than 50 doctorate-level careers in the biomedical sciences. See a list of these careers, while learning to select the best option for you, by attending this thought-provoking and interactive workshop! You will learn a logical, step-by-step process for exploring your career options and deciding which will provide the best fit for your own set of skills, values, and interests. Attendees of this workshop are strongly encouraged to attend the “Achieving Your Goals” workshop scheduled on Friday, November 14, at 2:30 p.m. to achieve best preparation for writing a successful individual development plan.

Speakers
Bill Lindstaedt, M.S., University of California–San Francisco, San Francisco, CA
Phil Clifford, Ph.D., University of Illinois at Chicago, Chicago, IL

Continued on next page
The Jessica Effect: Mentoring with Attention to Culture and Family as a Mechanism for Graduate School Retention

The death of Jessica Soto-Pérez, a chemical engineering graduate student at the University of Maryland–Baltimore County, at the hands of her husband in 2004 is leading to a higher-education practice of more family and friend inclusion for underrepresented minority students (URMs). Soto-Pérez is the subject of “The Jessica Effect: Valuing Cultural and Familial Connections to Broaden Success in Academe,” a peerReview article that encourages institutions to “definitively invite and actively” welcome the family and friends of graduate students in certain events and programs. In this session, Renetta Tull — the article’s lead author — will discuss how including a student’s family in the work-balance equation can help improve the numbers and success of URMs in STEM education and careers.

Speaker
Renetta Tull, Ph.D., University of Maryland–Baltimore County, Baltimore, MD

1:15 p.m. – 2:15 p.m. PLENARY SCIENTIFIC SESSION
The Fever: The Role of Poverty and Environmental Disruption in Epidemics from Malaria to Ebola
Ebola could have been contained last year when it was a minor outbreak in the forests of Guinea, but the epidemic across West Africa continues to this day, growing exponentially. Malaria has been preventable and curable for centuries, and yet sickens 300 million people every year and kills over half a million. How have these wily pathogens been so successful, and how can we stop them?
Speaker
Sonia Shah, B.A., Science Journalist and Prize-Winning Author

Introducing Speaker:
Mary Sanchez Lanier, Washington State University, Pullman, WA

2:30 p.m. – 3:45 p.m. CONCURRENT PROFESSIONAL DEVELOPMENT SESSIONS (Six Session Options)
Session 2
Outclass the Competition! Etiquette Training
(Recommended for all attendees)
This dynamic seminar will show you how to use the ultimate business tool — protocol and etiquette intelligence — to distinguish yourself from the competition: make an entrance, work a room, and improve your mingling proficiency. Learn the importance of hand-shaking (the ultimate greeting), introductions, and eye signals, and become skilled at effective business meal tactics, such as silverware savvy and dining dos and don’ts.
Speaker
Patricia Minor, Etiquette School of Maryland, Ellicott City, MD

Session 1
Effective Personal Statement for Getting into Highly Competitive Graduate Schools and Summer Programs
(Recommended for undergraduate, postbaccalaureate, and master’s students)
What are graduate programs in the sciences looking for in an applicant? Find out in this session, which will focus on finding programs, using ranking systems smartly, getting better recommendations, selecting work samples, making that critical connection with potential mentors, writing awesome statements of purpose, and learning how to get full funding and go to school for free. Get tips on writing effective statements for graduate school and/or summer program applications from presenters who have written many personal statements during their careers, read thousands of submitted statements, and helped many early-career students to write great statements. Bring a copy of a personal statement that you are working on.
Speakers
Joel Oppenheim, Ph.D., New York University, New York, NY
Victoria Freedman, Ph.D., Albert Einstein University, New York, NY

Session 3
Outclass the Competition! Etiquette Training
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This dynamic seminar will show you how to use the ultimate business tool — protocol and etiquette intelligence — to distinguish yourself from the competition: make an entrance, work a room, and improve your mingling proficiency. Learn the importance of hand-shaking (the ultimate greeting), introductions, and eye signals, and become skilled at effective business meal tactics, such as silverware savvy and dining dos and don’ts.
Speaker
Patricia Minor, Etiquette School of Maryland, Ellicott City, MD
Friday, November 14, 2014

Session 3
Preventing an Effective Graduate Fellowship: Hear from the Experts
(Recommended for undergraduate seniors, graduate students, postdoctoral scientists, and early-career scientists)
This session offers an overview of the best practices for preparing, writing, and submitting NIH, NSF, and foundation grant proposals. Although many of the basic strategies for preparing proposals apply to all funding sources, each funder has its own proposal style, submission process, and evaluation system. Attend the session to learn about the lifecycle of grant proposals, factors influencing funding decisions, and tips that will help you organize proposals and avoid pitfalls.

Speakers
Alison Hall, Ph.D., National Institutes of Health, Bethesda, MD
Giselle Muller Parker, Ph.D., National Science Foundation, Arlington, VA
Carmen Hinojosa-Laborde, Ph.D., University of Texas Health Science Center at San Antonio, San Antonio, TX, and American Heart Association, Dallas, TX

Session 4
Achieving Your Goals: Goal-Setting Strategies for Scientific and Career Success, Developing Your IDP
(Recommended for graduate students and postdoctoral scientists)
Do you ever promise yourself that you’ll finish that paper or improve your presentation skills, and then don’t quite get around to it? Do you have trouble setting goals and sticking to them? Survey data has shown that trainees in the biomedical sciences who create and follow a written plan are more likely to reach their research and career goals. This hands-on workshop will get you started on creating your annual Individual Development Plan (IDP) for completing projects and developing the professional skills you’ll need for success. Through this process, you will learn principles for setting achievable goals and strategies for ensuring that you’ll follow through to success.

