A PROGRAM BOUND TO INSPIRE
Feeling lucky?

Stop by the ASBMB booth #1421 for your chance to win one of three $250 Amazon gift cards.

To participate in the contest, you must update your ASBMB member profile or join the society for the first time.

WWW.ASBMB.ORG
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<td>At-a-glance</td>
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<td>Monday oral program</td>
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<td>Tuesday oral program</td>
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<td>39</td>
<td>Poster sessions</td>
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</table>
The ASBMB Interactive Mentoring Activities for Grantsmanship Enhancement (IMAGE) grant-writing workshop is designed to help early-career scientists and senior postdoctoral fellows write winning research proposals.

**GRANT WRITING WORKSHOP**

**June 13–15 • Washington, D.C.**

The ASBMB Interactive Mentoring Activities for Grantsmanship Enhancement (IMAGE) grant-writing workshop is designed to help early-career scientists and senior postdoctoral fellows write winning research proposals.
## Sunday April 7

<table>
<thead>
<tr>
<th>Time</th>
<th>Location</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00 AM – 8:15 AM</td>
<td>Convention Center Valencia Ballroom A</td>
<td>ASBMB Annual Meeting Welcome and Business Meeting</td>
</tr>
</tbody>
</table>
| 8:15 AM – 9:00 AM| Convention Center Valencia Ballroom A | ASBMB Opening Lecture: Herbert Tabor Research Award  
*Regulation of plasma membrane homeostasis: Dissecting TORC2 signaling J. Thorner* |
| 9:00 AM – 9:30 AM| Convention Center Valencia Ballroom A | ASBMB Mildred Cohn Award in Biological Chemistry  
*The Art of Border Crossings: Integrative Multidisciplinarity in the Natural Sciences and the All Atom Model of a Native HIV Capsid A. Gronenborn* |
| 10:00 AM – 12:00 PM | Convention Center W303ABC    | Advances in Cryo-EM                                                   |
| 10:00 AM – 12:00 PM | Convention Center W304AB    | Autophagy and Proteostasis                                            |
| 10:00 AM – 12:00 PM | Convention Center W304CD  | Catalysis and Enzyme Action                                           |
| 10:00 AM – 12:00 PM | Convention Center W304EF    | Epigenomics and Chromatin Dynamics                                    |
| 10:00 AM – 12:00 PM | Convention Center W304GH    | Microbiome and Disease                                                |
| 10:00 AM – 12:00 PM | Convention Center W305AB    | Mitochondria Dysfunction and Disease                                 |
| 10:00 AM – 12:00 PM | Convention Center W307AB    | Synthetic Biology                                                    |
| 10:00 AM – 12:00 PM | Convention Center W306AB    | Using Large Sets of Data with Students                               |
| 11:00 AM - 11:15 AM | EB Career Central    | Finding Funding Beyond Federal Agencies                              |
| 11:15 AM - 11:30 AM | EB Career Central    | Achieve Grant-Writing Success with the ASBMB IMAGE Workshop          |
| 11:30 AM - 12:30 PM | Convention Center Exhibit Hall, ASBMB Lounge | ASBMB Meet a Program Officer                                      |
| 11:30 AM - 11:45 AM | EB Career Central    | A Word of Advice: Success in Scientific Publishing                   |
| 11:45 AM - 12:00 PM | EB Career Central    | Improve Your Science Communication Skills                           |
| 12:15 AM - 1:30 PM | Convention Center Exhibit Hall | ASBMB Poster Presentations  
*Refer to pages 39-53*                                              |
| 12:15 PM - 1:45 PM | Convention Center W307CD | ASBMB Advocacy Town Hall Meeting                                      |
| 12:30 PM - 1:30 PM | Convention Center Exhibit Hall, ASBMB Lounge | ASBMB Meet the Speakers                                              |
| 1:30 PM - 2:30 PM | Convention Center Exhibit Hall, ASBMB Lounge | ASBMB Accreditation Program Q&A                                       |

www.asbmb.org/meeting2019
# Sunday April 7

<table>
<thead>
<tr>
<th>Time</th>
<th>Location</th>
<th>Event</th>
</tr>
</thead>
</table>
| 1:45 PM – 2:15 PM | Convention Center Valencia Ballroom A | **ASBMB Avanti Award in Lipids**  
Neural Stem Cell Fatty Acid Beta-Oxidation and Autism Spectrum Disease  
V.A. Bankaitis |
| 2:15 PM – 2:45 PM | Convention Center Valencia Ballroom A | **ASBMB Young Investigator Award**  
RNA-mediated Mechanisms of Translation Control  
C.M. Dunham |
| 3:00 PM – 4:00 PM | Convention Center Valencia Ballroom A | **ASBMB Award for Exemplary Contributions to Education**  
How Organic Chemistry Became One of UCLA’s Most Popular Classes  
N.K. Garg |
| 3:00 PM – 5:00 PM | Convention Center W305AB | Novel Cancer Therapies: Free Radical Biology, organized by SEBM |
| 4:00 PM – 5:15 PM | Convention Center W303ABC | Advances in Neuronal Biochemistry |
| 4:00 PM – 5:15 PM | Convention Center W304AB | Lipids and Inflammation |
| 4:00 PM – 5:15 PM | Convention Center W304CD | Microbiome, Host-Parasite Interactions and Therapeutic Targets |
| 4:00 PM – 5:15 PM | Convention Center W304EF | Non-coding RNAs |
| 4:00 PM – 5:15 PM | Convention Center W304GH | Protein Structure and Function |
| 4:00 PM – 5:15 PM | Convention Center W307AB | Signal Transduction and Regulation |
| 4:15 PM – 5:15 PM | Convention Center W306AB | Exploring Biochemistry Teaching and Learning |
| 5:30 PM – 6:30 PM | Convention Center W305AB | Organizing a Successful ASBMB Student Chapter |
| 5:30 PM – 7:00 PM | Rosen Centre Grand Ballroom B | CREST Conversations: Connecting Researchers, Educators and Students |
| 5:30 PM – 7:00 PM | Convention Center W306AB | Integrating Research into the Classroom: Developing an Engaging CURE with Big Data |
| 5:30 PM – 7:00 PM | Convention Center W307CD | Emerging Technologies in the Glycosciences |
| 5:30 PM – 7:00 PM | Convention Center W207B | Storytelling and the Art of Giving a Great Presentation |
| 5:30 PM – 7:00 PM | Convention Center W205A | Alternative Funding: Driving Philanthropic Support for Basic Science |
| 6:00 PM – 7:30 PM | Rosen Centre Grand Ballroom D | ASBMB Women Scientists Mentoring and Networking Event |
| 7:00 PM – 8:30 PM | Rosen Centre Grand Ballroom C | ASBMB Welcome Reception, sponsored by the ASBMB Minority Affairs Committee |
### Monday April 8

<table>
<thead>
<tr>
<th>Time</th>
<th>Location</th>
<th>Event</th>
</tr>
</thead>
</table>
| 8:00 AM – 8:30 AM| Convention Center Valencia Ballroom A | **FASEB Excellence in Science Award**  
De novo Lipogenesis in Adipocytes Results in the Production of Structurally Novel Signaling Lipids with Beneficial Metabolic and Anti-inflammatory Effects  
B.B. Kahn |
| 8:30 AM – 9:00 AM| Convention Center Valencia Ballroom A | **ASBMB Ruth Kirschstein Diversity in Science Award**  
Dissecting the Mechanisms of Cell Division  
J.Z. Torres |
| 9:00 AM - 9:30 AM| EB Career Central                       | Picture Perfect: How to Present an Image for Scientific Publication                       |
| 9:30 AM – 11:30 AM| Convention Center W303ABC              | Glycobiology                                                                               |
| 9:30 AM – 11:30 AM| Convention Center W304AB              | Inequities in Precision Medicine                                                           |
| 9:30 AM – 11:30 AM| Convention Center W304CD              | Inflammation and Disease                                                                    |
| 9:30 AM – 11:30 AM| Convention Center W304EF              | Mitochondrial Biology                                                                      |
| 9:30 AM – 11:30 AM| Convention Center W304GH              | RNA Structural Dynamics                                                                      |
| 9:30 AM – 11:30 AM| Convention Center W307AB              | Single Molecule Single Cell                                                                 |
| 9:30 AM – 11:30 AM| Convention Center W305AB              | Cryo-EM and Re-revolution of Structural Biology, organized by SEBM                         |
| 9:30 AM – 11:30 AM| Convention Center W306AB              | Transitions at the Mid-career Point                                                          |
| 11:45 AM – 1:00 PM| Convention Center Exhibit Hall         | **ASBMB Poster Presentations**  
Refer to pages 55-70 |
| 12:00 PM – 1:00 PM| Convention Center Exhibit Hall, ASBMB Lounge | ASBMB Meet the Speakers                                                                      |
| 12:30 PM – 1:00 PM| EB Career Central                     | All About the ASBMB, with society president Gerald Hart                                      |
| 1:00 PM – 3:00 PM | Convention Center W305AB              | **ASBMB Bert and Natalie Vallee Award in Biomedical Science**  
Cancer Cell Metabolism: Reexamining the Regulation of Anabolic Growth in Health and Disease  
C.B. Thompson |
| 1:15 PM – 1:45 PM | Convention Center Valencia Ballroom A | **ASBMB Walter A. Shaw Young Investigator Award in Lipid Research**  
Bacterial lipid trafficking and outer membrane homeostasis  
S. Chng |
<p>| 1:45 PM – 2:15 PM | Convention Center Valencia Ballroom A | Molecular &amp; Cellular Proteomics, an ASBMB Journal Symposium                                 |
| 2:30 PM – 3:30 PM | Convention Center W303ABC              | Chemical Modifications and Mechanisms of DNA Metabolism                                      |
| 2:30 PM – 3:45 PM | Convention Center W304AB              |                                                                                             |</p>
<table>
<thead>
<tr>
<th>Time</th>
<th>Location</th>
<th>Event</th>
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</thead>
<tbody>
<tr>
<td>2:30 PM – 3:45 PM</td>
<td>Convention Center W304GH</td>
<td>Enzyme Chemistry and Catalysis</td>
</tr>
<tr>
<td>2:30 PM – 3:45 PM</td>
<td>Convention Center W306AB</td>
<td>Exploring Experimentation in Biochemistry Lab and Non-Lab Settings</td>
</tr>
<tr>
<td>2:30 PM – 3:45 PM</td>
<td>Convention Center W304CD</td>
<td>Glycosyltransferases and Hydrolases</td>
</tr>
<tr>
<td>2:30 PM – 3:45 PM</td>
<td>Convention Center W304EF</td>
<td>Regulation of Lipid Metabolism</td>
</tr>
<tr>
<td>2:30 PM – 4:30 PM</td>
<td>Convention Center W307AB</td>
<td>ASBMB Alice and CC Wang Award in Molecular Parasitology Lecture and Symposium “Prison Break” Toxoplasma egress from infected cells is a tightly programmed event D. Soldati-Favre</td>
</tr>
<tr>
<td>3:00 PM – 3:30 PM</td>
<td>EB Career Central</td>
<td>How to Get Started with Science Writing and Build a Portfolio</td>
</tr>
<tr>
<td>3:00 PM – 5:00 PM</td>
<td>Convention Center W305AB</td>
<td>Molecular Medicine: A Student Organized Symposium, organized by SEBM</td>
</tr>
<tr>
<td>3:30 PM – 4:00 PM</td>
<td>EB Career Central</td>
<td>How to Develop a Comprehensive Job-Search Strategy: Part 1</td>
</tr>
<tr>
<td>4:00 PM – 5:15 PM</td>
<td>Convention Center W304AB</td>
<td>Epigenetic Factors that Contribute to Gene Regulation</td>
</tr>
<tr>
<td>4:00 PM – 5:15 PM</td>
<td>Convention Center W303ABC</td>
<td>Genomics, Proteomics and Metabolomics</td>
</tr>
<tr>
<td>4:00 PM – 5:15 PM</td>
<td>Convention Center W304EF</td>
<td>Journal of Lipid Research, an ASBMB Journal Symposium</td>
</tr>
<tr>
<td>4:00 PM – 5:15 PM</td>
<td>Convention Center W304CD</td>
<td>Protein-Glycan Interactions</td>
</tr>
<tr>
<td>4:00 PM – 5:15 PM</td>
<td>Convention Center W304GH</td>
<td>Sensing</td>
</tr>
<tr>
<td>5:30 PM – 7:00 PM</td>
<td>Convention Center W306AB</td>
<td>Navigating Difficult Conversations</td>
</tr>
<tr>
<td>5:30 PM – 7:00 PM</td>
<td>Convention Center W307CD</td>
<td>Transforming Science Research into Science Outreach</td>
</tr>
<tr>
<td>5:30 PM – 7:00 PM</td>
<td>Convention Center W305ABC</td>
<td>A Word of Advice: Success in Scientific Publishing</td>
</tr>
<tr>
<td>7:00 PM – 8:30 PM</td>
<td>Rosen Centre Grand Ballroom C</td>
<td>ASBMB Student Flashtalk Science Communication Competition and Reception</td>
</tr>
</tbody>
</table>
**Tuesday  April 9**

<table>
<thead>
<tr>
<th>Time</th>
<th>Location</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00 AM – 8:30 AM</td>
<td>Convention Center</td>
<td><strong>ASBMB-Merck Award</strong>  &lt;br&gt; <em>A Road Less Traveled: Trafficking Hydrogen Sulfide and B12</em>  &lt;br&gt; R. Banerjee</td>
</tr>
<tr>
<td></td>
<td>Valencia Ballroom A</td>
<td><strong>ASBMB William C. Rose Award</strong>  &lt;br&gt; <em>Breaking new ground: the emergence of non-canonical functions for telomerase subunits in plants</em>  &lt;br&gt; D. Shippen</td>
</tr>
<tr>
<td>8:30 AM – 9:00 AM</td>
<td>Convention Center</td>
<td></td>
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<tr>
<td></td>
<td>Valencia Ballroom A</td>
<td></td>
</tr>
<tr>
<td>9:00 AM – 9:30 AM</td>
<td>EB Career Central</td>
<td><strong>How to Develop a Comprehensive Job-Search Strategy: Part 2</strong></td>
</tr>
<tr>
<td>9:30 AM – 11:30 AM</td>
<td>Convention Center W303ABC</td>
<td><strong>Aging and Longevity</strong></td>
</tr>
<tr>
<td>9:30 AM – 11:30 AM</td>
<td>Convention Center W304AB</td>
<td><strong>Breakthroughs In Plant Biochemistry</strong></td>
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<tr>
<td>9:30 AM – 11:30 AM</td>
<td>Convention Center W304CD</td>
<td><strong>Circadian Rhythm</strong></td>
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<tr>
<td>9:30 AM – 11:30 AM</td>
<td>Convention Center W304EF</td>
<td><strong>DNA Repair, Recombination and Replication</strong></td>
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<tr>
<td>9:30 AM – 11:30 AM</td>
<td>Convention Center W304GH</td>
<td><strong>Lipid Metabolism</strong></td>
</tr>
<tr>
<td>9:30 AM – 11:30 AM</td>
<td>Convention Center W305AB</td>
<td><strong>Sirtuins in Cancer Biology, organized by SEBM</strong></td>
</tr>
<tr>
<td>11:45 AM – 1:00 PM</td>
<td>Convention Center Exhibit Hall</td>
<td><strong>ASBMB Poster Presentations</strong> &lt;br&gt; Refer to pages 71-88</td>
</tr>
<tr>
<td>12:00 PM – 1:00 PM</td>
<td>Convention Center</td>
<td><strong>ASBMB Meet the Speakers</strong></td>
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<tr>
<td></td>
<td>Exhibit Hall, ASBMB Lounge</td>
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<tr>
<td>1:15 PM – 1:45 PM</td>
<td>Convention Center</td>
<td><strong>ASBMB Earl and Thressa Stadtman Distinguished Scientist Award</strong></td>
</tr>
<tr>
<td></td>
<td>Valencia Ballroom A</td>
<td><em>Thirty Years of Protein Tyrosine Phosphatases – From Housekeeping Enzymes to Therapeutic Targets</em>  &lt;br&gt; N.K. Tonks</td>
</tr>
<tr>
<td>1:45 PM – 2:15 PM</td>
<td>Convention Center</td>
<td><strong>ASBMB DeLano Award for Computational Biosciences</strong></td>
</tr>
<tr>
<td></td>
<td>Valencia Ballroom A</td>
<td><em>Designing new protein structures and functions with the molecular modeling program Rosetta</em>  &lt;br&gt; B. Kuhlman</td>
</tr>
<tr>
<td>2:30 PM – 3:45 PM</td>
<td>Convention Center W303ABC</td>
<td><strong>ASBMB Herbert Tabor Young Investigator Award, a Journal of Biological Chemistry Symposium</strong></td>
</tr>
<tr>
<td>2:30 PM – 3:45 PM</td>
<td>Convention Center W304GH</td>
<td><strong>Cancer Signaling and Therapeutics</strong></td>
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<tr>
<td>2:30 PM – 3:45 PM</td>
<td>Convention Center W307AB</td>
<td><strong>Enzymes and Enzyme Cofactors</strong></td>
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<tr>
<td>2:30 PM – 3:45 PM</td>
<td>Convention Center W304EF</td>
<td><strong>Metabolism and Bioenergetics</strong></td>
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<tr>
<td>2:30 PM – 3:45 PM</td>
<td>Convention Center W304CD</td>
<td><strong>Post-translational Modifications</strong></td>
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<tr>
<td>2:30 PM – 3:45 PM</td>
<td>Convention Center W306AB</td>
<td><strong>Protein Interactions, Modifications and Regulation</strong></td>
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<tr>
<td>2:30 PM – 3:45 PM</td>
<td>Convention Center W304AB</td>
<td><strong>RNA Regulatory Mechanisms and Disease</strong></td>
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</table>
Program at-a-glance continued

**Tuesday April 9**

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<th>Time</th>
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<tbody>
<tr>
<td>3:00 PM – 5:00 PM</td>
<td>Convention Center W305AB</td>
<td>Biotherapies and Immunotherapies, organized by SEBM</td>
</tr>
<tr>
<td>4:00 PM – 5:15 PM</td>
<td>Convention Center W307AB</td>
<td>Advances in Drug Delivery</td>
</tr>
<tr>
<td>4:00 PM – 5:15 PM</td>
<td>Convention Center W304GH</td>
<td>Biochemistry and Biology of Cancer</td>
</tr>
<tr>
<td>4:00 PM – 5:15 PM</td>
<td>Convention Center W306AB</td>
<td>Biochemistry of Organelles and Organelle Trafficking</td>
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<tr>
<td>4:00 PM – 5:15 PM</td>
<td>Convention Center W304CD</td>
<td>Glycan Biotechnology and Drug Development</td>
</tr>
<tr>
<td>4:00 PM – 5:15 PM</td>
<td>Convention Center W304EF</td>
<td>Obesity</td>
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<tr>
<td>4:00 PM – 5:15 PM</td>
<td>Convention Center W304AB</td>
<td>RNA Editing and Alternative Splicing</td>
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<tr>
<td>4:00 PM – 5:15 PM</td>
<td>Convention Center W303ABC</td>
<td>Signal Transduction and Cellular Regulation</td>
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**THIRTEENTH INTERNATIONAL SYMPOSIUM ON MASS SPECTROMETRY IN THE HEALTH AND LIFE SCIENCES: MOLECULAR & CELLULAR PROTEOMICS**

Aug. 18 — 22, 2019 • Hotel Nikko, San Francisco

**CHAIRS:**
- A.L. Burlingame, University of California, San Francisco
- Steven A. Carr, The Broad Institute of MIT and Harvard
- Bernhard Kuster, Technical University Munich, Germany

**PLENARY SPEAKERS:**
- Michal Bassani-Sternberg, Ludwig Cancer Center, Switzerland
- Steven Elledge, Harvard Medical School
- Matthew Ellis, Baylor College of Medicine
- Mike MacCoss, University of Washington

To see full program, register and book housing visit: [ASBMB.ORG/MASSSPECTROMETRY](http://ASBMB.ORG/MASSSPECTROMETRY)
Don’t miss these ASBMB talks at EB Career Central

Sunday, April 7

Finding Funding Beyond Federal Agencies
Benjamin Corb
ASBMB public affairs director
11 to 11:15 a.m. | EB Career Central

Achieve Grant-Writing Success with the ASBMB IMAGE Workshop
Squire Booker
ASBMB Minority Affairs Committee Pennsylvania State University
11:15 to 11:30 a.m. | EB Career Central

A Word of Advice: Success in Scientific Publishing
Catherine Goodman
Journal of Biological Chemistry scientific editor
11:30 to 11:45 a.m. | EB Career Central

Improve Your Science Communication Skills
Susanna Greer
ASBMB Science Outreach and Communication Committee American Cancer Society
11:45 a.m. to noon | EB Career Central

Monday, April 8

Picture Perfect: How to Present an Image for Scientific Publication
Kaoru Sakabe
ASBMB data integrity manager
9 to 9:30 a.m. | EB Career Central

All About the ASBMB
Gerald Hart
ASBMB president
associate editor, Molecular & Cellular Proteomics and the Journal of Biological Chemistry
University of Georgia
12:30 to 1 p.m. | EB Career Central

How to Get Started with Science Writing and Build a Portfolio
Laurel Oldach
ASBMB science writer
3 to 3:30 p.m. | EB Career Central

How to Develop a Comprehensive Job-Search Strategy: Part 1
Donna Kridelbaugh
ASBMB careers blogger
3:30 to 4 p.m. | EB Career Central

Tuesday, April 9

How to Develop a Comprehensive Job-Search Strategy: Part 2
Donna Kridelbaugh
ASBMB careers blogger
9 to 9:30 a.m. | EB Career Central
ASBMB oral program

SUNDAY
APRIL 7

86 ASBMB Annual Meeting Welcome and Business Meeting
BUSINESS MEETING
8:00 AM – 8:15 AM  CONVENTION CENTER, VALENCIA BALLROOM A

87 ASBMB Herbert Tabor Research Award
LECTURE
8:15 AM – 9:00 AM  CONVENTION CENTER, VALENCIA BALLROOM A
Sponsored by: Journal of Biological Chemistry, an ASBMB journal
8:15 Introduction
8:20  87.1 Regulation of plasma membrane homeostasis: Dissecting TORC2 signaling. J. Thorner,
University of California, Berkeley

88 ASBMB Mildred Cohn Award in Biological Chemistry
LECTURE
9:00 AM – 9:30 AM  CONVENTION CENTER, VALENCIA BALLROOM A
9:00 Introduction
9:05  88.1 The Art of Border Crossings: Integrative Multidisciplinarity in the Natural Sciences and the
All Atom Model of a Native HIV Capsid. A. Gronenborn, University of Pittsburgh

89 Advances in Cryo-EM
SYMPOSIUM
10:00 AM – 12:00 PM  CONVENTION CENTER, W303ABC
CHAIR: Y. Cheng
10:00  89.1 Cryo-EM analysis of full-length receptor tyrosine kinase. X. Bai, University of Texas Southwestern
Medical Center
10:30  89.2 Getting Better Images Easier for Single Particle Cryo-EM. A. Cheng, New York Structural Biology
Center
11:00  89.3 Cryo-EM Structure of the P Element Transposase Strand Transfer Complex. E. H. Kellogg,
Cornell University
11:30  89.4 Single particle cryo-EM studies of membrane proteins. Y. Cheng, University of California,
San Francisco
**Autophagy and Proteostasis**

**SYMPOSIUM**

**10:00 AM – 12:00 PM**  
CONVENTION CENTER, W304AB

**CHAIR:** B. Levine

- **10:00**  
  90.1 Endoplasmic reticulum turnover via selective autophagy. I. Dikic, Goethe University Frankfurt

- **10:30**  
  90.2 Cellular recycling: Role of autophagy in aging and disease. Malene Hansen, Sanford Burnham Prebys Medical Discovery Institute

- **11:00**  
  90.3 The Biochemical Program of Extreme Terminal Differentiation. D. Finley, Harvard Medical School

- **11:30**  
  90.4 New Links Between the Autophagy Machinery and Cellular Homeostasis. B. Levine, Howard Hughes Medical Institute/UT Southwestern Medical Center

**Catalysis and Enzyme Action**

**SYMPOSIUM**

**10:00 AM – 12:00 PM**  
CONVENTION CENTER, W304CD

**CHAIR:** P. Sobrado

- **10:00**  
  91.1 Covalent intermediates in flavoenzyme catalysis. P. Sobrado, Virginia Tech

- **10:30**  
  91.2 Homologous Trans-editing Factors with Broad Substrate Specificity Prevent Global Mistranslation. K. Musier-Forsyth, The Ohio State University

- **11:00**  
  91.3 Discovering novel enzymes and metabolic pathways. J. Gerlt, University of Illinois, Urbana-Champaign

- **11:30**  
  91.4 Structural insight into pre-mRNA splicing catalyzed by the spliceosome. R. Zhao, University of Colorado Denver Anschutz Medical Campus

**Epigenomics and Chromatin Dynamics**

**SYMPOSIUM**

**10:00 AM – 12:00 PM**  
CONVENTION CENTER, W304EF

**CHAIR:** Y. Shi

- **10:00**  
  92.1 Regulation of chromatin states by nuclear pore proteins. Maya Capelson, University of Pennsylvania

- **10:30**  
  92.2 Structure and Function of Mammalian SWI/SNF Chromatin Remodeling Complexes in Human Disease. C. Kadoch, Dana Farber Cancer Institute and Harvard Medical School

- **11:00**  
  92.2 Genome-wide Analysis of Enhancers in Development and Disease. B. Ren, University of California, San Diego/ Ludwig Institute for Cancer Research

- **11:30**  
  92.3 Chromatin Regulation of Tumor Responses to Immune Checkpoint Blockade. Y. Shi, Boston Children's Hospital

**Microbiome and Disease**

**SYMPOSIUM**

**10:00 AM – 12:00 PM**  
CONVENTION CENTER, W304GH

**CHAIR:** J. Segre

- **10:00**  
  93.1 Personalizing Food to the Gut Microbiome. L. David, Duke University

- **10:30**  
  93.2 Bacterial modification of bile acids alters host physiology. S. Devlin, Harvard Medical School

- **11:00**  
  93.3 Connecting variation in the gut microbiome with susceptibility to vascular disease. F. Rey, University of Wisconsin-Madison

- **11:30**  
  93.4 Human Skin Microbiome: Integrating bacterial, fungal and viral communities. J. Segre, National Human Genome Research Institute, National Institutes of Health
### Mitochondria Dysfunction and Disease

**SYMPOSIUM**  
**10:00 AM - 12:00 PM**  
**CONVENTION CENTER, W305AB**  
**CHAIR:** P. Stambrook  
**Guest Society:** Society for Experimental Biology and Medicine

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Speaker</th>
<th>Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:00</td>
<td>New Insights into Mitochondrial Medicine.</td>
<td>T. Huang</td>
<td>Cincinnati Children’s Hospital Medical Center</td>
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<tr>
<td>10:40</td>
<td>Title tba.</td>
<td>D. Wallace</td>
<td>Children’s Hospital of Philadelphia</td>
</tr>
<tr>
<td>11:20</td>
<td>Mitochondria as Reversible Regulators of Skin Wrinkles and Hair Loss in Mice.</td>
<td>K. Singh</td>
<td>University of Alabama at Birmingham</td>
</tr>
</tbody>
</table>

### Synthetic Biology

**SYMPOSIUM**  
**10:00 AM - 12:00 PM**  
**CONVENTION CENTER, W307AB**  
**CHAIR:** M. Chang

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Speaker</th>
<th>Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:00</td>
<td>95.1 Synthetic Biology Approaches To New Chemistry.</td>
<td>M. Chang</td>
<td>University of California, Berkeley</td>
</tr>
<tr>
<td>10:30</td>
<td>95.2 Development of a Targeted Diversifier Allowing Mutation of All Nucleotide Types In Vivo.</td>
<td>J. Dueber</td>
<td>Bioengineering</td>
</tr>
<tr>
<td>11:00</td>
<td>95.3 Base Editing: Chemistry on a Target Nucleotide in the Genome of Living Cells.</td>
<td>D. Liu</td>
<td>The Broad Institute</td>
</tr>
<tr>
<td>11:30</td>
<td>95.4 Biosynthesis of Complex Plant-Derived Natural Products.</td>
<td>C. Smolke</td>
<td>Stanford University</td>
</tr>
</tbody>
</table>

### Using Large Sets of Data with Students

**SYMPOSIUM**  
**10:00 AM - 12:00 PM**  
**CONVENTION CENTER, W306AB**  
**CHAIRS:** V. Moore and M. Rosenberg

Keyboard instead of pipet? With the increased use and applications of biological data, bioinformatics and data mining techniques have established their importance in furthering our understanding of biological systems and relationships. The ability to find and navigate large data sets will only increase in importance for students and instructors alike. In this session speakers share how to build relevant skills and confidence in biochemistry/biology courses, lab and research experiences.

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Speaker</th>
<th>Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:00</td>
<td>Introduction</td>
<td></td>
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</tr>
<tr>
<td>10:05</td>
<td>Big Data Analysis and Visualization with Undergraduates: Training, Competency-Based Assessment and Meaningful Research Outcomes.</td>
<td>I. Page</td>
<td>University of Maryland</td>
</tr>
<tr>
<td>10:25</td>
<td>Big Data in Biochem and Molecular Biology Education.</td>
<td>J. Siegel</td>
<td>University of California, Davis</td>
</tr>
<tr>
<td>10:45</td>
<td>CRISPR as a CURE in an Undergraduate Course.</td>
<td>H. Evans Anderson</td>
<td>Stetson University</td>
</tr>
<tr>
<td>11:05</td>
<td>Panel discussion</td>
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</tbody>
</table>

### ASBMB Meet a Program Officer

**SOCIETY EVENT**  
**11:30 AM - 12:30 PM**  
**CONVENTION CENTER EXHIBIT HALL, ASBMB LOUNGE**

Meet with National Institutes of Health (NIH) program directors during a midday informal discussion about science and career development.
**ASBMB Advocacy Town Hall Meeting**  
**SOCIETY EVENT**  
**12:15 PM – 1:45 PM**  
CONVENTION CENTER, W307CD  
Sponsored by: ASBMB Public Affairs Advisory Committee  
Join ASBMB’s Public Affairs Advisory Committee (PAAC) for a town hall forum open to all EB registrants to address the impact of the current and future political climate on the life science research enterprise. Event objectives include briefing the community on local impacts of federal policy decisions and provide real time answers to pressing questions.  
Planned mini briefings include:  
1) The state of federal investments in life science research  
2) Local and national advocacy  
3) Policy changes impacting the research community  
Briefings will be led by the ASBMB Public Affairs Director, Benjamin Corb and PAAC chair, Matthew Gentry.  
Pre-submit or post questions live via twitter (ASBMTownHall) to generate further discussion. It is anticipated that the town hall forum will be attended by a wide range of stakeholders from all facets of the biochemistry and molecular biology research enterprise.  
*Doors will open at 12:20 p.m. and boxed lunches will be provided to the first 75 event participants, first come, first served.*

**ASBMB Meet the Speakers**  
**SOCIETY EVENT**  
**12:30 PM – 1:30 PM**  
CONVENTION CENTER EXHIBIT HALL, ASBMB LOUNGE  
Meet with world-renowned BMB scientists during the midday poster sessions for an informal scientific discussion.

**ASBMB Accreditation Program Q&A**  
**SOCIETY EVENT**  
**1:30 PM – 2:30 PM**  
CONVENTION CENTER EXHIBIT HALL, ASBMB LOUNGE  
Learn more about ASBMB accreditation for B.A. and B.S. programs in biochemistry and molecular biology and related disciplines.