Speakers
Bill Lindstaedt, M.S., University of California–San Francisco, San Francisco, CA
Phil Clifford, Ph.D., University of Illinois at Chicago, Chicago, IL

Session 5
PULSE – Moving Life Science Education Departments and Institutions from Vision to Change
(Recommended for research faculty)
Unlike many other life science education reform initiatives, the Partnership for Undergraduate Life Sciences Education (PULSE) is focused on departmental transformation aligned with recommendations in the 2011 report Vision and Change in Life Sciences Education: A Call to Action. Using best practices identified by institutions who have engaged with the supporting tools generated by the PULSE Vision and Change Leadership Fellows, this session will lead participants to an initial vision for departmental transformation (including a detailed analysis of the current state of their home institutions/departments) and provide opportunities to develop strategies to initiate departmental change.

Speakers
Edwin J. Barea-Rodriguez, Ph.D., University of Texas at San Antonio, San Antonio, TX
William B. Davis, Ph.D., Washington State University, Pullman, WA
Melanie Lee-Brown, Ph.D., Guilford College, Greensboro, NC
Sandra Romano, Ph.D., University of the Virgin Islands, St. Thomas, VI
Mary Smith, Ph.D., North Carolina A&T State University, Greensboro, NC
Akif Uzman, Ph.D., University of Houston–Downtown, Houston, TX
Gabrielle Wienhausen, Ph.D., University of California–San Diego, San Diego, CA

(Continued on next page)
From Tutoring to Mentoring: Supporting Underrepresented Students, and Why That’s Good for Everyone
(Recommended for faculty and program administrators)

Traditionally, support for students from groups less likely to thrive in college has taken the form of supplemental, and often remedial, instruction. The additional skills gained from such programs often come with the costs of stigmatization and separation from the learning community that is so central to persistence and success. Drawing on the experience of the Grinnell Science Project, Mark Schneider describes the benefits of comprehensive support of all students with an eye to the multifaceted needs of target students. By providing innovations that affect all students, in curricular and co-curricular ways, we have not only improved the participation and success of students of color, but also have significantly enhanced the opportunities for students more broadly.

Speaker
Mark B. Schneider, Ph.D., Grinnell College, Grinnell, IA

3:45 p.m. – 6:45 p.m. Exhibits Open

4:00 p.m. – 5:15 p.m. POSTER SESSION 4

5:30 p.m. – 6:45 p.m. POSTER SESSION 5

7:00 p.m. – 8:00 p.m. CONCURRENT PROFESSIONAL DEVELOPMENT SESSIONS (three Session Options)

Session 1
Elements of the Graduate School Application Process
(Recommended for undergraduate and master-level students)

The session provides students with the information necessary to prepare and plan for the graduate school admissions process. Part one briefly covers the undergraduate years (coursework, internships, and standardized tests), including the process of selecting schools for application, subsequent matriculation, and the application process, with a focus on the admissions file. There will be a discussion of the application form and supporting documentation, with a special focus on the personal statement. Also covered are the interview process and how to succeed in graduate school. The personal statement introduces the applicant to the school and its admissions committee; therefore, part two provides tips and strategies on writing a powerful personal statement for applications for graduate school and/or summer internships. Lastly, part three offers strategies for financing graduate education.

Speakers
John Augusto, Ph.D., University of Kansas, Lawrence KS
Gita Bosch, Ph.D., G. Bosch & Associates, New York, NY

Session 2
Strategies for Taking Standardized Admissions Tests: Preparing for the GRE and MCAT Exams

This session focuses on test-taking strategies and provides valuable information about resources for preparing for standardized admissions tests, particularly the GRE and MCAT. It is important to note that the session is not intended to take the place of formal comprehensive workshops, such as courses offered by your institution and/or independent test preparation agencies.

Speaker
Gayle Slaughter, Ph.D., Baylor School of Medicine, Houston, TX
Saundra Oyewole, Ph.D., Trinity University, Washington, DC

Session 3
Making the Most of the Time Between College and Graduate School & Tips for Applying to a Postbaccalaureate Program
(Recommended for students considering postbaccalaureate training)

Many students consider postbaccalaureate training prior to applying to graduate school, and the NIH has the largest postbac training program in the country. The session will focus on the NIH postbac program details and requirements, including the nuts and bolts of submitting a successful application. Information and resources on other U.S. postbac programs will also be presented.

Speakers
Sharon L. Milgram, Ph.D., Office of Intramural Training & Education, NIH, Bethesda, MD
Michael Bender, Ph.D., National Institute of General Medical Sciences, NIH, Bethesda, MD

7:00 p.m. – 9:00 p.m. Reception for Speakers, Exhbitors, Judges and Program Directors
Location: Grand Hyatt Hotel, Lonestar Ballroom A, B, C

9:00 p.m. – 10:30 p.m. NIGMS/TWD Organization-wide Meeting for Program Directors
(All programs meet as large group and breakout into smaller groups)
### Oral Presentation Sessions (All 12 Disciplines)

#### Oral Session 13: Biochemistry

<table>
<thead>
<tr>
<th>Session</th>
<th>Title</th>
<th>Speaker</th>
<th>Institution</th>
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</thead>
<tbody>
<tr>
<td>O49</td>
<td>Characterizing Extant Members of the S100 Protein Family in Light of Evolution</td>
<td>Abigail Tami</td>
<td>Florida State University, Tallahassee, FL</td>
</tr>
<tr>
<td>O50</td>
<td>Elucidating the Role of the RNA Exosome in the Pathogenesis of Pontocerebellar Hypoplasia Type 1</td>
<td>Sergine Brutus</td>
<td>Emory University, Atlanta, GA</td>
</tr>
<tr>
<td>O51</td>
<td>Functional Identification of the Mouse Ortholog of Yeast RIM2, a Mitochondrial Solute Carrier, and Its Role in Iron Metabolism</td>
<td>An Nguyen</td>
<td>Virginia Polytechnic Institute and State University, Blacksburg, VA</td>
</tr>
<tr>
<td>O52</td>
<td>Finding a Novel Treatment for the Biological Weapon Treat of Epidemic Typhus by Targeting β-ketoacyl-ACP-reductase in Rickettsia prowazekii</td>
<td>Oscar E. Villarreal</td>
<td>University of Texas at Austin, Austin, TX</td>
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#### Session Moderator: Michael Summers, Ph.D., University of Maryland, Baltimore County, Baltimore, MD

#### Oral Session 14: Cancer Biology

<table>
<thead>
<tr>
<th>Session</th>
<th>Title</th>
<th>Speaker</th>
<th>Institution</th>
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</thead>
<tbody>
<tr>
<td>O53</td>
<td>Role of CPT1 Enzyme in Prostate Cancer Viability</td>
<td>Kimberly R. Turner</td>
<td>Saint Louis University, St. Louis, MO</td>
</tr>
<tr>
<td>O54</td>
<td>Characterizing PLX4032 Resistant Melanoma in Zebrafish Chimera Assay</td>
<td>Stephanie Azzopardi</td>
<td>Hunter College, New York, NY</td>
</tr>
<tr>
<td>O55</td>
<td>Addressing Primary Resistance of ERBB2 Mutant Cancer Cells with Combination Therapy</td>
<td>Naomi T. Nkinsi</td>
<td>University of Washington, Seattle, WA</td>
</tr>
<tr>
<td>O56</td>
<td>Novel miRNA Regulation in an Early Progression Model of Pancreatic Ductal Adenocarcinoma: Transient Transfection Optimization</td>
<td>Minwei Cao</td>
<td>Williams College, Williamstown, MA</td>
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#### Session Moderator: Emil Bogenmann, Ph.D., Childrens Hospital Los Angeles, Los Angeles, CA

#### Oral Session 15: Cell Biology

<table>
<thead>
<tr>
<th>Session</th>
<th>Title</th>
<th>Speaker</th>
<th>Institution</th>
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</thead>
<tbody>
<tr>
<td>O57</td>
<td>Glucose Starvation Induces Microautophagy in Yeast Cells</td>
<td>Lauren C. Askew</td>
<td>University of North Carolina at Chapel Hill, Chapel Hill, NC</td>
</tr>
<tr>
<td>O58</td>
<td>Role of Integrin Alpha 8 in Lung Fibrosis</td>
<td>Kelly Kennewich</td>
<td>University of Washington, Seattle, WA</td>
</tr>
<tr>
<td>O59</td>
<td>Interplay between E. coli Hsp90 and a Tubulin Homolog during Cell Division</td>
<td>Robyn Jasper</td>
<td>University of Maryland, Baltimore County, Baltimore, MD</td>
</tr>
<tr>
<td>O60</td>
<td>Role of Smooth Muscle Cell Discoidin Domain Receptor-1 on Matrix Vesicle Calcification</td>
<td>Rafaele Delaney</td>
<td>Morehouse College, Atlanta, GA</td>
</tr>
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#### Session Moderator: Brent Berwin, Ph.D., Dartmouth Medical Center, Lebanon, NH

#### Oral Session 16: Chemistry

<table>
<thead>
<tr>
<th>Session</th>
<th>Title</th>
<th>Speaker</th>
<th>Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>O61</td>
<td>Insight into the Immunostimulatory Molecules Present within Juzen-taiho-to</td>
<td>Steven Hall</td>
<td>Hunter College, New York, NY</td>
</tr>
<tr>
<td>O62</td>
<td>Synthesis of Transition Metal Complexes Containing the 7-azaindole Ligand</td>
<td>Monica Kiewit</td>
<td>University of Texas San Antonio, San Antonio, TX</td>
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*Continued on next page*
O63 Kinetic Mechanism of Lipoprotein Nanodisc Dissociation in Bicelles
Kevin N. Muñoz, University of Puerto Rico, Ponce, PR

O64 Synthesis, Characterization, and Biocidal Activity of Triorganotin Complexes of Picolinic Acid N-Oxide
Adewola Osunsade, University of the District of Columbia, Washington, DC

Session Moderator: Alison Williams, Ph.D., Oberlin College, Oberlin, OH

Oral session 17: Developmental Biology and Genetics
Location: 213 A/B

O65 Phenotypic Analysis of a Newly Identified Threespine Stickleback Population Near the Willamette Basin
Sophie Sichel, University of Oregon, Eugene, OR

O66 Fox Genes Promote Chondrocyte Differentiation and Suppress Osteoblast Differentiation during Zebrafish Craniofacial Development
Felicia Surjono, Azusa Pacific University, Azusa, CA

O67 Speciation Reversal: The Case of the Common Raven
Jin Ah Kim, University of Maryland, Baltimore County, Baltimore, MD

O68 The Role of Tension Across Cadherins in the Developing Xenopus Laevis Embryo
Delisa Clay, Virginia Commonwealth University, Richmond, VA

Session Moderator: DiAnna Hynds, Ph.D., Texas Woman’s University, Denton, TX

Oral Session 18: Engineering, Physics and Mathematics
Location: 212 A/B

O69 Binding of Meso-tetraphenyl-sofonato Porphyrin (tspp) to Trypsinogen
Joanna Perido, University of Texas at San Antonio, San Antonio, TX

O70 The Role of Subchondral Bone in the Progression of Load-Induced Osteoarthritis
Kendra R. Jones, Howard University, Washington, DC

O71 Monitoring of Patient Movement During External Beam Radiotherapy for Prostate Cancer
Essence Eley, Hunter College, New York, NY

O72 Studying Osmotic Swelling of Articular Cartilage under Unconfined Compression in Ionic Solutions of Varying Activity Coefficients
Evelia Y. Salinas, St. Mary’s University, San Antonio, TX

Session Moderator: Chris Bassey, Ph.D., Azusa Pacific University, Azusa, CA

Oral Session 19: Immunology
Location: 206B

O73 Surface Expression of Enolase on Pathogenic Bacteria Mimics Apoptotic Cells and Elicits Immunosuppression
José A. Cruz-Arzón, University of Puerto Rico at Cayey, Cayey, PR