**ASBMB Avanti Award in Lipids**  
**LECTURE**  
**1:45 PM – 2:15 PM**  
CONVENTION CENTER, VALENCIA BALLROOM A  
Sponsored by: Avanti Polar Lipids, Inc.  
1:45 Introduction  
1:50 99.1 Neural Stem Cell Fatty Acid Beta-Oxidation and Autism Spectrum Disease. V. A. Bankaitis, Texas A&M Health Science Center

**ASBMB Young Investigator Award**  
**LECTURE**  
**2:15 PM – 2:45 PM**  
CONVENTION CENTER, VALENCIA BALLROOM A  
2:15 Introduction  
2:20 100.1 RNA-mediated Mechanisms of Translation Control. C. M. Dunham, Emory University School of Medicine
101  **ASBMB Award for Exemplary Contributions to Education**

**LECTURE**

**3:00 PM – 4:00 PM**  CONVENTION CENTER, VALENCIA BALLROOM A

Sponsored by: ASBMB Education and Professional Development Committee

Undergraduate Student Research Poster Competition award winners and Honor Society inductees will be announced / presented during this lecture.

3:00  **Introduction**

3:05  **101.1 How Organic Chemistry Became One of UCLA’s Most Popular Classes.**  N. K. Garg, University of California, Los Angeles

---

102  **Novel Cancer Therapies: Free Radical Biology**

**SYMPOSIUM**

**3:00 PM – 5:00 PM**  CONVENTION CENTER, W305AB

CHAIR: D. Spitz

Guest Society: Society for Experimental Biology and Medicine

3:00  **SOD Mimics and Cancer Therapy.**  D. Spitz, Cincinnati Children’s Hospital Medical Center

3:30  **Exploiting Redox Active Iron Metabolism For Cancer Therapy.**  B. Allen, University of Iowa Hospitals and Clinics

4:00  **Exploiting NAD metabolism for Cancer Therapy.**  X. Huang, Simon Cancer Center

4:30  **Pharmacological Ascorbate and Pancreas Cancer Therapy.**  J. Cullen, University of Iowa

---

103  **Advances in Neuronal Biochemistry**

**SYMPOSIUM**

**4:00 PM – 5:15 PM**  CONVENTION CENTER, W303ABC

4:00  **791.9 Regulation of SNARE-Dependent Membrane Fusion by Alpha-Synuclein.**  B. JD Hawk, Iowa State University

4:15  **791.8 Overexpression of Catalase in Mitochondria Mitigates the Inflammatory Effects of Simulated Microgravity and Social Isolation in Mouse Hippocampus.**  L. Guttmann, NASA

4:30  **791.15 Neuronal membrane proteasomes target the nascentome to generate extracellular peptides that modulate neural network activity.**  S. S. Margolis, The Johns Hopkins University School of Medicine

4:45  **791.23 Analysis of neural networks of Caenorhabditis elegans by functional cellomics.**  Y. Yamauchi, Kyoto University

5:00  **792.1 The E3 Ligase TRAF6 directs FOXP3 localization and facilitates Treg function through K63-type ubiquitination.**  J. Barbi, Roswell Park Comprehensive Cancer Center

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**Feeling lucky?**

Stop by ASBMB booth #1421 for a chance to win one of three $250 Amazon gift cards.
104 Lipids and Inflammation

SYMPOSIUM
4:00 PM – 5:15 PM  CONVENTION CENTER, W304AB

CHAIR: T. Sadhukhan

4:00  654.9  H-Ras Signaling Mediates Microglia Proliferation Contributing to Neuropathology in INCL Mice. T. Sadhukhan, National Institutes of Health

4:15  654.6  Effects of Nicotine on Adipocyte Production of Resistin and NF-KB Translocation. J. R. Peter, Fort Lewis College

4:30  654.7  TRPV4 regulates P. gingivalis lipopolysaccharide-induced exacerbation of oxidized LDL-mediated foam cell formation. S. Rahaman, University of Maryland

4:45  654.11  Effect of interferon gamma on neutral lipid levels, lipid droplet formation, and antiviral responses in pancreatic islets and INS-1ß cells. N. Truong, Michigan State University

5:00  654.13  TNF ligand related molecule-1A inhibits atherosclerosis in apoE-deficient mice. D. Zhao, Nankai University

105 Microbiome, Host-Parasite Interactions and Therapeutic Targets

SYMPOSIUM
4:00 PM – 5:15 PM  CONVENTION CENTER, W304CD

CHAIR: M. Zhao

4:00  649.13  Intestinal epithelial O-GlcNAc signaling is indispensable for anti-helminth type 2 immunity. M. Zhao, University of Minnesota

4:15  649.3  Live-Cell Fluorescent Visualization of T3SS Needle and Its Dynamics. D. Cheng, Max Planck Institute of Terrestrial Microbiology

4:30  649.6  Enteropathogenic E. coli Hijacks Programmed Host-Cell Death Pathways by Interfering with the Higher Order Oligomerization of Immune System Proteins. A. Monserrat-Martinez, EMBL Australia, Node in Single Molecule Science

4:45  649.7  Dissecting the mechanism of host shutoff by SARS coronavirus. A. Nag, Furman University

5:00  649.10  Oxidative stress-induced protein packaging in Enterotoxigenic Escherichia coli outer membrane vesicles and its functional impact on host-pathogen interactions. N. Orench-Rivera, Duke University

106 Non-coding RNAs

SYMPOSIUM
4:00 PM – 5:15 PM  CONVENTION CENTER, W304EF

CHAIR: S. Mandal

4:00  778.5  Long noncoding RNAs in immune response and inflammation. S. S. Mandal, University of Texas at Arlington

4:15  778.2  microRNA 520b Mediates ATF5 Expression under Diverse Cellular Stress in Cancer Cells. K. A. Gaither, Washington State University

4:30  778.4  miRNAs regulate the expression of sterol-O acyltransferase 1 through inhibiting the 3’ UTR of TGFß receptor type 1 during embryonic development. H. Lin, National Taiwan University

4:45  778.15  Alcohol induces TGFß through suppression of miR-1946a. V. Sueblinvong, Emory University

5:00  778.9  lncRNA Chronos Exacerbates Pathological Cardiac Dysfunction and Fibrosis. R. L. Neppl, Brigham and Women’s Hospital
107 Protein Structure and Function

SYMPOSIUM

4:00 PM – 5:15 PM  CONVENTION CENTER, W304GH

CHAIR: S. Walker

4:00  628.4  Binding to the ribosome by eIF4B drives yeast translational control in response to membrane stressors. S. E. Walker, University at Buffalo, SUNY

4:15  779.1  Structural basis for teneurin function in circuit-wiring: A toxin motif at the synapse. D. Arac, University of Chicago


4:45  461.15  Structure of the WFIKKN2 Follistatin Domain and GDF8 Antagonism. J. C. McCoy, University of Cincinnati

5:00  779.51  Structural And Functional Versatility of Interferon-Inducible GTPases. Q. Yin, Florida State University

108 Signal Transduction and Regulation

SYMPOSIUM

4:00 PM – 5:15 PM  CONVENTION CENTER, W307AB

CHAIR: M. Petrillo

4:00  476.13  Role of G protein-coupled receptor kinase 6 in Regulation of Platelet Activation through Selective GPCR Desensitization. S. Kim, Chungbuk National University

4:15  476.14  GLP1 targets IncRNA Gas5 in diabetic adipocytes. A. Lui, University of South Florida

4:30  476.22  Beta-arrestin 1: A novel partner in the regulation of the glucocorticoid receptor activity. M. G. Petrillo, National Institute of Environmental Health Sciences, National Institutes of Health

4:45  476.23  The Role of eIF2α in the Collagen Production in Hepatic Stellate Cell is Associated with Autophagic and Apoptotic Signaling. L. Qi-Lin, Department of Gastroenterology, The People’s Hospital of Guangxi Zhuang Autonomous Region,

5:00  476.21  Ouabain Regulated Phosphoproteome Reveals Molecular Mechanisms Behind Na,K-ATPase Control of Cell Adhesion, Proliferation and Survival. E. Panizza, Cornell University

109 Exploring Biochemistry Teaching and Learning

SYMPOSIUM

4:15 PM – 5:15 PM  CONVENTION CENTER, W306AB

CHAIR: V. Moore

4:15  454.17  Crowdsourcing the Development of Assessments for Biomolecular Visual Literacy. K. Procko, University of Saint Joseph

4:30  454.21  Integrating civic scientific literacy skills in a Biochemistry course. A. TS. Taylor, Wabash College

4:45  454.25  Are You a Scientist Exploring Science Identity in a Structural Biology Outreach Program. B. N. Wyatt, Rochester Institute of Technology

5:00  456.6  Developing an Inclusive Workshop Series for Faculty Mentoring Diverse Research Students. L. V. Michel, Rochester Institute of Technology
110 Organizing a Successful ASBMB Student Chapter
WORKSHOP
5:30 PM – 6:30 PM  CONVENTION CENTER, W305AB
Supported by: ASBMB Student Chapters Advisers Committee
The ASBMB Student Chapters is devoted to building a national community of undergraduate students and faculty members for the advancement of biochemistry and molecular biology research, education and science outreach. Our mission is to provide networking and career-development opportunities at regional and national levels, access to research and science outreach, as well as grants and awards to facilitate these aims. Join us to learn how to build and maintain an active chapter. Network with current faculty advisers and student members as they share their chapter activities.

111 CREST Conversations: Connecting Researchers, Educators and STudents
WORKSHOP
5:30 PM – 7:00 PM  ROSEN CENTRE, GRAND BALLROOM B
Supported by: National Science Foundation
CREST research teams will meet with the ASBMB Young Investigator Award lecturer, Christine Dunham, and colleagues to present protein models that will be used to aid in-depth discussions.

112 Integrating Research into the Classroom: Developing an Engaging CURE with Big Data
WORKSHOP
5:30 PM – 7:00 PM  CONVENTION CENTER, W306AB
CHAIR: M. J. Wolyniak
Sponsored by: ASBMB Education and Professional Development Committee
Course-based undergraduate research experiences (CUREs) have emerged as one of the most effective high-impact teaching practices available for providing students with engaging scientific coursework. However, devising and implementing an effective CURE can be a daunting task, especially when an instructor is unsure what type of research project to use. This workshop, offered by members of the Biology Division of the Council on Undergraduate Research (CUR), will explore how to develop a CURE that is accessible to students at different educational levels and manageable for instructors. The workshop target audience includes all instructors either seeking to develop CUREs or who wish to improve CUREs that they already run. Through panel discussion and small group interactions, participants will be able to take their ideas for CURE development and begin the process of outlining a course plan that best suits their particular learning objectives.

113 Emerging Technologies in the Glycosciences
WORKSHOP
5:30 PM – 7:00 PM  CONVENTION CENTER, W307CD
CHAIRS: C. Grimes and N. Zachara
This interactive workshop brings together researchers and companies developing and supplying tools that facilitate the study of glyans in diverse biological settings. Expertise will cover the detection and analysis of O-GlcNAc and other glycan probes, for studying the bacterial cell wall, synthetic glycan standards, carbohydrate arrays including milk oligosaccharides, and finally, resources to improve education in the glycosciences. If you are new to the field, experts will be on hand to help direct you to appropriate experimental approaches.
114  **Storytelling and the Art of Giving a Great Presentation**  
**WORKSHOP**  
**5:30 PM - 7:00 PM  CONVENTION CENTER, W207B**  
Sponsored by: ASBMB Science Outreach and Communication Committee  
SPEAKERS: Parmvir Bahia, Ph.D. University of South Florida and Stuart Ravnik, Ph.D. University of Texas Southwestern Medical Center  
Storytelling is an essential component of communication, used by everyone from journalists to comedians to musicians to make challenging subjects accessible to diverse audiences. Mastering this skill requires not only topical knowledge but also creative flexibility and dexterity with language. This interactive session will lead participants through hands-on storytelling training, based on one of the modules from ASBMB's training course, “The Art of Science Communication.”

115  **Alternative Funding: Driving Philanthropic Support for Basic Science**  
**WORKSHOP**  
**5:30 PM - 7:00 PM  CONVENTION CENTER, W205A**  
Sponsored by: ASBMB Public Affairs Advisory Committee  
Presenters: N. Tonks, Cold Spring Harbor Laboratory, S. Greer, American Cancer Society, J. Hieshetter, Dystonia Medical Research Foundation, T. Kinzy, Moderator, Western Michigan University  
Support of basic research by private, non-government funding agencies is critical in the current funding climate. Engage in a lively panel discussion about strategies for procuring philanthropic support.

116  **ASBMB Women Scientists Mentoring and Networking Event**  
**SOCIETY EVENT**  
**6:00 PM - 7:30 PM  ROSEN CENTRE  GRAND BALLROOM D**  
CHAIR: S. Baserga  
Join us in discussing some of our efforts designed to combat sexual and gender-based harassment during the education of young scientists and in our professional lives. A panel will give short presentations followed by an open forum among the attendees.  
All ASBMB members and biochemistry registrants welcome.

117  **ASBMB Welcome Reception, sponsored by the ASBMB Minority Affairs Committee**  
**SOCIETY EVENT**  
**7:00 PM - 8:30 PM  ROSEN CENTRE, GRAND BALLROOM C**  
Sponsored by: ASBMB Minority Affairs Committee  
This annual professional networking event has an emphasis on encouraging mentoring relationships and includes an opportunity to view and discuss ASBMB Graduate Student Travel Award research posters. ASBMB members and biochemistry registrants welcome.
You’re the reason we’re the most-cited journal in lipid research.

VISIT ASBMB BOOTH #1421
## ASBMB oral program

### Monday

**APRIL 8**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>8:00 AM</td>
<td><strong>FASEB Excellence in Science Award</strong></td>
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<tr>
<td>8:00 AM</td>
<td><strong>ASBMB Ruth Kirschstein Diversity in Science Award</strong></td>
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<tr>
<td>9:30 AM</td>
<td><strong>Glycobiology</strong></td>
</tr>
</tbody>
</table>

### FASEB Excellence in Science Award

**LECTURE**

- **8:00 AM – 8:30 AM**: CONVENTION CENTER, VALENCIA BALLROOM A
  - **Sponsored by**: Federation of American Societies for Experimental Biology
  - **8:00**: Introduction
  - **8:05**: De novo Lipogenesis in Adipocytes Results in the Production of Structurally Novel Signaling Lipids with Beneficial Metabolic and Anti-inflammatory Effects. B. B. Kahn, *Beth Israel Deaconess Medical Center, Harvard Medical School*

### ASBMB Ruth Kirschstein Diversity in Science Award

**LECTURE**

- **8:30 AM – 9:00 AM**: CONVENTION CENTER, VALENCIA BALLROOM A
  - **Sponsored by**: ASBMB Minority Affairs Committee
  - **8:30**: Introduction
  - **9:00**: Dissecting the Mechanisms of Cell Division. J. Z. Torres, *University of California Los Angeles*

### Glycobiology

**SYMPOSIUM**

- **9:30 AM – 11:30 AM**: CONVENTION CENTER, W303ABC
  - **Chair**: A. Imberty
  - **9:30**: Lectins from Bacteria and Fungi: Therapeutical Targets and Research Tools. A. Imberty, *CERMAV-CNRS*
  - **10:00**: A new model for the biochemistry of pectin synthesis: GAUTs synthesize diverse HG glycans in structurally and functionally distinct plant cell wall polymers. D. A. Mohnen, *Complex Carbohydrate Research Center, University of Georgia*
  - **10:30**: Roles of Galectins in Infection: First barrier or Trojan Horse? G. R. Vasta, *University of Maryland School of Medicine*
  - **11:00**: Glycobiology of Host-Microbe Interactions in the Gut. N. Juge, *Quadram Institute Bioscience*
Inequities in Precision Medicine

SYMPOSIUM

9:30 AM – 11:30 AM  CONVENTION CENTER, W304AB

CHAIR: S. Flores

Sponsored by: ASBMB Minority Affairs Committee

9:30  217.1 Populations from under-represented backgrounds are not adequately represented in clinical databases. K. Barnes, University of Colorado School of Medicine