O74 Role of Immune Mediator Galectin-9 in Pathogenesis of Murine Neurocysticercosis
Luis E. Munoz, University of Texas at San Antonio, San Antonio, TX

O75 Optimization of Programmable RNA Vaccines
Kristin Fitzpatrick, Southern Oregon University, Talent, OR

O76 Dynamics of Inflammation Resolution after Spinal Cord Injury in the Larval Sea Lamprey
Tokunbo Falobun, University of Maryland College Park, College Park, MD

Session Moderator: Avery August, Ph.D., Cornell University - College of Veterinary Medicine, Ithaca, NY

Oral Session 20: Microbiology
Location: 205

O77 Real-Time In vitro Quantification of the Unfolded Protein Response through ATF6-Driven Luciferase Expression
Seun Munier, Boston University School of Medicine, Boston, MA

O78 Characterization of 2', 5'-Phosphodiesterases of Coronaviridae Family Members
Katherine Quiroz-Figueroa, University of Puerto Rico, San Juan, San Juan, PR
### Oral Session 21: Molecular and Computational Biology
**Location:** 206A

<table>
<thead>
<tr>
<th>Presentation</th>
<th>Speaker</th>
<th>Institution</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>O81</td>
<td>Organization of Centromeres within the Human Sperm Nucleus</td>
<td>Elizabeth Jordan, Florida International University, Miami, FL</td>
<td>206A</td>
</tr>
<tr>
<td>O82</td>
<td>Towards the Accurate Calculation of Passive Membrane Permeability</td>
<td>Chantel A. Ible, University of the Virgin Islands, Kingshill, VI</td>
<td>206A</td>
</tr>
<tr>
<td>O83</td>
<td>Bioinformatics Characterization of Cytotoxic and Regulatory T-cell Molecule (CRTAM) to Identify Candidate Regions to Build a Nano-Biosensor for Prostate Cancer</td>
<td>Judith S. Rodriguez, Universidad Metropolitana, Caguas, PR</td>
<td>206A</td>
</tr>
<tr>
<td>O84</td>
<td>Expression, Purification and Characterization of a New (Lys)6-tagged Sulfide-reactive Hemoglobin I from Lucina pectinata</td>
<td>Andrés Moya-Rodríguez, University of Puerto Rico Mayaguez Campus, Mayaguez, Puerto Rico</td>
<td>206A</td>
</tr>
</tbody>
</table>

### Oral Session 22: Neuroscience
**Location:** 214A

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<thead>
<tr>
<th>Presentation</th>
<th>Speaker</th>
<th>Institution</th>
<th>Location</th>
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<tbody>
<tr>
<td>O85</td>
<td>Understanding the Role of Pyroglutamate-3 Amyloid-beta in Alzheimer’s Disease</td>
<td>Kelley Butler, Howard University, Washington, DC</td>
<td>214A</td>
</tr>
<tr>
<td>O86</td>
<td>Impaired Aldehyde Metabolism in a Mouse Model of Alpha-Synuclein Overexpression</td>
<td>Leonel Herrera-Flores, Tennessee State University, Nashville, TN</td>
<td>214A</td>
</tr>
<tr>
<td>O87</td>
<td>Genetic and Pharmacological Studies of Mitochondrial Dysfunction in Autism Spectrum Disorders</td>
<td>Ana C. Bolanos, The University of Texas M.D. Anderson Cancer Center, Houston, TX</td>
<td>214A</td>
</tr>
<tr>
<td>O88</td>
<td>Aberrant Expression of microRNA let-7f Mediates the Cytotoxic Effect of Ethanol Withdrawal</td>
<td>Anthony Ruiz, Southern Methodist University, Dallas, TX</td>
<td>214A</td>
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### Oral Session 23: Physiology
**Location:** 207B

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<thead>
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</thead>
<tbody>
<tr>
<td>O89</td>
<td>Expression of GJA5 in Atrial Myocytes Responsible for Cardiac Malformations in Embryonic Development of zebrafish</td>
<td>Kristopher Brown, Albany State University, Albany, GA</td>
<td>207B</td>
</tr>
<tr>
<td>O90</td>
<td>Contrasting Differences of Chronic Endothelin A Receptor (ETA) Blockade during the Progression of Renal Injury in Type-1 and Type-2 Diabetic Nephropathy</td>
<td>Denisha R. Spires, Tougaloo College, Jackson, MS</td>
<td>207B</td>
</tr>
<tr>
<td>O91</td>
<td>A Review of Serum Magnesium Levels in Patients with Metastatic Breast Cancer Receiving Pertuzumab</td>
<td>Gianna Torre, Hunter College, New York, NY</td>
<td>207B</td>
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<td>O92</td>
<td>Measuring the Expression and Phosphorylation of Upstream Binding Factor (UBF) and Retinoblastoma Protein (Rb) in Developing Skeletal Muscle</td>
<td>Colin J.J. Crilly, Vassar College, Poughkeepsie, NY</td>
<td>207B</td>
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**Session Moderator:** Richard King, Ph.D., University of Utah, Salt Lake City, UT
Saturday, November 15, 2014

Oral Session 24: Social and Behavioral Sciences and Public Health  Location: 214B

O93  Colonoscopy and Polypectomy in Patients less than 50 Years Old: Indications and Findings
Nadiyah H. Rahaman, CUNY Hunter College, New York, NY

O94  Effects of Acute and Sustained Threat on Impulsivity in Adolescence
Camille A. Gregory, Brooklyn College, New York, NY

O95  Does Age Make a Difference? Mammogram Findings in Women 80 Years of Age and Older
Diane Kogan, CUNY Hunter College, New York, NY

O96  Analysis of the Anthropometric Indices of the Medial Longitudinal Arch of the Foot Using Digital Photography in an Adult Indian Population: A Cross Sectional Study
Lauren M. Long, Alcorn State University, Alcorn State, MS

Session Moderator: C. Debra M. Furr-Holden, Ph.D., Johns Hopkins University, Baltimore, MD

8:30 a.m. – 9:15 a.m.  Exhibitor Feedback Session

9:30 a.m. – 12:30 p.m.  Exhibit Hall Open

9:45 a.m. – 11:00 a.m.  POSTER SESSION 6

11:00 a.m. – 12:15 p.m.  POSTER SESSION 7

12:30 p.m. – 1:15 p.m.  Networking Lunch

1:00 p.m. – 4:00 p.m.  Exhibit Takedown

1:15 p.m. – 2:15 p.m.  Closing Keynote Address: The Brown World Is Round
Location: Henry B. Gonzalez Convention Center, Grand Ballroom
The world has been brownly mixing since its inception — as religion and poets have told us — and now DNA has confirmed this.
Speaker
Richard Rodriguez, M.A., American writer who became famous as the author of Hunger of Memory

Introducing Speaker:
John Fitzgerald Gates, Ph.D., Criticality Management Consulting, New York, NY

2:45 p.m. – 4:45 p.m.  Professional Development Session
ABRCMS Professional Skills Cafe
(Recommended for undergraduate students, graduate students, and postdoctoral scientists)
This session is designed to help students gain a broad appreciation for career exploration and the job search process. The professional
skills cafe, coordinated by ABRCMS and the NIH Office of Intramural Training & Education, will be offered in a small group, round-
table setting where students can bring specific questions to experts. Topics include:

Choosing Between Ph.D. and MD/PhD Program. This roundtable session will provide you with information needed to (i) decide
if the Ph.D. or M.D.-Ph.D. is the correct pathway for you. Discussion topics include school selection, criteria evaluated by Ph.D. and
M.D.-Ph.D. programs, necessary research experience, national program data, the interview process, matriculation, the M.D.-Ph.D.
curriculum, and post-training pathways.

Community College Student Resources. Come with questions about making the leap to a 4-year college and finding the resources
you need to thrive, not just survive. We will discuss strategies for success in a variety of science majors.

Finding Mentors and Being Mentored Effectively. Everyone agrees that we need multiple mentors to help us develop as scientists
and professionals, but finding mentors and forming productive mentoring relationships can be difficult. Come discuss the ins-and-outs
of mentoring, within and outside the research environment.

Finishing Your Dissertation. The end of graduate school seems like a flurry of activity. This session will help you identify and
overcome roadblocks, such as working with your mentor, communicating with your committee, writing your dissertation while
finishing experiments, and triumphing over writer's block.

Goal Setting and Time Management. Setting goals is an excellent way to provide you with direction and purpose. Learn how setting
goals can help you to channel your energy towards meaningful activities as you continue along your journey to success.
Saturday, November 15, 2014

**How to Be Successful in a Summer Internship Program.** You went to the ABRCMS session on the importance of summer research programs, but maybe you still have questions. Discussions at this table will help you make sure you know how to integrate into the lab and understand lab dynamics (such as how to work with your direct supervisor and your faculty mentor).

**Individual Development Plan (IDP) for Undergraduates.** Visit this table to learn more about the IDP, a tool that can improve and enhance your academic and professional achievements by helping you establish your goals, assess your strengths and weaknesses, and identify skill and portfolio gaps that can impede your plans to reach your goals.

**Interviewing for Graduate School.** Understand how to (i) prepare for an interview, (ii) learn the differences between the different types of interview and interview questions, (iii) develop a follow-up plan for after the interview and (iv) practice how to successfully answer the questions in an interview situation.

**LinkedIn for Networking.** Learn how to use LinkedIn effectively for your career! We will explore creating your profile, getting introductions, finding connections, and finding the right groups.

**Networking.** Everyone says networking is critical, but are you worried that you don’t really know what that means or that you don’t know how to network effectively? Come with questions about networking strategies. We will explore ways to identify networks, make connections, and have meaningful conversations and interactions.

**Outclass the Competition! Etiquette Training.** Learn how to use the ultimate business tool – protocol and etiquette intelligence – to distinguish yourself from the competition. Learn the importance of hand-shaking (the ultimate greeting), introductions, and eye signals, and become skilled at effective business meal tactics, such as silverware savvy and dining dos and don’ts.

**Picking Your Thesis Lab.** This is one of the biggest decisions of your early scientific career – who to work with for the next few years. This table will help you navigate what types of research groups will fit best, what questions to ask of new advisors, how to use your rotations wisely, and getting help if things go wrong.

**Putting Together Your Academic Job Package.** Come talk with senior faculty about the critical components of a successful academic job search package. Participants will be provided with examples of successful academic job applications for research- and teaching-intensive institutions.

**Putting Together Your Industry Job Package.** At this table, discuss how to dissect a job ad and create a cover letter and resume that will help you shine in an industry job hunt.

**Resume or CV.** Are you confused about the difference between a resume and a CV and what is appropriate for school and/or job applications? Come discuss tips on putting your best foot forward in these critical school and job search documents.

**Studying Tips for Tests:** The GRE, MCAT, and DAT, oh my! This group will discuss general tips and techniques to prepare for admission tests.

**Time Management/Balancing Our Academic and Personal Lives.** Everyone agrees that finding time for our work and personal lives is key, but there never seems to be enough hours in the day. Come share your struggles and strategies for finding balance and making choices with colleagues and mentors.

**Writing Effective Personal Statements.** Get tips on writing effective statements for graduate school and/or summer program applications. Bring a copy of a personal statement that you are working on.

**Writing Teaching Statements.** Do you want a career that involves substantial college teaching? Come talk with faculty about the critical teaching statement – an important element of a successful job search package. Participants will be provided with examples of successful teaching statements.