10:00  217.2 Pharmacogenomics in Indigenous Populations. K. G. Claw, University of Washington

10:30  217.3 Leveraging Diversity for Population Genomic Health. E. Kenny, Icahn School of Medicine at Mount Sinai

11:00  217.3 Role of Ancestry Genes in Asthma Susceptibility. V. Ortega, Wake Forest School of Medicine

Inflammation and Disease

SYMPOSIUM

9:30 AM – 11:30 AM  CONVENTION CENTER, W304CD

CHAIR: J. Lieberman

9:30  218.1 To Code or Not to Code: What Is the Linc? R. Flavell, Yale University

10:00  218.2 Regulators of Inflammatory Responses. T. Kanneganti, St. Jude Children’s Research Hospital

10:30  218.3 Role of Inflammation in Control of Hepatic Lipid Metabolism—New Insights to the Pathogenesis of NASH. M. Karin, University of California San Diego

11:00  218.4 Sounding the Alarm and Putting Out the Fire: New Mechanistic Insights into Inflammatory Cell Death. J. Lieberman, Harvard Medical School/Boston Children’s Hospital

Mitochondrial Biology

SYMPOSIUM

9:30 AM – 11:30 AM  CONVENTION CENTER, W304EF

CHAIR: D. Neufer


10:00  219.2 Altering mitochondrial bioenergetic efficiency. D. Neufer, East Carolina University

10:30  219.3 Regulation of Mitochondrial Metabolism by Reversible Phosphorylation. D. Pagliarini, Morgridge Institute for Research at UW-Madison

11:00  219.4 Metabolic Coordination of Tumor Suppression. L. Finley, Memorial Sloan Kettering Cancer Center

RNA Structural Dynamics

SYMPOSIUM

9:30 AM – 11:30 AM  CONVENTION CENTER, W304GH

CHAIR: H. Al-Hashimi

9:30  220.1 Using Conformational Penalties to Assess the Structure Dependence of RNA Cellular Function. H. M. Al-Hashimi, Duke University School of Medicine

10:00  220.2 Modification of mRNA by snoRNA-guided 2’-O-methylation. C. Holley, Duke University School of Medicine

10:30  220.3 Quality Control During 40S Ribosome Assembly. K. Karbstein, The Scripps Research Institute

11:00  220.4 Dynamic Control of Gene Expression during mRNA Export and Translation. S. R. Wente, Vanderbilt University
221 **Single Molecule Single Cell**

**SYMPOSIUM**

**9:30 AM – 11:30 AM** CONVENTION CENTER, W307AB

CHAIR: S. Xie

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Speaker(s)</th>
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<tbody>
<tr>
<td>9:30</td>
<td>221.1 Fractional-nucleotide translocation in sequence-dependent pausing by RNA polymerase: Single-molecule picometer-resolution nanopore tweezers (SPRNT).</td>
<td>R. Ebright, <em>Waksman Institute of Microbiology, Rutgers University</em></td>
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<td>10:00</td>
<td>221.2 Dynamics and Spatial Genomics of the Nascent Transcriptome by Intron seqFISH.</td>
<td>L. Cai, <em>California Institute of Technology</em></td>
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<td>10:30</td>
<td>221.3 Three-dimensional in situ sequencing of single cells in intact tissue.</td>
<td>X. Wang, <em>Stanford University</em></td>
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<tr>
<td>11:00</td>
<td>221.4 Single Cell Genomics: When Stochasticity Meets Precision.</td>
<td>S. Xie, <em>Peking University</em></td>
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</table>

222 **Cryo-EM and Re-revolution of Structural Biology**

**SYMPOSIUM**

**9:30 AM – 11:30 AM** CONVENTION CENTER, W305AB

CHAIR: T. Thompson

Guest Society: Society for Experimental Biology and Medicine

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<tr>
<th>Time</th>
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<tbody>
<tr>
<td>9:30</td>
<td>222.1 Single Particle cryo-EM of Membrane Proteins.</td>
<td>Y. Cheng, <em>Howard Hughes Medical Institute/University of California San Francisco</em></td>
</tr>
<tr>
<td>10:10</td>
<td>222.2 Imaging Smaller and Smaller Macromolecules at Higher and Higher Resolution Using Conventional Single-particle Cryo-EM.</td>
<td>M. Herzik, <em>University of California San Diego</em></td>
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</table>

223 **Transitions at the Mid-career Point**

**SYMPOSIUM**

**9:30 AM – 11:30 AM** CONVENTION CENTER, W306AB

CHAIRS: V. Moore and M. Rosenberg

Sponsored by ASBMB Education and Professional Development Committee

After years focused on building your research program, skills and reputation you are getting comfortable in your institutional setting and in national networks. It is time to reflect on the next steps in your career and professional options. Many academics welcome a change or a new challenge at that time in their lives. In this session, speakers share how they stayed intellectually engaged, rekindled their passion or aligned their career with new interests. Their combined experiences demonstrate a diversity of approaches and give a glimpse into options available to scientists, students and trainees looking ahead.

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<thead>
<tr>
<th>Time</th>
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<tbody>
<tr>
<td>9:30</td>
<td>223.1 Introduction</td>
<td></td>
</tr>
<tr>
<td>9:35</td>
<td>223.2 Using Scientific Teaching to Grow Your Academic Profile as an Educator and Scientist.</td>
<td>R. C. Cardullo, <em>University of California, Riverside</em></td>
</tr>
<tr>
<td>9:50</td>
<td>223.3 Transitioning from Academia to Industry and Back Again.</td>
<td>I. T. Knight, <em>Penn State, Behrend</em></td>
</tr>
<tr>
<td>10:05</td>
<td>223.4 The Post-tenure Sabbatical.</td>
<td>V. Moore, <em>Elon University</em></td>
</tr>
<tr>
<td>10:20</td>
<td>223.5 From Research to Faculty Developer.</td>
<td>M. Rosenberg, <em>University of Connecticut</em></td>
</tr>
<tr>
<td>10:35</td>
<td>223.6 Transitioning to Leadership in Higher Education.</td>
<td>R. Zeneildin, <em>Mercy College</em></td>
</tr>
<tr>
<td>10:50</td>
<td>223.7 Panel discussion</td>
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</tbody>
</table>
224 **ASBMB Meet the Speakers**

**SOCIETY EVENT**

12:00 PM – 1:00 PM  
CONVENTION CENTER EXHIBIT HALL, ASBMB LOUNGE


Meet with world-renowned BMB scientists during the midday poster sessions for an informal scientific discussion.

225 **Stem Cells and Therapy**

**SYMPOSIUM**

1:00 PM – 3:00 PM  
CONVENTION CENTER, W305AB

CHAIRS: P. Stambrook and J. Kang

Guest Society: Society for Experimental Biology and Medicine

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Speaker</th>
<th>Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:00</td>
<td>Title tba.</td>
<td>J. Kang</td>
<td>University of Tennessee, Health Science Center</td>
</tr>
<tr>
<td>1:40</td>
<td>Organoids in the Gut.</td>
<td>J. Wells</td>
<td>Cincinnati Children’s Hospital Medical Center</td>
</tr>
<tr>
<td>2:20</td>
<td>Stem Cell Therapy for Ischemic Stroke.</td>
<td>C. Borlongan</td>
<td>University of South Florida</td>
</tr>
</tbody>
</table>

226 **ASBMB Bert and Natalie Vallee Award in Biomedical Science**

**LECTURE**

1:15 PM – 1:45 PM  
CONVENTION CENTER, VALENCIA BALLROOM A

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Speaker</th>
<th>Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:15</td>
<td>Introduction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1:20</td>
<td>226.1 Cancer Cell Metabolism: Reexamining the Regulation of Anabolic Growth in Health and Disease.</td>
<td>C. B. Thompson</td>
<td>Memorial Sloan Kettering Cancer Center</td>
</tr>
</tbody>
</table>

227 **ASBMB Walter A. Shaw Young Investigator Award in Lipid Research**

**LECTURE**

1:45 PM – 2:15 PM  
CONVENTION CENTER, VALENCIA BALLROOM A

Sponsored by: Avanti Polar Lipids, Inc.

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Speaker</th>
<th>Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:45</td>
<td>Introduction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1:50</td>
<td>227.1 Bacterial lipid trafficking and outer membrane homeostasis.</td>
<td>S. Chng</td>
<td>National University of Singapore</td>
</tr>
</tbody>
</table>
Molecular & Cellular Proteomics, an ASBMB Journal Symposium

SYMPOSIUM
2:30 PM - 3:30 PM  CONVENTION CENTER, W303ABC
CHAIR: A. Burlingame

Sponsored by: Molecular and Cellular Proteomics, an ASBMB journal

The editorial leadership team of the journal Molecular & Cellular Proteomics has chosen four early-career investigators to present their current research during this symposium.

2:30  228.1  The Role of Mass Spectrometry in the Advancement of HLA Epitope Prediction. J. G. Abel, Neon Therapeutics

2:45  228.2  Developing Structural Interactomics and its Application in Cell Biology. F. Liu, Leibniz-Forschungsinstitut für Molekulare Pharmakologie (FMP)

3:00  228.3  Proteomic Approaches to Better Understand Transcriptional Regulation. S. Myers, The Broad Institute of MIT and Harvard

3:15  228.4  Proteoform Dynamics in Steady-State. J. Zecha, Technical University of Munich

Chemical Modifications and Mechanisms of DNA Metabolism

SYMPOSIUM
2:30 PM - 3:45 PM  CONVENTION CENTER, W304AB
CHAIR: L. Balakrishnan

2:30  776.1  Protein Lysine Acetylation Regulates the Choice of the Okazaki Fragment Maturation Pathway. L. Balakrishnan, Indiana University Purdue University Indianapolis

2:45  619.2  BRCT domains contain an intrinsic post-translational modification (PTM) recognition code that affects its stability. J. Davis, Meharry Medical College

3:00  776.7  Mechanistic insight into oxidized ribonucleotide (8-oxo-GTP) insertion by a DNA polymerase. M. Smith, University of Kansas Medical Center

3:15  457.28  Elongin and the Elongin A ubiquitin ligase complex in transcription and the response to DNA damage. J. C. Weems, Stowers Institute for Medical Research

3:30  619.7  Mechanisms of DNA ligation. P. O’Brien, University of Michigan

Enzyme Chemistry and Catalysis

SYMPOSIUM
2:30 PM - 3:45 PM  CONVENTION CENTER, W304GH
CHAIR: Z. Suo

2:30  781.16  Function, timing and catalytic mechanism of NosN, a class C radical SAM methylase involved in the biosynthesis of nosiheptide’s side-ring system. B. Wang, Pennsylvania State University

2:45  781.3  Marine worm bioluminescence is slowly revealing its secrets. E. De Meulenaere, Scripps Institution of Oceanography/University of California San Diego

3:00  633.20  Conditional Protein Splicing of Inteins from Extremophiles. K. V. Mills, College of the Holy Cross

3:15  633.30  Bidirectional Degradation of DNA Cleavage Products Catalyzed by CRISPR/Cas9. Z. Suo, Florida State University

3:30  633.10  The Nudix Superfamily: a structural perspective. S. Gabelli, The Johns Hopkins University
231 Exploring Experimentation in Biochemistry Lab and Non-Lab Settings
SYMPOSIUM
2:30 PM – 3:45 PM CONVENTION CENTER, W306AB
CHAIR: M. Rosenberg

2:30 617.1 Engaging Nontraditional Students by CURE-ing Microbes on Ocean Plastics. A. Barral, National University
2:45 617.2 Creating and Using the Malate Dehydrogenase CURE Community to Explore Critical Aspects of Sustainable Protein Centric CUREs. J. K. Bell, University of San Diego
3:00 617.26 Power of PCR pre-labs and a co-mentoring community group: Increasing impacts on skills and confidence. B. Smith-Keiling, University of Minnesota
3:15 617.17 Supporting Learning in the Undergraduate Biochemistry Laboratory at an Australian University Through a 3-Phase Approach Using Technology, eNotebooks and Partnering with Students. T. Kuit, University of Wollongong
3:30 617.3 Managing course embedded research projects of any size using the Open Science Framework. C. Berndsen, James Madison University

232 Glycosyltransferases and Hydrolases
SYMPOSIUM
2:30 PM – 3:45 PM CONVENTION CENTER, W304CD
CHAIR: D. Ashline

2:30 640.1 Assessing Fucosyltransferase Activity via MSn. D. Ashline, University of New Hampshire
2:45 799.5 Targeting the O-GlcNAc Transferase to Specific Proteins Using RNA Aptamers. Y. Zhu, Johns Hopkins University
3:00 798.6 The Mammalian UDP-Galactose 4′-Epimerase (GalE) Is Required for Cell Surface Glycome Structure and Function. A. T. Florwick, Duke University School of Medicine
3:15 620.9 Fine Tuning of Hemoglobin Switching and Erythropoiesis. M. P. Parker, University of Kansas Medical Center
3:30 777.10 Identification of nutrient metabolites capable of altering the epigenetic status at specific loci. K. Hayakawa, The University of Tokyo

233 Regulation of Lipid Metabolism
SYMPOSIUM
2:30 PM – 3:45 PM CONVENTION CENTER, W304EF
CHAIR: M. Li

2:30 488.9 O-GlcNAc signaling orchestrates metabolic adaptation to prolonged fasting. M. Li, Yale University School of Medicine
2:45 488.4 Acyl-CoA Synthetase 6 Mediates Brain Docosahexaenoic Acid (DHA) Enrichment and Neuroprotection. R. F. Fernandez, East Carolina University
3:00 488.6 Diacylglycerol links lipid droplets and tubular ER during growth resumption from stationary phase. S. Ganesan, University of Calgary
3:15 488.15 Fatty Acids Bind to Them1, a Negative Regulator of Thermogenesis in Brown Adipose Tissue. M. C. Tillman, Emory University
3:30 488.13 RNA seq Analysis of Livers from Mice Lacking Fatty Acid Transport Protein 2 (FATP2) Demonstrate Metabolic Linkages in Genes Involved in PPARa-responsive Lipid Metabolic Pathways. V. Perez, University of Nebraska-Lincoln
### ASBMB Alice and CC Wang Award in Molecular Parasitology Lecture and Symposium

**LECTURE**

2:30 PM – 4:30 PM  
CONVENTION CENTER, W307AB

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
</tr>
</thead>
<tbody>
<tr>
<td>2:30</td>
<td>Introduction</td>
</tr>
<tr>
<td>2:35</td>
<td>234.1 “Prison Break” Toxoplasma egress from infected cells is a tightly programmed event. D. Soldati-Favre, University of Geneva</td>
</tr>
<tr>
<td>3:05</td>
<td>234.2 Molecular Genetics for Cryptosporidium. B. Striepen, School of Veterinary Medicine, University of Pennsylvania</td>
</tr>
<tr>
<td>3:35</td>
<td>234.3 Environmental signals control transmission stage formation in Plasmodium falciparum. N. Brancucci, Swiss Tropical &amp; Public Health Institute</td>
</tr>
<tr>
<td>3:50</td>
<td>234.4 Metabolic interplay and flexibility in the intracellular Trypanosoma cruzi-host cell interaction. B. A. Burleigh, Harvard, T.H. Chan School of Public Health</td>
</tr>
</tbody>
</table>

### Molecular Medicine: A Student Organized Symposium

**SYMPOSIUM**

3:00 PM – 5:00 PM  
CONVENTION CENTER, W305AB

CHAIRS: W. Zimmer, R. Fenske, N. Fuentes and W. Zhou  
Guest Society: Society for Experimental Biology and Medicine