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**5:00 p.m. – 7:00 p.m.**  **FREE TIME! FREE TIME! FREE TIME!**

**7:00 p.m. – 9:30 p.m.**  **Banquet, Conference Wrap-Up, Awards Ceremony**  
  Location: Henry B. Gonzalez Convention Center, Grand Ballroom

  **Conference Wrap-up**
  **John Fitzgerald Gates, Ph.D., Criticality Management Consulting, New York, NY**

  **Student Presentation Awards Ceremony**

  **Concluding Remarks**
  **Clifford W. Houston, Ph.D., University of Texas Medical Branch, Galveston, TX**

**9:30 p.m. – 10:00 p.m.**  **Photo Session for ABRCMS Presentation Award Winners**

**10:00 p.m. – 2:00 a.m.**  **Dance and Social (All Are Invited)**  
  Location: Grand Hyatt Hotel, Lonestar Ballroom
Meet and Greet Speakers

Opportunity to meet one-on-one with speakers informally to gain in depth knowledge of their research and career pathway to success.

(See program book for speaker biographies)

Thursday, November 13, 2014 • 2:45 p.m. – 3:45 p.m.

Keynote, Plenary and Concurrent Scientific Speakers

Derrick Pitts, B.S.
The Franklin Institute
The Important of Science Communication
Astrobiology: Applying What We Know to New Discoveries in the Universe

Stephen L. Mayo, Ph.D.
California Institute of Technology
Computational Approaches to Protein Engineering with Applications in the Life Sciences

Javier E. Irazoqui, Ph.D.
Massachusetts General Hospital, Harvard Medical School
Fighting Off Foes: Common Mechanisms Used by Plants and Animals to Protect Against Pathogens and Disease

Rachel M. Brewster, Ph.D.
University of Maryland– Baltimore County
An Attractive Role for Repulsive Guidance Molecules in Shaping the Neural Tube

Mehdi Kabbage, Ph.D.
University of Wisconsin, Madison
Fighting Off Foes: Common Mechanisms Used by Plants and Animals to Protect Against Pathogens and Disease

Avery August, Ph.D.
Cornell University
Using Small Molecule Inhibitors to Understand Immune Function: Blocking Allergies and Finding Targets

Jesse Kwick, Ph.D.
The Ohio State University
Going Viral: From Science in the Lab to Public Health Interventions in International Communities

A.Oveta Fuller, Ph.D.
University of Michigan, Ann Arbor
Going Viral: From Science in the Lab to Public Health Interventions in International Communities

Monica Tsethlikai, Ph.D.
Arizona State University
Activities, Culture, and Cognitive Development in Middle Childhood

Russell DeBose-Boyd, Ph.D.
UT Southwestern Medical Center
Multivalent Control of HMG CoA Reductase, the Molecular Target of Statin Drugs

George Njoroge, Ph.D.
Eli Lilly and Company
The Joy of Science: Discovery of Victrelis™, the First HCV Protease Inhibitor to be Approved by Food and Drug Administration (FDA)
**Wednesday, November 12, 2014**

**Derrick Pitts, B.S.**

Derrick Pitts is currently the Chief Astronomer and Director of the Fels Planetarium at The Franklin Institute. He’s also been a NASA Solar System Ambassador since 2009 and serves as the “Astrobiology Ambassador” for the NASA/MIRS/UNCF Special Program Corporation’s Astrobiology Partnership Program. One of his newest honors is an appointment to the outreach advisory board for the world’s largest telescope, the new Thirty-Meter Telescope at Mauna Kea in Hawaii. He appears regularly in the media as a science content expert including appearances on the “Colbert Report” on Comedy Central and “The Late, Late Show with Craig Ferguson” on CBS. For more than two decades, Derrick has hosted award-winning astronomy radio programs for Philadelphia’s two public radio stations and created signature astronomy television programming for PBS. One of the highlights of Derrick’s career was meeting President Obama and his family when he was invited to participate in the first-ever White House Star Party. Derrick has received numerous awards including an honorary Doctor of Science Degree from La Salle University, and serves on the Board of Trustees for his alma mater St. Lawrence University. His twitter handle is @CoolAsTronomer and his motto is “Eat, breathe, do science. Sleep later.”

**Thursday, November 12, 2014**

**Stephen L. Mayo, Ph.D.**

Stephen L. Mayo, William K. Bowes Jr. Leadership Chair, Division of Biology and Biological Engineering; and Bren Professor of Biology and Chemistry, California Institute of Technology. Steve Mayo is the William K. Bowes Jr. Leadership Chair of the Division of Biology and Biological Engineering and Bren Professor of Biology and Chemistry at the California Institute of Technology in Pasadena, California. He has been a member of the Caltech faculty since 1992 and served as Vice Provost for Research from 2007 to 2010 before becoming Chair of the Division of Biology and Biological Engineering. Mayo’s research focuses on the development of computational approaches to protein engineering – a field that has broad applications ranging from advanced biofuels to human therapeutics. He co-founded Molecular Simulations Inc. (currently Accelrys), a computational chemistry company, Xencor, a bio-therapeutics company, and Protabit, a privately held protein engineering company. He was elected a member of the National Academy of Sciences in 2004 for his pioneering contributions in the field of protein design and was appointed by President Obama in March of 2013 to the National Science Board. He received his undergraduate degree in chemistry from the Pennsylvania State University and his Ph.D. in chemistry from Caltech.