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
</tr>
</thead>
<tbody>
<tr>
<td>3:00</td>
<td>Understanding How Mitotic Regulators Drive the Epithelial to Mesenchymal Transition in Breast Cancers. H. Saavedra, Ponce Health University</td>
</tr>
<tr>
<td>3:40</td>
<td>Isobutyldeoxynyboquinone (IBDNQ) Induces Catastrophic Metabolic Failure in NQO1 Positive Cancer Cells. M. Merritt, University of Florida College of Medicine</td>
</tr>
<tr>
<td>4:20</td>
<td>Sex Difference in Liver Cancer Incidence: A Bilious Insight. S. Anakk, University of Illinois</td>
</tr>
</tbody>
</table>

### Epigenetic Factors that Contribute to Gene Regulation

**SYMPOSIUM**

4:00 PM – 5:15 PM  
CONVENTION CENTER, W304AB

CHAIR: B. Buck-Koehntop

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
</tr>
</thead>
<tbody>
<tr>
<td>4:00</td>
<td>777.4 Investigating the Mechanisms by which the Methyl-CpG Binding Protein ZBTB38 Identifies Interacting Partners and Mediates Transcription. B. A. Buck-Koehntop, University of Utah</td>
</tr>
<tr>
<td>4:15</td>
<td>621.11 Epigenetic Memory, Melanoma Antigen Genes (MAGEs) and Cancer. S. Ramanathan, Fisk University</td>
</tr>
<tr>
<td>4:30</td>
<td>458.8 Regulation of mitochondrial DNA transcription by protein post-translational modifications. K. E. Dittenhafer-Reed, Hope College</td>
</tr>
<tr>
<td>4:45</td>
<td>777.15 SV40 virion formation functions as a novel epigenetic switch controlling early and late transcription. B. Milavetz, University of North Dakota</td>
</tr>
<tr>
<td>5:00</td>
<td>622.5 Enhancer regulation by H3K4 methyltransferases MLL3/MLL4. K. Ge, NIDDK, NIH</td>
</tr>
</tbody>
</table>
### Genomics, Proteomics and Metabolomics

**SYMPOSIUM**

**4:00 PM – 5:15 PM** CONVENTION CENTER, W303ABC

**CHAIR:** A. Kettenbach

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Title</th>
<th>Speaker</th>
<th>Affiliation</th>
</tr>
</thead>
<tbody>
<tr>
<td>4:00</td>
<td>475.7</td>
<td>Activity-based profiling of Phosphoprotein Phosphatases from Yeast to Humans</td>
<td>A. N. Kettenbach</td>
<td>Geisel School of Medicine at Dartmouth</td>
</tr>
<tr>
<td>4:15</td>
<td>473.3</td>
<td>Proteomic Dissection of the Spindle Assembly Checkpoint</td>
<td>Y. A. Garcia</td>
<td>University of California-Los Angeles</td>
</tr>
<tr>
<td>4:30</td>
<td>473.2</td>
<td>BioCyc: A Genomic and Metabolic Web Portal with Multiple Omics Analytical Tools</td>
<td>R. Caspi</td>
<td>SRI International</td>
</tr>
<tr>
<td>4:45</td>
<td>473.5</td>
<td>Thinking Outside the Informatics Box: Computed Chemical Properties for Protein Function Annotation</td>
<td>M. Ondrechen</td>
<td>Northeastern University</td>
</tr>
<tr>
<td>5:00</td>
<td>639.7</td>
<td>Gut Check on Air Pollution: Effects of Biodiesel Ultrafine Particles on Gut Microbial Metabolism</td>
<td>J. Zhu</td>
<td>The Ohio State University</td>
</tr>
</tbody>
</table>

### Journal of Lipid Research, an ASBMB Journal Symposium

**SYMPOSIUM**

**4:00 PM – 5:15 PM** CONVENTION CENTER, W304EF

**CHAIR:** G. Carman

Sponsored by: Journal of Lipid Research, an ASBMB journal

The editorial leadership team of the Journal of Lipid Research has chosen early-career investigators to present their current research during this symposium.

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Title</th>
<th>Speaker</th>
<th>Affiliation</th>
</tr>
</thead>
<tbody>
<tr>
<td>4:00</td>
<td>238.1</td>
<td>Complex genetic determinants of hypertriglyceridemia</td>
<td>J. S. Dron</td>
<td>Western University</td>
</tr>
<tr>
<td>4:15</td>
<td>238.2</td>
<td>The structure of apoA-II on HDL reveals novel insights into its regulation of lipoprotein composition and function</td>
<td>J. T. Melchior</td>
<td>University of Cincinnati</td>
</tr>
<tr>
<td>4:30</td>
<td>238.3</td>
<td>Small HDL, diabetes, and proinflammatory effects in macrophages</td>
<td>V. Kothari</td>
<td>University of Washington</td>
</tr>
<tr>
<td>4:45</td>
<td>238.4</td>
<td>Retinol Binding Protein 4 (RBP4) in Adipocytes and Obesity</td>
<td>I. Shmarakov</td>
<td>Columbia University</td>
</tr>
<tr>
<td>5:00</td>
<td>238.5</td>
<td>Chlorolipids: Mediators and Outcome Predictors of Sepsis</td>
<td>D. Pike</td>
<td>Saint Louis University School of Medicine</td>
</tr>
</tbody>
</table>

### Protein-Glycan Interactions

**SYMPOSIUM**

**4:00 PM – 5:15 PM** CONVENTION CENTER, W304CD

**CHAIR:** R. Woods

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Title</th>
<th>Speaker</th>
<th>Affiliation</th>
</tr>
</thead>
<tbody>
<tr>
<td>4:00</td>
<td>800.1</td>
<td>Probing galectin-3 extracellular activity using synthetic oligomers with defined carbohydrate-recognition domain valency</td>
<td>S. Farhadi</td>
<td>University of Florida</td>
</tr>
<tr>
<td>4:15</td>
<td>801.3</td>
<td>Novel Rigid Glycomimetics to Inhibit Influenza Infection</td>
<td>R. J. Woods</td>
<td>University of Georgia</td>
</tr>
<tr>
<td>4:30</td>
<td>800.3</td>
<td>Glycosaminoglycan Recognition of Neutrophil-Activating Chemokines</td>
<td>B. Nagarajan</td>
<td>Institute for Structural Biology, Drug Discovery and Development</td>
</tr>
<tr>
<td>4:45</td>
<td>800.2</td>
<td>Investigation of an antifungal peptide, Diapausin, from Manduca sexta</td>
<td>M. Li</td>
<td>Kansas State University</td>
</tr>
<tr>
<td>5:00</td>
<td>798.9</td>
<td>The New Buzz about Sugars: Novel N-Glycans in Bees, Moths and Mosquitoes</td>
<td>I. B. H. Wilson</td>
<td>Universitaet fuer Bodenkultur</td>
</tr>
</tbody>
</table>
240 Sensing

SYMPOSIUM

4:00 PM - 5:15 PM  CONVENTION CENTER, W304GH

CHAIR: M. Tantama

4:00  635.3  Electrochemical Biosensor Targeting the Cancer Biomarker Human Ecto-NOX Disulfide-Thiol Exchanger 2 (ENOX2). A. J. Bonham, Metropolitan State University of Denver

4:15  476.1  Monothiol Glutaredoxins Grx3/4 and the BoLA Protein Bol2 Modulate Iron Sensing and Regulation in Yeast S. cerevisiae. A. Albetel, University of South Carolina

4:30  635.9  Core-Shell Nanoparticle Probe Scintillation Proximity Assays for Biological Samples. C. Janczak, University of Arizona

4:45  635.21 Activity-dependent ATP release from neurons and astrocytes. M. Tantama, Purdue University

5:00  635.12 Fluorescence Spectroscopic Analysis of TonB-dependent Transport in Klebsiella Pneumoniae. A. Kumar, Kansas State University

241 Navigating Difficult Conversations

WORKSHOP

5:30 PM - 7:00 PM  CONVENTION CENTER, W306AB

CHAIR: J. Bolton

Sponsored by: ASBMB Education and Professional Development Committee

242 Transforming Science Research into Science Outreach

WORKSHOP

5:30 PM - 7:00 PM  CONVENTION CENTER, W307CD

Sponsored by: ASBMB Science Outreach and Communication Committee

Members of the Science Outreach and Communication Committee and other invited speakers will showcase examples of how to turn scientific research projects into outreach activities aimed at diverse audiences. These will include demos and curricular models appropriate for K-12 students; translating detailed research work into policy-relevant summaries; and additional audience-specific outreach. Presenters will discuss the importance of outreach and its impact on various societal issues.

243 A Word of Advice: Success in Scientific Publishing

WORKSHOP

5:30 PM - 7:00 PM  CONVENTION CENTER, W303ABC

CHAIRS: C. Goodman and K. Sakabe

Sponsored by: Journal of Biological Chemistry, an ASBMB journal

Are your readers able to meaningfully interpret descriptions of your data? Are your ideas readily accessible thanks to effective and logical text? Are you reaching the audience you and your science deserve? Join us for this 90-minute workshop to get tips on presenting your data clearly, creating compelling and broad-reaching text, and amplifying your publication with online attention. Let JBC help you achieve your publication goals as part of our mission to bring enduring research to the scientific community.
ASBMB Student Flashtalk Science Communication Competition and Reception

SOCIETY EVENT
7:00 PM – 8:30 PM  ROSEN CENTRE, GRAND BALLROOM C

Sponsored by: ASBMB Science Outreach and Communication Committee

Please join us for the inaugural “Science in a Flash” communication contest. This event features 10 speakers who will share their science in just four minutes with only one slide. In addition to distilling their research down to its essence, presenters must work to eliminate scientific jargon so that their presentation is understood by specialists and non-specialists alike. The audience will play a major role in selecting winners, so join us and vote for your favorite.

2019 ASBMB Symposia

Evolution and Core Processes in Gene Expression
May 9–12
East Lansing, Mich.

Transforming Undergraduate Education in the Molecular Life Sciences
July 25–28
San Antonio, Texas

Mass Spectrometry in the Health and Life Sciences: Molecular and Cellular Proteomics
August 18–22
San Francisco, Calif.

Serine Proteases in Pericellular Proteolysis and Signaling
Sept. 12–15
Potomac, Md.

Interplay between Epigenetic Regulation and Genome Integrity
Oct. 20 – 24
Beijing, China

Emerging Roles for the Nucleolus
Oct. 24–27
Kansas City, Mo.
340 **ASBMB-Merck Award**

**LECTURE**

**8:00 AM – 8:30 AM** CONVENTION CENTER, VALENCIA BALLROOM A

Sponsored by: Merck & Company, Inc.

8:00 Introduction

8:05 340.1 A Road Less Traveled: Trafficking Hydrogen Sulfide and B12. R. Banerjee, University of Michigan

341 **ASBMB William C. Rose Award**

**LECTURE**

**8:30 AM – 9:00 AM** CONVENTION CENTER, VALENCIA BALLROOM A

8:30 Introduction

8:35 341.1 Breaking new ground: the emergence of non-canonical functions for telomerase subunits in plants. D. Shippen, Texas A&M University

342 **Aging and Longevity**

**SYMPOSIUM**

**9:30 AM – 11:30 AM** CONVENTION CENTER, W303ABC

CHAIR: L. Niedernhofer

9:30 342.1 Mitochondria, metabolism and aging. T. Finkel, University of Pittsburgh, Aging Institute

10:00 342.2 Endogenous DNA damage as a driver of senescence and aging. L. J. Niedernhofer, University of Minnesota

10:30 342.3 The Role of Mitochondrial Peroxide Release in the Mechanisms Underlying Age-Related Sarcopenia. H. Van Remmen, Oklahoma Medical Research Foundation

11:00 342.4 Lysosomal Metabolic Cues in Orchestrating Cellular and Organism Homeostasis. M. Wang, Baylor College of Medicine/HHMI

343 **Breakthroughs in Plant Biochemistry**

**SYMPOSIUM**

**9:30 AM – 11:30 AM** CONVENTION CENTER, W304AB

CHAIR: N. Doudareva

9:30 343.1 The 4th Dimension of Transcriptional Networks: TIME. G. Coruzzi, New York University

10:00 343.2 The plant social network: Volatiles and their release. N. Doudareva, Purdue University

10:30 343.3 Evolution and the single cell: Metabolic diversity in tomato. R. Last, Michigan State University

11:00 343.4 Synthetic evolution of C4 photosynthesis. A. PM Weber, Heinrich Heine University
### Circadian Rhythm

**SYMPOSIUM**

**9:30 AM – 11:30 AM** CONVENTION CENTER, W304CD  
CHAIR: A. Sehgal

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Title</th>
<th>Speaker(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>9:30</td>
<td>344.1</td>
<td>Advantages and Disadvantages of Circadian Rhythms: A Tale of Two Microbes.</td>
<td>M. Rust, University of Chicago, Institute for Genomics and Systems Biology</td>
</tr>
<tr>
<td>10:00</td>
<td>344.2</td>
<td>Circadian Control of Animal Physiology.</td>
<td>A. Sehgal, University of Pennsylvania</td>
</tr>
<tr>
<td>10:30</td>
<td>344.3</td>
<td>Circadian biology in translation.</td>
<td>J. Hogenesch, Cincinnati Children’s Hospital Medical Center</td>
</tr>
<tr>
<td>11:00</td>
<td>344.4</td>
<td>Molecular Genetics of Human Sleep Behaviors.</td>
<td>Y. Fu, University of California San Francisco</td>
</tr>
</tbody>
</table>

### DNA Repair, Recombination and Replication

**SYMPOSIUM**

**9:30 AM – 11:30 AM** CONVENTION CENTER, W304EF  
CHAIR: A. Bielinsky

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Title</th>
<th>Speaker(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>9:30</td>
<td>345.1</td>
<td>Responses to replication stress in human cells.</td>
<td>A. Bielinsky, University of Minnesota</td>
</tr>
<tr>
<td>10:00</td>
<td>345.2</td>
<td>Genomic and Proteomic Signatures of Replication Fork Collapse.</td>
<td>E. Brown, Perelman School of Medicine, University of Pennsylvania</td>
</tr>
<tr>
<td>10:30</td>
<td>345.3</td>
<td>Replication origin licensing deficiency and genome instability during cell cycle re-entry from quiescence.</td>
<td>J. Cook, University of North Carolina, Chapel Hill</td>
</tr>
<tr>
<td>11:00</td>
<td>345.4</td>
<td>How Replication Stress Drives Genome Instability.</td>
<td>S. Forsburg, University of Southern California</td>
</tr>
</tbody>
</table>

### Lipid Metabolism

**SYMPOSIUM**

**9:30 AM – 11:30 AM** CONVENTION CENTER, W304GH  
CHAIR: B. Finck

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Title</th>
<th>Speaker(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>9:30</td>
<td>346.1</td>
<td>Glycerolipid intermediates as signaling mediators in physiology and disease.</td>
<td>B. N. Finck, Washington University in St. Louis</td>
</tr>
<tr>
<td>10:00</td>
<td>346.2</td>
<td>The regulation and consequences of lipid droplet catabolism.</td>
<td>D. Mashek, University of Minnesota</td>
</tr>
<tr>
<td>10:30</td>
<td>346.3</td>
<td>Transcriptional Activation of Lipogenic Genes by Insulin/Feeding.</td>
<td>H. S. Sul, University of California</td>
</tr>
<tr>
<td>11:00</td>
<td>346.4</td>
<td>Acetyl-CoA metabolism and the response to dietary sugar.</td>
<td>K. Wellen, University of Pennsylvania Perelman School of Medicine</td>
</tr>
</tbody>
</table>

### Sirtuins in Cancer Biology

**SYMPOSIUM**

**9:30 AM – 11:30 AM** CONVENTION CENTER, W305AB  
CHAIR: D. Guis

Guest Society: Society for Experimental Biology and Medicine

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Title</th>
<th>Speaker(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>9:30</td>
<td></td>
<td>The SIRT3-MnSOD-Ac Axis in Tumorigenesis and Tumor Cell Resistance.</td>
<td>D. Guis, Northwestern University</td>
</tr>
<tr>
<td>10:10</td>
<td></td>
<td>SIRT3 plays a role in adaptive mitochondrial metabolism</td>
<td>J. J. Li, University of California, Davis</td>
</tr>
<tr>
<td>10:50</td>
<td></td>
<td>Title tba.</td>
<td>J. Baur, University of Pennsylvania Perelman School of Medicine</td>
</tr>
</tbody>
</table>
ASBMB Meet the Speakers

SOCIETY EVENT
12:00 PM – 1:00 PM  CONVENTION CENTER, EXHIBIT HALL, ASBMB LOUNGE

SPEAKERS: Ruma Bannerjee, Univ. of Michigan Med. Sch., Eric Brown, Abramson Family Cancer Res. Inst., Gloria Coruzzi, NYU, Brian Finck, WUSTL, Susan Forsburg, USC, Brian Kuhlman, Univ. North Carolina, Robert Last, MSU, Doug Mashek, Univ. of Minnesota, Amrita Sehgal, Univ. of Pennsylvania, Meng Wang, Baylor Col. of Med., Kathryn Wellen, University of Pennsylvania Perelman School of Medicine

Meet with world-renowned BMB scientists during the midday poster sessions for an informal scientific discussion.