**Friday, November 14, 2014**

**Sonia Shah, B.A.**

Sonia Shah is a science journalist and prize-winning author. Her writing on science, politics, and human rights has appeared in the *New York Times*, the *Wall Street Journal*, *Foreign Affairs*, *Scientific American* and elsewhere. Her work has been featured on RadioLab, Fresh Air, and TED, where her talk, “Three Reasons We Still Haven’t Gotten Rid of Malaria” has been viewed by over 900,000 people around the world. Her 2010 book, *The Fever*, which was called a “tour-de-force history of malaria” (*New York Times*), “rollicking” (*Time*), and “brilliant” (*Wall Street Journal*) was long-listed for the Royal Society’s Winton Prize. Her new book, *Cholera’s Child: Tracking the Next Pandemic*, is forthcoming from Sarah Crichton Books/Farrar, Straus & Giroux in October 2015. Sonia Shah is a science journalist and prize-winning author. Her writing on science, politics, and human rights has appeared in the *New York Times*, the *Wall Street Journal*, *Foreign Affairs*, *Scientific American* and elsewhere. Her work has been featured on RadioLab, Fresh Air, and TED, where her talk, “Three Reasons We Still Haven’t Gotten Rid of Malaria” has been viewed by over 900,000 people around the world. Her 2010 book, *The Fever*, which was called a “tour-de-force history of malaria” (*New York Times*), “rollicking” (*Time*), and “brilliant” (*Wall Street Journal*) was long-listed for the Royal Society’s Winton Prize. Her new book, *Cholera’s Child: Tracking the Next Pandemic*, is forthcoming from Sarah Crichton Books/Farrar, Straus & Giroux in October 2015.

**Saturday, November 15, 2014**

**Richard Rodriguez, M.A.**

Richard Rodriguez is an American writer who became famous as the author of *Hunger of Memory: The Education of Richard Rodriguez* (1982). His work has appeared in *Harper’s*, The American Scholar, the Los Angeles Times Magazine, and *The New Republic*. Richard’s awards include the Frankel Medal from the National Endowment for the Humanities and the International Journalism Award from the World Affairs Council of California. He has been nominated for the Pulitzer Prize in non-fiction; and the National Book Critics’ Award. For nearly twenty years, he was a television essayist on the PBS “NewsHour.” In 1997, he received a George Peabody Award for his televised essays on American life. In 1993, he received the Frankel Award (later renamed “The National Humanities Medal”), the highest honor the Federal government gives to recognize work done in the humanities.

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**“Encouraged me to pursue science and opened my eyes to a community of students of color who were interested in science as well.”**

(Student)
Avery August, Ph.D.
Avery August is a professor of immunology and the chair of the Department of Microbiology and Immunology in the College of Veterinary Medicine at Cornell University. He is also Co-PI of the Cornell Sloan Diversity Fellowship Program. He received a bachelor's degree in medical technology from California State University—Los Angeles and a doctorate in immunology from Cornell University. He did a postdoctoral fellowship at the Rockefeller University and spent a brief period at the R.W. Johnson Pharmaceutical Research Institute. He was on the faculty at The Pennsylvania State University, where he was awarded the title Distinguished Professor of Immunology and was director of the graduate program in molecular medicine, the Center for Molecular Immunology and Infectious Disease, and the Alcorn State-Penn State University Bridges to the Doctorate Program. He has served on a wide range of NIH study section panels and advisory boards and sits on the editorial boards of a number of journals.

Rachel M. Brewster, Ph.D.
Rachel Brewster holds a bachelor's degree from the University of Geneva in Switzerland (1989). She carried out her graduate work on cell fate specification in the nervous system in the laboratory of Rolf Bodmer at the University of Michigan—Ann Arbor (earning a doctorate in 1996). During her postdoctoral training in the laboratories of Ruiz i Altaba at the Skibb Institute of Biomolecular Medicine (1996-1999) and Marnie Halpern at the Carnegie Institute of Washington (2000-2003), she became interested in how the vertebrate nervous system is shaped and patterned. She continued this line of research in her own laboratory after joining University of Maryland—Baltimore County in 2003. Her laboratory has made significant inroads into understanding the cellular basis for neural tube morphogenesis and the genetic pathways that regulate this process.

Russell DeBose-Boyd, Ph.D.
After obtaining a bachelor's degree in chemistry from Southeastern Oklahoma State University, Russell DeBose-Boyd was accepted into the Department of Biochemistry and Molecular Biology at the University of Oklahoma Health Sciences Center, where he joined the lab of Richard D. Cummings. After successfully defended a thesis focused on the synthesis of antigenic molecules in the parasitic and non-parasitic worms, DeBose-Boyd was a Jane Coffin Childs Memorial Fund for Medical Research Fellow in the lab of Joseph L. Goldstein and Michael S. Brown (1985 Nobel Laureates) in the Department of Molecular Genetics at UT Southwestern Medical Center. DeBose-Boyd was invited to join the molecular genetics faculty as an assistant professor in 2003. He was named an established investigator of the American Heart Association, the first recipient of the David L. Williams Lecture at the Kern Aspen Lipid Conference in 2005, and a W.M. Keck Distinguished Young Scholar in Medical Research in 2006. Promoted to associate professor in 2007, DeBose-Boyd was named a Howard Hughes Medical Institute Early Career Scientist in 2009. He received the John J. Abel Award in Pharmacology from the American Society for Pharmacology and Experimental Therapeutics in 2010 and was promoted to full professor in 2013.

A. Oveta Fuller, Ph.D.
A. Oveta Fuller, associate professor in microbiology and immunology and associate director of the African Studies Center at the University of Michigan, studies early events in virus-host interactions and infectious disease control. Her laboratory research examined herpes simplex virus entry and membrane fusion. Current research for eliminating HIV/AIDS mobilizes community through rigorous evaluation of biomedical-science-based training through religious leader networks in Zambia and the United States. For interdisciplinary global health research, she mentors personnel in cultural competencies required for immersion in fieldwork about microbial pathogens. Fuller has a bachelor's degree and doctorate from the University of North Carolina with postdoctoral training at the University of Chicago. She is a Ford Foundation Fellow and J. William Fulbright Scholar with awards from the National Institutes of Health, Anna Fuller Cancer Fund, National Science Foundation, Ford Foundation, and the U.S. Department of State. Fuller lived in the Southern Africa country of Zambia for most of 2013 to conduct a validity study on impacts of the trusted messenger intervention (TMI) for HIV/AIDS control.