ASBMB Earl and Thressa Stadtman Distinguished Scientist Award

LECTURE
1:15 PM – 1:45 PM  CONVENTION CENTER, VALENCIA BALLROOM A

1:15 Introduction
1:20 349.1 Thirty Years of Protein Tyrosine Phosphatases - From Housekeeping Enzymes to Therapeutic Targets. N. K. Tonks, Cold Spring Harbor Laboratory

ASBMB DeLano Award for Computational Biosciences

LECTURE
1:45 PM – 2:15 PM  CONVENTION CENTER, VALENCIA BALLROOM A

1:45 Introduction
1:50 350.1 Designing new protein structures and functions with the molecular modeling program Rosetta. B. Kuhlman, University of North Carolina

ASBMB Herbert Tabor Young Investigator Award, a Journal of Biological Chemistry Symposium

SYMPOSIUM
2:30 PM – 3:45 PM  CONVENTION CENTER, W303ABC

CHAIR: G. DeMartino

Sponsored by: Journal of Biological Chemistry, an ASBMB journal

Four out of the five early-career winners of the 2019 Journal of Biological Chemistry/Herbert Tabor Young Investigator Awards will present their current research during this symposium. Kirstine Lavrsen, Danish Cancer Society, is a 2019 Herbert Tabor Y.I. Award winner who will present in 2020.

2:30 351.1 Dynamic Disulfide Exchange in a Crystallin Protein in the Human Eye Lens Promotes Cataract-associated Aggregation. E. Serebryany, Harvard University

2:45 351.2 Antibody Recognition of a Polysaccharide Common to many Microbes and Biofilms. C. Soliman, Royal Melbourne Institute of Technology University

3:00 351.3 Metabolic Origin of the Fused Aminoacyl tRNA Synthetase, Glutamyl-Prolyl tRNA Synthetase (EPRS). S. M. Eswarappa, Indian Institute of Science

3:15 351.4 Mallostery: Ligand-dependent Misfolding as a Strategy for Protein Regulation. M. Wangeline, University of California, San Diego

3:30 351.4 Can Cellular Labile Iron Pool be Considered Solely a Pro-oxidant Species in Cells? F. C. Damasceno, Universidade de Sao Paulo
**Cancer Signaling and Therapeutics**

**SYMPOSIUM**

**2:30 PM – 3:45 PM**  
CONVENTION CENTER, W304GH

- **2:30**  
  647.44 Strength in Complementary Weaknesses: An Effective Dual Specificity Antibody Approach against Ovarian Cancer.  
  J. Tushir-Singh, University of Virginia Cancer Center

- **2:45**  
  647.8 Gemcitabine Sensitivity is Improved in Pancreatic Cancer by CYR61/CCN1-Depletion-Mediated Upregulation of dCK and Suppression of CTGF.  
  A. Ghosh, Kansas City VA Medical Center

- **3:00**  
  647.35 Pimavanserin tartrate: A potential drug for pancreatic cancer therapy in future.  
  S. Ramachandran, Texas Tech University Health Sciences Center

- **3:15**  
  647.9 Antimetastatic potential of Atovaquone against triple negative breast cancer: Involvement of the integrin-FAK-Src pathway.  
  N. Gupta, Texas Tech University Health Sciences Center

- **3:30**  
  647.6 ABC Transporter-Mediated Multidrug Resistance in Prostate Cancer Cells.  
  T. O. Famuyiwa, Florida Atlantic University

**Enzymes and Enzyme Cofactors**

**SYMPOSIUM**

**2:30 PM – 3:45 PM**  
CONVENTION CENTER, W307AB

- **2:30**  
  468.4 Structural Dynamics Couple Substrate Recognition with Allosteric Domain Communication in Nonribosomal Peptide Synthetases.  
  D. P. Frueh, Johns Hopkins School of Medicine

- **2:45**  
  633.28 Understanding oxygen tolerant [Fe-Fe] hydrogenase.  
  A. Silakov, Pennsylvania State University

- **3:00**  
  633.19 Nitrite and NO Processing by CblC: A Human B12 Trafficking Chaperone.  
  R. N. Mascarenhas, University of Michigan Medical School

- **3:15**  
  633.12 Kinetic Advantages of the Run-On Oligomer or Filamentation Mechanism of a DNA Cleaving Enzyme.  
  N. C. Horton, University of Arizona

- **3:30**  
  784.3 The lower base of corrinoid small molecules regulates reductive dehalogenase enzyme function in Dehalococcoides species.  
  N. Jiang, University of Tennessee

**Metabolism and Bioenergetics**

**SYMPOSIUM**

**2:30 PM – 3:45 PM**  
CONVENTION CENTER, W304EF

- **2:30**  
  486.10 Isoleucine Serves as a Precursor for the Synthesis of β-Alanine in Plants.  
  K. A. Rouhier, Kenyon College

- **2:45**  
  652.7 Serum Lipoproteins Regulate Hypoxia-Inducible Factors Under Normoxia.  
  P. Espenshade, Johns Hopkins University School of Medicine

- **3:00**  
  487.19 Functional decline in brown adipose progenitors during BAT remodeling.  
  H. Ruan, University of Minnesota

- **3:15**  
  652.2 Autophagy modulates lipid metabolism in Liver Kinase B1 (LKB1)-deficient Kras-driven lung tumorigenesis.  
  V. D. Bhatt, Rutgers University

- **3:30**  
  M. R. McReynolds, Princeton University
355 Post-translational Modifications
SYMPOSIUM
2:30 PM - 3:45 PM  CONVENTION CENTER, W304CD

2:30  478.3  A Tail of Kinase Regulation: How C-termini Modulate CK1 Substrate Phosphorylation. S. Cullati, Vanderbilt University

2:45  463.7  Modulation of CHIP-mediated degradation through posttranslational modifications. R. Page, Miami University

3:00  476.17 ERK Controls Myosin Phosphatase and Cell Migration through RSK Phosphorylation of MYPT1. M. C. Mendoza, University of Utah

3:15  473.4  Proteomic and Phosphoproteomic Signatures of Severe Alcoholic Hepatitis. J. Hardesty, University of Louisville

3:30  651.9  Mitochondrial Oxidative Stress And Adipocyte Protein Carbonylation. Y. Huang, University of Minnesota

356 Protein Interactions, Modifications and Regulation
SYMPOSIUM
2:30 PM - 3:45 PM  CONVENTION CENTER, W306AB
CHAIR: R. Tomko

2:30  466.5  Expanded Coverage of the 26S Proteasome Conformational Landscape Reveals Mechanisms of Peptidase Gating. R. J. Tomko Jr., Florida State University College of Medicine

2:45  466.3  A Ubiquitin-dependent Switch during Assembly of the Proteasomal ATPases Mediated by Not4 Ubiquitin Ligase. S. Park, University of Colorado Boulder

3:00  461.3  Evolution of differential 4-1BB signaling in Human and Murine immune system. A. Bitra, La Jolla Institute for Immunology

3:15  461.25 Mechanism of gosdermin D recognition by inflammatory caspases and their inhibition by a gasdermin D-derived peptide inhibitor. J. Yang, Case Western Reserve University

3:30  632.1  Palmitoylation-Dependent Regulation of RhoGTPase Signaling and Cardiac Pathophysiology. M. J. Brody, Cincinnati Children's Hospital

357 RNA Regulatory Mechanisms and Disease
SYMPOSIUM
2:30 PM - 3:45 PM  CONVENTION CENTER, W304AB

2:30  460.9  Human Tat-specific Factor 1 Binds and Exports HIV-1 RNA to the Cytoplasm. H. Miller, High Point University

2:45  625.5  A regulatory interplay: hnRNP A1 and AUFI compete for the same IRES domain to regulate viral translation in EV71. J. Davila-Calderon, Case Western Reserve University

3:00  627.8  Molecular and Functional Dissection of Distinct mRNA Export Pathways. S. Obado, The Rockefeller University

3:15  778.11 The role of lncRNA HOTAIR in the regulation of glucose metabolism. M. Obaid, University of Texas at Arlington

3:30  460.8  Uncovering Caprin1’s biological role to understand it’s function in autism. C. Martinez, New York University School of Medicine
358 Biotherapies and Immunotherapies
SYMPOSIUM
3:00 PM – 5:00 PM  CONVENTION CENTER, W305AB
CHAIRS: F. Farzaneh and P. Stambrook
Guest Society: Society for Experimental Biology and Medicine

3:00  Cells, genes and proteins for active immune therapy of cancer. F. Farzaneh, King’s College London
3:40  Ion Channels in Cancer Immunosurveillance. L. Conforti, University of Cincinnati
4:20  Vaccination against neoantigens induced in concurrent and future tumors. E. Gilboa, University of Miami

359 Advances in Drug Delivery
SYMPOSIUM
4:00 PM – 5:15 PM  CONVENTION CENTER, W307AB
CHAIR: S. Booker

4:00  472.13 Massively Parallel Protein Design to Develop Enzymes for Next-Generation Chemotherapy. B. J. Yachnin, Rutgers, The State University of New Jersey
4:15  782.17 Lipophilic Modification of an Anti-Cancer Stem Cell Agent Improves Pharmacokinetic and Anti-Cancer Properties. S. Morla, Virginia Commonwealth University
4:30  634.10 Nature-Made Catalytic Antibody Platform: From Heisenberg’s Uncertainty Principle to the Brink of Medical Interventions. S. Planque, Covalent Bioscience Inc
4:45  476.18 Optogenetic activation and inactivation of the neurotrophin pathway in live cells. P. Mondal, University of Illinois Urbana Champaign
5:00  634.6 Discovery of a Plant-derived Cell-penetrating Proteasome Inhibitor. A. Kam, Nanyang Technological University

360 Biochemistry and Biology of Cancer
SYMPOSIUM
4:00 PM – 5:15 PM  CONVENTION CENTER, W304GH

4:00  647.41 Overexpression of PCDH7 and SET Leads to Aberrant ERK and AKT Signaling and Promotes Prostate Cancer Progression. G. Shishodia, LSUHSC-Shreveport
4:15  647.30 2D vs 3D – Triple negative breast cancer spheroid formation induces quantitative heterogeneity of VEGF and PDGF receptor profiles and modulates cytosolic phosphorylation. A. Oyirifi, University of Illinois
4:30  644.5 Expression of chondroitin sulfotransferases (CHST3,7,11,15) and chondroitin sulfatases in normal and malignant prostate stroma and epithelium. J. K. Tobacman, University of Illinois at Chicago
4:45  647.32 Protease-activated receptor 2 (PAR-2) biased agonism in ovarian cancer progression. N. R. Pawar, University of Maryland Baltimore School of Medicine
5:00  788.2 Spatiotemporal Control of Glycolysis Modulates ATP Generation and Enhances Restoration of Endothelial Barrier Function Following Inflammatory Injury. P. A. Gajwani, University of Illinois
361 Biochemistry of Organelles and Organelle Trafficking
SYMPOSIUM
4:00 PM – 5:15 PM  CONVENTION CENTER, W306AB
4:00  660.5 Exploring the functional role of an ancient mitochondrial fatty acid synthesis pathway. K. K. Dove, University of Utah
4:15  660.10 Acid Sphingomyelinase Deficiency Protects Mitochondria and Improves Function Recovery after Traumatic Brain Injury. S. A. Novgorodov, Medical University of South Carolina
4:30  659.3 4D cell biology: Big data image analytics and lattice light-sheet imaging reveal dynamics of clathrin-mediated endocytosis in stem cell-derived intestinal organoids. J. Schöneberg, UC Berkeley
4:45  657.5 PCID2 influences BRCA1/BARD1 Localization and Centrosome Duplication through its functions in Nuclear Protein and mRNA Export. K. K. Resendes, Westminster College
5:00  658.1 Cargo delivery to lysosome-related organelles universally relies on the recognition of sorting signal by adaptor proteins. S. Kook, Vanderbilt University School of Medicine

362 Glycan Biotechnology and Drug Development
SYMPOSIUM
4:00 PM – 5:15 PM  CONVENTION CENTER, W304CD
4:00  801.5 Synthesis and Development of peptidoglycan fragment microarray and probes to investigate innate immune signaling. J. Zhou, University of Delaware
4:15  634.7 Monofunctionalization with dextrans endows cell-penetrative properties to proteins. H. R. Kilgore, Massachusetts Institute of Technology
4:30  801.1 Protein Engineering and Glycan Optimization Improves Pharmcikinetics of an Enzyme Biologic 10-fold. D. T. Braddock, Yale University
4:45  471.13 Identification of a Naturally-occurring Heparin-binding Peptide Preferentially Targeting the Nucleolus. S. Loo, Nanyang Technological University
5:00  782.2 Glycosaminoglycans and Glycosaminoglycan Mimetics as Human Neutrophil Elastase Inhibitors for Cystic Fibrosis Management. D. K. Afosah, Virginia Commonwealth University

363 Obesity
SYMPOSIUM
4:00 PM – 5:15 PM  CONVENTION CENTER, W304EF
4:00  487.24 Molecular mechanism of cereblon-dependent down regulation of AMP-activated protein kinase. S. Yang, GIST
4:15  778.10 The role of IncRNA CRNDE in obesity-associated endothelial dysfunction. N. M. Nguyen, University of Nebraska, Lincoln
4:30  484.6 Influence of Gut Microbiome on Induction of Obesity. I. S. Hanafi, Spartan Health Sciences University
4:45  487.14 The influence of neonatal intake of curcumin on expression of genes associated with lipid metabolism and inflammatory cytokines: Implication on obesity. E. Mukwevho, North-West University
5:00  795.17 Hepatic Oleate Deficiency Represses De Novo Lipogenesis and Enhances Systemic Glucose Utilization Through FGF21 During High Carbohydrate Feeding. J. M. Ntambi, University of Wisconsin-Madison
364 RNA Editing and Alternative Splicing
SYMPOSIUM
4:00 PM – 5:15 PM CONVENTION CENTER, W304AB
4:00 627.4 Genetic Delivery of RNA Therapeutics to Alter the Expression of Oncogenic Transcripts in Glioblastoma. M. J. Hicks, Monmouth University
4:15 627.10 The Role of Adenosine Deaminase Acting on RNA (ADAR) Family of Proteins in Hyperoxia Induced Acute Lung Injury. R. Soundararajan, University of South Florida
4:30 459.1 The Roles of the Essential Proteins Dib1, Prp31, Prp6 and the U5 snRNA During Splicing. A. Embry, Trinity University
4:45 627.2 Energetics and Interfacial Interactions of Spliceosomal Protein Dib1 Predicted with MD Simulations. R. Goldstein, Trinity University
5:00 459.3 The Synaptosome Associated Protein-23 is Necessary for Skeletal Muscle Myogenesis. J. Gamarra, University of North Carolina at Chapel Hill

365 Signal Transduction and Cellular Regulation
SYMPOSIUM
4:00 PM – 5:15 PM CONVENTION CENTER, W303ABC
4:00 477.10 The PH Domain of ASAP1 Binds N terminus of Arf1 in Presence of PIP2 for Efficient GTPase-activating Protein Activity. N. S. Roy, National Cancer Institute, National Institutes of Health
4:15 476.28 Lipid bilayer stress-activated IRE-1 modulates autophagy during endoplasmic reticulum stress. G. Thibault, Nanyang Technological University
4:30 792.3 Higher-Order Clustering of the Transmembrane Anchor of DR5 Drives Signaling. T. Fu, Boston Children’s Hospital
4:45 788.4 Inducibility and role of mTORC1 signaling in intestinal epithelial cells as a result of cell differentiation. H. Kaur, University of Nebraska-Lincoln
5:00 478.11 A Cushing Syndrome Mutation of Protein Kinase A C-subunit Disrupts the Internal Allosteric Network Affecting Regulation and Substrate Specificity. C. Walker, University of Minnesota, Twin Cities
The ASBMB job board has listings from academia, government and industry. Looking for your next hire? Members can post jobs for free.