Javier Irazoqui, Ph.D.
Javier Irazoqui earned his bachelor's degree at the Universidad Nacional de Rosario, Argentina. He attended graduate school at Duke University Medical Center, where he obtained his doctorate degree in cell biology in 2003 for his work on the molecular mechanisms of cytoskeletal regulation. He joined Massachusetts General Hospital that same year as a Jane Coffin Childs postdoctoral fellow and then was a Charles King Trust fellow in the lab of Fred Ausubel (Department of Molecular Biology). In Ausubel's lab, Irazoqui investigated the fundamental mechanisms of innate immunity and of methicillin-resistant Staphylococcus aureus virulence using Candida elegans genetics and genomics. In 2009, Irazoqui joined the faculty of the MassGeneral Hospital for Children as an associate immunologist, and in 2010 the Department of Pediatrics of Harvard Medical School as an assistant professor. In 2014, he joined the Center for the Study of Inflammatory Bowel Disease. Irazoqui's research focuses on fundamental mechanisms of host defense against infection and on host-microbiota interactions, with the ultimate goal to develop better diagnostics and treatments for bacterial infections, chronic inflammation, and metabolic syndrome.

Mehdi Kabbage, Ph.D.
Mehdi Kabbage is an assistant professor of plant pathology at the University of Wisconsin–Madison. He received his bachelor's degree in engineering from Ecole d’Ingénieurs de Purpan, Toulouse, France, and his doctorate in plant pathology from Kansas State University before joining the laboratory of Marty Dickman at the Norman Borlaug Institute of Plant Genomics and Biotechnology at Texas A&M University. In 2013, he joined the faculty in the Department of Plant Pathology at the University of Wisconsin–Madison. He is also Co-PI of the Norman Borlaug Institute of Plant Genomics and Biotechnology at Texas A&M University.
Jesse J. Kwiek, Ph.D.

Jesse J. Kwiek was born and raised in Western New York. After completing his bachelor’s degree in biochemistry, he joined the Peace Corps, where he taught biology in rural Malawi. He has a doctorate in pharmacology and postdoctoral training in molecular epidemiology. His scientific research has focused on malaria and AIDS in Malawi. He is an associate professor at The Ohio State University, and his lab uses the tools of molecular biology, virology, and epidemiology to better understand HIV pathogenesis.

F. George Njoroge, Ph.D.

F. George Njoroge is a senior research fellow at Eli Lilly and Company. Previously, he was a director in the Department of Medicinal Chemistry at Merck Research Laboratories. His achievements at Merck include research leadership on the discovery of the anti-HCV viral drug Victrelis™ (also known as Boceprevir or SCH 503034), which in 2011 was approved by the FDA as the first-in-class therapy for HepC treatment. Njoroge has also worked extensively in the oncology area, especially in the discovery of therapeutic agents geared towards intervention of signal transduction process in proliferating cells. He graduated with honors from University of Nairobi, Kenya, and completed his doctorate in organic chemistry at Case Western Reserve University in 1985. Njoroge is author or coauthor of more than 131 scientific publications and holder of 91 U.S. patents. He was inducted into as the a Hero of Chemistry by the American Chemical Society in 2012 and is a recipient of numerous other awards, including the Emerald Award for Professional Achievement in Industry and Thomas Alva Edison Patent Award for emerging therapies.

Monica Tsethlikai, Ph.D.

An enrolled member of the Zuni tribe, Monica Tsethlikai is a William T. Grant Scholar, a Native Children’s Research Exchange Scholar, and a former Ford Fellow. She graduated from the University of Notre Dame in 1991 and followed this with eight years as a youth counselor and juvenile probation officer. Tsethlikai obtained a master’s degree in indigenous nations studies in 2001 and doctorate in psychology (cognitive and quantitative) in 2005 from the University of Kansas. She completed a postdoctoral fellowship at the University of California–Santa Cruz. She was an assistant professor of psychology at the University of Utah for six years. As an assistant professor in the T. Denny Sanford School of Social and Family Dynamics at Arizona State University, she is interested in how children’s daily activities shape brain development with a special focus on cultural activities.
ABRCMS Statistics

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*As of October 31, 2014

Exhibits

Number of Exhibit Booths

2014 ABRCMS Exhibitor Types

2014 ABRCMS Attendee Ethnicity

ABRCMS Student Education Levels

Attendees

2014 ABRCMS Attendee Types

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Educational Institutions

2014 ABRCMS Attendee Ethnicity

| Other/Did Not Disclose | 329 |
| Caucasian | 562 |
| Native American | 34 |
| Hispanic or Latino | 878 |
| Asian American | 167 |
| Pacific Islander or Alaska Native | 29 |

Total Attendance 3,290 (as of 10/31/14)
Abstracts Submitted

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2014 Abstract Submissions by Educational Level

- Undergraduate Sophomore: 212
- Undergraduate Junior: 536
- Undergraduate Senior: 912
- Postbaccalaureate: 101
- Master's Graduate: 60
- Doctoral Graduate: 47

Total Number of Student Presentations

- Oral Presentations
- Poster Presentations

2014 Distribution of Scientific Disciplines

- Biochemistry - 153 (8%)
- Cancer Biology - 171 (9%)
- Cell Biology - 121 (7.0%)
- Chemistry - 182 (10%)
- Developmental Biology & Genetics - 166 (9%)
- Engineering, Physics & Mathematics - 195 (10%)
- Environmental Sciences - 127 (7.0%)
- Immunology - 91 (5%)
- Interdisciplinary Sciences - 109 (6%)
- Microbiology - 212 (11%)
- Molecular & Computational Biology - 167 (9%)
- Neuroscience - 195 (10%)
- Physiology - 211 (11%)
- Social & Behavioral Sciences & Public Health - 185 (10%)

Student Presentation Awards

- Number of Awards
- 2001: 300
- 2002: 250
- 2003: 200
- 2004: 150
- 2005: 100
- 2006: 50
- 2007: 50
- 2008: 100
- 2009: 150
- 2010: 200
- 2011: 250
- 2012: 300
- 2013: 350
- 2014: 400