Grant-writing training
This Washington, D.C.-based summer workshop yields impressive results; 75% of participants end up with successful grants within two years.

Communications training
Can’t travel for training? Take the ASBMB’s “The Art of Science Communication” online course to gain the skills, knowledge and mindset necessary to become a great presenter.

Small meetings
Small meetings are offered throughout the year on a wide range of scientific topics. Interested in organizing a meeting? Members can work with the ASBMB to plan and organize a special symposium.

Careers blog
Every week, our careers blog presents insights into the current job market.

Webinars
We offer live webinars and recordings of past webinars on topics including getting funding, salary negotiation, research careers in industry and more.

Video tutorials
Our video series has tips on networking, dressing professionally, building a personal brand and more.

Learn more at booth #1421

asbmb.org/careers
# ASBMB Posters

**Sunday April 7**

**Exhibit Hall**

Poster set up by: 9:00 AM  
Poster display: 9:00 AM — 4:00 PM  
Poster removal: 4:00 — 6:00 PM

**Author at boards:**

Even boards present: 12:15—1:00 PM  
Odd boards present: 12:45—1:30 PM

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**BMB Education and Professional Development**

**E1 454.1** Student Thinking About Metabolic Pathway Dynamics and Regulation. K. Bhatia, University of Georgia

**E2 454.2** Illuminating Biochemistry Education with Infographics. M.B. Borror, Our Lady of the Lake University

**E3 454.3** Developing a Physical Model of HigB Toxic and its Endonuclease Cleavage Mechanism. A. Chhabra, Nova Southeastern University

**E4 454.4** Analysis of student attitudes on reflective minute paper responses in upper level biology classes. J.P. Chan, Juniata College

**E5 454.5** Do Student Misconceptions about Mutations Persist throughout College Education? B. Couch, Middle Tennessee State University

**E6 454.6** Project 80: A system that produces students who use need finding, targeted marketing strategies, and primary literature to address scientific misunderstandings that fuel hate and social ill. T. H. Frank, The Nueva School

**E7 454.7** A Research-Driven Laboratory and Literature Course for Senior Biochemistry/Molecular Biology Undergraduates. C. Fuleihan, Wabash College

**E8 454.8** Making Experiential Education in the Lab Accessible: Reflections of Deaf or Hard-of-Hearing Students and Lab Advisors. A.U. Gehret, Rochester Institute of Technology/NTID

**E9 454.9** Development of an Assessment Tool for Evaluating Undergraduate Student Understanding of Pedigree Analysis. Z. Grimes, Middle Tennessee State University

**E10 454.10** Use of a Popular-press Non-fiction Book to Improve Student Learning and Vocational Outcomes in a Biochemical Techniques Course. B.L. Hall, Grand View University

**E11 454.11** Developing resources to support CURe projects investigating protein-protein interactions, post translational modification and gene regulation for the MDH CURe Community (MCC). K.L. Huisinga, Malone University

**E12 454.12** Lee University S-Stem Update: Cohort 2 What We Learned. A.G. Jackson, Lee University

**E13 454.13** Investigating Undergraduate Student Misconceptions Regarding Pedigree Analysis. O. James, Middle Tennessee State University

**E14 454.14** A Toxic Tragedy: The Molecular Story of the Toxin YafQ’s Regulation of Protein Translation. D. Kerska, University of Minnesota Rochester

**E15 454.15** A one semester biochemistry lab course with a partial research component. C.K. Park, University of Arizona

**E16 454.16** The “Avocado Lab:” an inquiry-based laboratory experiment to interrogate the function of polyphenol oxidase in avocado browning. S. Peres, Rollins College

**E17 454.17** Crowdsourcing the Development of Assessments for Biomolecular Visual Literacy. K. Procko, University of Saint Joseph

**E18 454.18** Undergraduate Student (Mis) understandings of Mutations. R. Seepelt-Thiemann, Middle Tennessee State University

**E19 454.19** Academic and Student Anxiety towards Active Learning: Perceptions of Evolving Teaching Practices on Performance and Wellbeing. C.J. Speed, Monash University

**E20 454.20** Visual Literacy: Using Art to Teach Biochemistry. J.T. Tansey, Otterbein University

**E21 454.21** Integrating civic scientific literacy skills in a Biochemistry course. A.T. Taylor, Wabash College

**E22 454.22** Expanding Opportunities for Undergraduate Research: CURes and Beyond. K. Teter, University of Central Florida

**E23 454.23** Mentorship for developing course-based undergraduate research experiences (CURes): The Council on Undergraduate Research Mentorship for Integrating Research into the Classroom (MiRIC) program. M.J. Wolniak, Hampden-Sydney College

**E24 454.24** Sustained mentorship promotes the development of active learning strategies in undergraduate biology classrooms: Evidence gained from the Promoting Active Learning and Mentoring (PALM) Network. M.J. Wolniak, Hampden-Sydney College

**E25 454.25** Are You a Scientist? Exploring Science Identity in a Structural Biology Outreach Program. B.N. Wyatt, Rochester Institute of Technology

**E26 454.26** ASBMB Student Chapter and Emory Science Advocacy Network (ES- cAN) Collaborations to Promote Diversity of Scientists in Advocacy and Policy. J.L. de Amorim, Emory University

**455**

**Big Data in Molecular Life Sciences, Student Projects, Labs and the Classroom**

**E17 455.1** Novel Research Projects in the Bioinformatics Classroom. J.A. Bennett, Otterbein University

**E18 455.2** Molecular Modeling of the PTF-J and PTF-L Heterotrimeric Complexes, 3-D Printing, Overexpression, Purification and Structural Analysis of the Complexes using Cryo-Electron Microscopy and PfTα gene Expression Patterns During Pancreas Development in Zebrafish. W. Coats, DISD

**E19 455.3** Examination of Molecular Dynamic Simulations for Glucokinase (GCK) Mutations in Type 2 Diabetes. A. Rios-Rosales, Saint Leo University

**E20 455.4** Purification and Proteomic Analysis of Major Whey Proteins in a Nutritional Supplement: A Six-Week Undergraduate Independent Project. R. Stemon-Marr, Siena College

**456**

**Institutional Change and Faculty Perspectives about Teaching in the Life Sciences**

**E11 456.1** Increasing Research Opportunities for Deaf and Hard-of-Hearing Students. P. Craig, Rochester Institute of Technology

**E12 456.2** Unifying the Biochemistry Program of a Consolidated University through an ASBMB Student Chapter. N. Davis, Georgia Southern University

**E13 456.3** Statistical analysis of academic metrics as predictors of success on the MCAT for post-baccalaureate pre-medical students. Y. Dobydneva, GWU School of Medicine and Health Sciences

**E14 456.4** UR in Curriculum: DNA Barcoding Research Tool can be Scaled from Traditional to Course-based Research Project with Ease. N. Gadura, Queensborough Community College, CUNY
457 DNA Damage and Repair

E40 457.1 Deleterious Effects of Harris County Watersheds on HT29 Colon Cells. D. A. Abdullah-Smoot, Texas A&M University

E41 457.2 Signaling by the Epidermal Growth Factor Receptor regulates DNA repair. I. Boras, Ryerson University

E42 457.3 A Mutation in Rad54 that Affects PCNA Interaction Results in Decreased Homologous Recombination Events Following Double-Strand Breaks. C. H. Dietrich, Stevenson University

E43 457.4 Hookah and Vaping: Safe Nicotine Delivery Systems? R. Dunham, CSU, Stanislaus

E44 457.5 Roles of High Mobility Group Box Proteins in Nucleotide Excision Repair-associated Processing of DNA Inters strand Crosslinks. J. Gerberich, The University of Texas at Austin

E45 457.6 Investigating the Effects of Cancer Mutations on Mre11 Function and the DNA Damage Response. C. Harris, Longwood University

E46 457.7 Cancer-associated variants of POLQ induce genomic instability. A. Headrick, Linfield College

E47 457.8 Effects of Rfa2 N-Terminal Phosphorylation on Adaptation Deficient Yeast. C. A. Hernandez, North Dakota State University

E48 457.9 Cruciform DNA structure formed at short inverted repeats: A source of genetic instability in vivo. P. P. Mandke, Dell Pediatric Research Institute, The University of Texas at Austin

E49 457.10 Elucidating the role of Mre11 gene variants in cancer. C. Mateos, Linfield College

E50 457.11 The effects of mCl inhibition on RecA activity. N. A. Mbele, University of Wisconsin-Madison

E51 457.12 Alterations in Linker Histone Dynamics upon DNA Damage. C. McKnight, University of Mississippi Medical Center

E52 457.13 Ku65-Hera deficiency compromises homologous recombination and enhances vulnerability to PARP inhibition in BRCA-proficient breast cancers. E. Motea, Indiana University School of Medicine

E53 457.14 DNA Damage Response Activates Respiration to Elevate dNTP Levels and Promote Cell Survival in Budding Yeast. S. Nagar, St Johns University

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E420 487.17 Dietary iron restriction improvement mitochondrial dysfunction and oxidative stress, and iron supplementation increases oxidative damages in kidneys mitochondria of streptozotocin-diabetic rats. D. Peña-Montes, Universidad Michoacana de San Nicolás de Hidalgo

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Structural Biology

Immune focusing to a broadly protective subdominant viral epitope by antigen engineering. G. Bajic, Harvard Medical School

Crystal Structure of Poly(Aspartic Acid) Hydrolase-1. A. L. Bolay, Georgia Southern University

A Physical Model of Mycobacterium tuberculosis MazF-mt6 Illustrates the Catalytic Residues Needed for 23S rRNA Cleavage via a Proton-Relay Mechanism. A. Dobbins, Campbell University

Cystalization of SARS Coronavirus 3CL Protease to Identify Inhibitor Targets. S. Z. Fernandes, Florida International University

Development of Enhanced Conformational Sampling Methods for GPCRs. E. Serrano, California State University, Northridge

RNA Exclusion Mechanism of the Cytidine Deaminase APOBEC3G. N. Verdiguel, University of Central Florida

Comprehensive snapshots of an unusual reaction cycle for an atypical protein tyrosine phosphatases (PTP). H. Wang, NIHES

Cannabinoid Receptor CB2 Structure and CB2/Gi Signaling Mechanisms. C. Xing, University of Pittsburgh

Biotherapies and Immunotherapies

Re-polarization of tumor-associated macrophages via reconstituted high-density lipoprotein nanoparticles. A. S. Dossou, UNT Health Science Center

Cellulose hydrogels as delivery vehicle of immunomodulatory mesenchymal stem cells. A. S. Flores, University of Puerto Rico

Sensitizing Prostate Cancer Cells to IL-27 immunotherapy by Chemotherapy Induced Immunogenic Modulation. S. Kumar, Purdue University

Probiotic Effects of Yeasts on Virulence of Candida Species. L. Kuney-it, Worcester Polytechnic Institute

Molecular Medicine

Factors contained in the expansion medium regulate the expression stem cell markers CD146 and SUSD2 on human placenta-derived mesenchymal stromal cells and modulate their differentiation capacity in vitro. T. Abruzzese, University of Tuebingen Hospital

Codon Optimization of Gene Editing CRISPR-SaCas9 Augments Protein Expression in Human Liver Cells to Boost in vivo Therapeutic Application. B. Cheng, The Nueva School

Increased Endoplasmic Reticulum Amino Peptidase-1 in Sickle Cell Disease: Role of Hypoxia. N. Echevarria-Lorenzo, Division of Endocrinology, Diabetes and Hypertension, Department of Medicine, Brigham and Women's Hospital, and Harvard Medical School

Discovery of a novel small-molecule activator that corrects G6PD deficiency. S. Hwang, Stanford University

The role of Plasminogen Activator Inhibitor Type-2 (PAI-2) in modulating venous thrombus resolution. T. A. Johnson, University of Maryland School of Maryland, Center for Vascular and Inflammatory Diseases

Morpho-structural Peculiarities of Blood Formed Elements and Clinic-pathological Characteristics in Women with Uterine (Benign, Malignant) Tumors in Menopausal Age. N. Kotrikadze, Ivane Javakhishvili Tbilisi State University

Akt1 and Akt2 Isforms Play Distinct Roles in the Development of Inflammation and Fibrosis during Alcoholic Liver Disease. K. Reyes Gordillo, The George Washington University

Combination of Ionizing Radiation with Glutaminase Inhibition Improves Treatment Response in Head and Neck Squamous Cell Carcinoma. C. A. Wicker, University of Cincinnati
ASBMB Posters
MONDAY APRIL 8

Exhibit Hall
Poster setup by: 9:00 AM  Poster display: 9:00 AM —4:00 PM  Poster removal: 4:00—6:00 PM

Author at boards:
Even boards present: 11:45—12:30 PM
Odd boards present: 12:15—1:00 PM

1-32  Active Learning in the Molecular Life Sciences
33-34  Service Learning Initiatives, Community Involvement and Context Dependent Biochemistry Instruction
35-46  Genome Dynamics: DNA Replication, Repair and Recombination
47-59  CRISPR/Genome Engineering
60-73  Epigenetic Modifications of DNA and RNA
74-82  Histone Modifications
83-85  Transcriptomics
86-87  RNA Polymerases
88-98  RNA Structure, Folding and Dynamics
99-102  CRISPR: Methods and Applications
103-113  RNA Processing and Editing
114-117  Ribosomes
118-126  Mechanisms and Regulation of Protein Synthesis and Dynamics
127-133  tRNA and tRNA Synthetases
134-183  Protein Interactions and Binding
184-198  Protein Modifications
199-229  Enzyme Mechanisms, Kinetics and Energetics
230-244  Chemical Biology, Drug Discovery and Bioanalytical Methods
245-267  Chemical Probes, Biosensors and Biomarkers
268-278  Bioanalytical and Biophysical Methods
279-282  Next-Generation Sequencing
283-284  Lipidomics, Pharmacogenomics and Toxicogenomics
285-291  Metabolomics
292-293  Glycomics
294-298  Systems Biology and Regulatory Networks
299-308  Computational Biology and Bioinformatics
309-313  Hormone Signaling in Animals and Plants
314-318  Extracellular Matrix and Cell Signaling
319-323  Phosphatases
324-341  Apoptosis and Cell Death
342-389  Cancer Signaling and Therapeutics
390-397  Bacteria and Parasites: From Microbiome to Antibiotics
398-410  Microbe/Parasite-Host Interactions
411-419  Antibacterial Targets and Drug Discovery
420-444  Oxidative Stress and Reactive Oxygen
452-469  Metabolism and Cancer
470-471  Biofuels and Lipid Metabolizing Enzymes
472-485  Lipids and Inflammation
486-494  Membrane Proteins and Lipid Interactions
495-509  Membrane Transport and Channels
510-513  Biochemistry of Organelles and Organelle Trafficking
514-515  Organelle Structure and Biogenesis and Disease Association
517-521  Vesicle Trafficking and Cargo
522-534  Mitochondria in Health and Disease
535-537  Organelle Dynamics and Dysfunctions

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**ASBMB posters**

**MONDAY**

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**Active Learning in the Molecular Life Sciences**

- **617.1** Engaging Nontraditional Students by CURE-ing Microbes on Ocean Plastics. A. Barral, National University
- **617.2** Creating and Using the Malate Dehydrogenase CURE Community to Explore Critical Aspects of Sustainable Protein Centric CUREs. J.K. Bell, University of San Diego
- **617.3** Managing course embedded research projects of any size using the Open Science Framework. C. Berndsen, James Madison University
- **617.4** Exploring Enzyme Catalysis: A 3D Model of the Mycobacterium tuberculosis MazF-mtG toxin. R. Billings, Lane College
- **617.5** Serum albumin as a model protein in designing an undergraduate laboratory course in biochemistry. S.E. Browning, Stephen F. Austin State University
- **617.6** Crowd-sourcing CRISPR: A Course-Based Research Project to Investigate the Impact of Chromatin Environment on Double-Strand Break Repair While Enhancing Student Learning. R.C. Burgess, Stevenson University
- **617.7** A Protein Centric CURE That Promotes Student Collaborations Across Different Universities. K.P. Callahan, St. John Fisher College
- **617.8** Infrared Thermography Applied to the Study of Enzyme Kinetics. D.A. Cochrane, Ithaca College
- **617.9** Gains in Affect and in Scientific Literacy from Peer-Led Team Learning in a Literature-Based First-Semester Biochemistry Course. D.R. Dries, Juniata College
- **617.10** Using Eye-Tracking Data to Determine what Biochemistry Students Attend to when Completing a Three-Dimensional Modeling Activity. S. Freeman, Kennesaw State University
- **617.11** Integration of Authentic Research into an Undergraduate Laboratory Course: Design and Synthesis of a Gene Therapy Vector. K.V. Gousse, Monmouth University
- **617.12** A Comparison of Instructional Design Approaches for Teaching Noncovalent Interactions. S.M. Halmo, University of Georgia
- **617.13** A Case Study of Case Studies: Writing Choose-your-own-experiment Cases and Avoiding Common Pitfalls that Decrease Case Study Use. J.K. Hines, Lafayette College
- **617.14** Molecular CaseNet: Developing case studies using molecular representations for use in introductory chemistry, biology and biochemistry classes. H. Jakubowski, College St. Benedict/St. John’s University
- **617.15** Using Forensic Science as an Engagement Tool for Student Retention and Student Success in General Biology. C. Jones, Lane College
- **617.16** CRISPR-cas9 gene editing in undergraduate laboratory experience. H.L. Kee, Stetson University
- **617.17** Supporting Learning in the Undergraduate Biochemistry Laboratory at an Australian University Through a 3-Phase Approach Using Technology, eNotebooks and Partnering with Students. T. Kuit, University of Wollongong
- **617.18** Utilizing Inquiry Based eLearning Modules for Pre-Lecture Content Delivery in a Molecular Biology Course at an Australian University to Facilitate Active Learning in the Lecture Theatre. T. Kuit, University of Wollongong
- **617.19** Use of the Pope Engagement Index to Measure the Cognitive Load of Biochemistry Students while Completing a 3D Physical Serine Protease Modeling Activity. K. Linenberger Cortes, Kennesaw State University
- **617.20** Structural Biochemistry and the Opioid Crisis: Using the Primary Literature to Teach Core Concepts and Underscore the Societal Relevance of Biochemical Research. J. LOCHNER, Lewis and Clark College
- **617.21** Implementation of a CRISPR/Cas9 course-based undergraduate research experience (CURE) in the biochemistry curriculum at a small private college. J.A. Maki, The College of St. Scholastica
- **617.22** Journal Club 2.0: A reproducible, high yield, self-propagating method of training students to analyze primary literature via student-to-student training. K. McGraw, The Nueva School
- **617.23** Innovative Biochemistry Course Redesign to Integrate Basic and Clinical Sciences. N. Nusair, York College of Pennsylvania
- **617.24** Adding Spice to the Lab with BASIL: Combining Wet-Lab Protein Biochemistry with Computational Analysis to Analyze Proteins of Unknown Function. M. Pikaart, Hope College
- **617.25** A Multi-year Biochemistry Lab Experiment Using a Putative Enzyme from Arabidopsis thaliana. K.A. Rouhier, Kenyon College
- **617.26** Power of PCR pre-labs and a co-mentoring community group: Increasing impacts on skills and confidence. B. Smith-Kellings, University of Minnesota
- **617.27** Iterative Design of 3D Physical Serine Protease Models based on Biometric Data to Optimize Cognitive Load and Decrease Misconceptions in Undergraduate Biochemistry. C.R. Terrell, University of Minnesota Rochester
- **617.28** Developing a 3D Physical Model of 16S rRNA m1A1408 Methyltransferase, NpmA to Enhance Student Understanding of the Mechanisms of Resistance to Aminoglycosides. S. Toledo, Hamline University
- **617.29** The BiosProject: An Erasmus+ European Action for Enhancing Bioinformatics and Computational Biology Knowledge, Skills and Literacy. G.M. Trovato, European Medical Association
- **617.30** Peer-Led Team Learning and Course-based Undergraduate Research Experiences in General Biology and General Chemistry. M. Van Stry, Lane College
- **617.31** Integrating a Research-Based Experience in the Biochemistry I Laboratory: From Separation of Colored Compounds to Protein Purification. S.M. Sherrer, St. Mary’s College of Maryland
- **617.32** XRT: A reproducible and scalable training system that produces students capable of conducting novel molecular biology research. H. Zarrinnegar, The Nueva School
618
Service Learning Initiatives, Community Involvement and Context Dependent Biochemistry Instruction

E33 618.1  A Microbe for Ohio: A Service Learning Project That Swept the State. J.A. Bennett, Otterbein University

E34 618.2  “A Day in the Clinical Laboratory!” STEM Outreach with St. Louis High Schools. V. Mak, Saint Louis University

619
Genome Dynamics: DNA Replication, Repair and Recombination

E35 619.1  Acinetobacter and Moraxella OriCs are Functional as Chromosomal Replication Origin Transplants in E. coli. A. Alqahtani, Florida Institute of Technology

E36 619.2  BRC7 domains contain an intrinsic post-translational modification (PTM) recognition code that affects it stability. J. Davis, Meharry Medical College

E37 619.3  G-Quadruplex Loop Length Regulates PARP1 Enzymatic Activation. A. Edwards, University of Arkansas for Medical Sciences

E38 619.4  The Role of Epigenetics in the Control of Neural Development. K.A. King, USAT

E39 619.5  Extensive DNA Repeats Residing in Orthologs of PKD1 Correlate With Inactivating Mutagenesis and Polycystic Kidney Disease. E. Larson, Western Michigan University School of Medicine

E40 619.6  Modulation of gene expression by Salvia hispanica seed extract in MC3T3 cells. D.M. Mendez, University of Texas Rio Grande Valley

E41 619.7  Mechanisms of DNA ligation. P. O’Brien, University of Michigan

E42 619.8  Mutational Analysis of DNA-Amino Motifs in E. coli OriC Reveals Multiple Modes for Bacterial Replication Origin Activation. K. Gyman, Florida Institute of Technology

E43 619.9  Counting R-loops: A Novel Quantification Method for Nuclear DNA-RNA Hybrids. P.S. Ramirez, New Mexico State University

E44 619.10  Ataxia telangiectasia and Rad3-related kinase (ATR) may prevent replication stress in planarian during regeneration. N. Sawye, University of St. Thomas

E45 619.11  A compound heterozygous mutation in MCM10 causes NK cell deficiency. M.M. Schmit, University of Minnesota

E46 619.12  Suppression of template switching in postreplication gaps via Uup and RadD proteins. S.C. Thimesch, University of Wisconsin-Madison

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CRISPR/Genome Engineering


E48 620.2  Generation of an Endogenous Dominant Negative Allele of chd5 Using a Novel Homologous Recombination Strategy to Reveal the Role of chd5 in Tumor Suppression and Neural Differentiation. E. Denning, Purdue University

E49 620.3  Genome Editing of a Secondary Alcohol Dehydrogenase Gene by CRISPR-Cas9 Technology. J. Huang, Western Illinois University

E50 620.4  Kinetic Basis for Improved Specificity of CRISPR/Cas9 High Fidelity Variants. M. Liu, The University of Texas at Austin

E51 620.5  Simultaneous Delivery of CRISPR/Cas and Donor DNA using Cell-Penetrating Peptide-Adaptors. M.M. Mbuy, Kennesaw State University

E52 620.6  DNA Replication Genes Implicated in Heterochromatin Modification. T.A. Moghul, Medgar Evers College

E53 620.7  Differential nicking patterns of Cas12a variants. K. Murugan, Iowa State University

E54 620.8  Mutagenesis of de novo genes via CRISPR-Cas9 in Drosophila Melanogaster. J. Nicosia, SUNY Geneseo

E55 620.9  Fine Tuning of Hemoglobin Switching and Erythropoiesis. M.P. Park, KUMC

E56 620.10  Glia Maturation Factor Gene Editing Improves Neurocognitive Function in an Alzheimer’s Disease Mouse Model. S.P. Raiwar, University of Missouri, School of Medicine, Department of Neurology

E57 620.11  CRISPR/Cas9 Knockout-Based Genome Wide Screening for Pathways Associated with Organochlorine Pesticide Toxicity in Human Dopaminergic Neurons. M. Russo, University of Florida College of Pharmacy

E58 620.12  The Role of YAP Oncogene in Metastasis and Mechano-medicine. M. Sudol, National University of Singapore

E59 620.13  Development of split Cas9 for inducible dimerization modules. E.J. Vontalege, Iowa State University

621
Epigenetic Modifications of DNA and RNA

E60 621.1  Effects of thermal manipulation during embryogenesis and post-hatch acute heat stress on the mRNA expression dynamics of cytokines in broiler chickens. M.B. Al-Zghoul, Jordan University of Science and Technology

E61 621.2  Decoding Melanoma Antigen Gene (MAGE) Expression. A. Coleman, Fisk University

E62 621.3  Divulging the Enigma of Epitranscriptome in Plasmidium falciparium. G. Govindaraju, Rajiv Gandhi Centre for Biotechnology

E63 621.4  Epigenetic regulating enzyme activity modification in natural cinnamon extract treated MCF-7 breast cancer cells. S. Hall, Ohio Northern University

E64 621.5  The Effects of 5-Azacytidine on the Long-term Stability of HLA Class I Upregulation. A. Hansen, SUNY Geneseo

E65 621.6  Melanoma Antigen Genes (MAGEs): Drivers or Passengers in Carcinogenesis. J. Johnson, Fisk University

E66 621.7  Conformational and Mechanistic Studies of AlkB and AlkBH2 DNA Demethylases. T. Karabacheva-Christova, Michigan Technological University

E67 621.8  Inhibition of DNA Methylation Regulates Guanlycyclase/Natriuretic Peptide Receptor-A Gene Expression. P. Kumar, Tulane University Health Sciences Center

E68 621.9  Cypermethrin Induced Liver Toxicity: Altered Gene Expression and DNA Methylation. D. Mahna, Panjab University

E69 621.10  Quantitative Analysis of p73 Gene Promoter Methylation. A.A. Nicolaici, The University of Tampa

E70 621.11  Epigenetic Memory, Melanoma Antigen Genes (MAGEs) and Cancer. S. Ramathan, Fisk University

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Histone Modifications

E74 622.1 Alterations in Nucleosome Core Particle Dynamics in the Context of Paraganglioma. M. Amato, The Mayo Clinic

E75 622.2 Investigation into the Role of the Set2 Auto-Inhibitory Domain in H3K36 Methyltransferase Activity. C.S. Anyetei-Anum, UNC-Chapel Hill

E76 622.3 Loss of Polycomb Repressive Complex 2 impairs lung bronchiolar cell growth and underlies chronic obstructive pulmonary disease. A.L. Byrd, University of Kentucky

E77 622.4 Dynamics and Catalytic Mechanism of Histone Demethylase PHF8. C. Christov, Michigan Technological University

E78 622.5 Enhancer regulation by H3K4 methyltransferases MLL3/MLL4. K. Ge, NIDDK, NIH

E79 622.6 The Protein Arginine Methyltransferase 5-mediated Symmetric Dimethylation of Histone H4R3 as a Target of Endocrine Disruptors and its Molecular Consequences. K. Ghosh, Central University of Kerala

E80 622.7 Molecular Insights into Di-acyctylsine Histone Recognition by the BRPF1 Bromodomain. J. Obi, Albany College of Pharmacy and Health Sciences

E81 622.8 A non-enzymatic function associated with a putative histone demethylase regulates heterochromatin spreading and inheritance. G. Raiymbek, University of Michigan

E82 622.9 The maintenance of HM silencing is regulated by arginine residues of histone H4 tail in S. cerevisiae. S. Yeom, Kangwon national university

623 Transcriptionomics

E83 623.1 Changes in the Circular RNA Transcriprome During Inorganic Arsenic-Nucleated Epithelial-to-Mesenchymal Transition. R. Eleazer, University of Kentucky

E84 623.2 TRAPped in Translation: Optimized Astrocitary Ribosome Capture via TRAP Methodology for Translatome Sequencing. S.Y. Neshat, Northeastern University

E85 623.3 Analysis of cell-type restricted transcriptional networks in human photoreceptor neurons. S. Schumacker, James Madison University

624 RNA Polymerases

E86 624.1 Open complex stability regulates transcription initiation by E. coli RNA polymerase from the rRNA P1 promoter. G. Liao, University of Wisconsin-Madison

E87 624.2 Conserved mechanisms of transcriptional pausing regulate diverse RNA polymerases. M.Z. Palo, University of Wisconsin-Madison

625 RNA Structure, Folding and Dynamics

E88 625.1 Changing the Ligand Specificity of a Guanine Riboswitch by In Vitro Selection. H.P. Abdullah, United States Naval Academy

E89 625.2 Structural Importance of G-Quartet RNA1 3' CITE in Blackcurrant Reversion Particle Dynamics in the Context of Para-ganglioma. W. Wren, Indiana University Bloomington

E90 625.3 Structure-Function Analysis of the 3' CITE from the Blackcurrant Reversion Nepovirus Protein Synthesis. L.D. Baquero Galvis, Metropolitan State University of Denver

E91 625.4 Function and Mechanism of Hepatitis C Virus Non-structural Protein 3 (HCV NS3) Unfolding of Viral G-quadruplex RNA Structures. B.A. Belachew, University of Arkansas for Medical Sciences

E92 625.5 A regulatory interplay: hnrRNP A1 and AUF1 compete for the same IRES domain to regulate viral translation in EV71. J. Davila-Calderon, Case Western Reserve University

E93 625.6 Comparison of Tissue Preparation, Handling and Dissociation Methods for Total RNA. B. Easparro, Omni International

E94 625.7 Thermodynamic examination of magnesium ion binding in the M-box core 2 4x4 internal loop. S. Hall, Colorado College

E95 625.8 Thermodynamics of the Kink- Turn Motif in RNA. D.C. McCaskill, Colorado College

E96 625.9 Structural Studies on the HERV-K Nuclear Export RNA Element. E. McShane, United States Naval Academy

E97 625.10 Thermodynamic Analysis of a Bulged-G Motif. E. Moore, Colorado College

E98 625.11 Isothermal Calorimetric Measurements of Metal Ion Interaction with TAR RNA. J. Song, Colorado College

626 CRISPR: Methods and Applications

E99 626.1 Exploring Clustered Regularly Interspaced Short Palindromic Repeats Diversity in Soil Bacteria. S. Hassain, New Jersey City University

E100 626.2 BAPC-assisted-CRISPR-Cas9 Delivery into Nymphs and Adults for Heritable Gene Editing (Hemiptera). W.B. Hunter, USDA.ARS

E101 626.3 Methods of Mutation Efficiency Analysis for CRISPR/Cas9 in Fathead Minnow. M.J. Mielke, The College of St. Scholastica

E102 626.4 High-throughput analysis of CRISPR RNA seed sequence identity. P.T. Phan, Iowa State University

627 RNA Processing and Editing

E103 627.1 Identification of Tissue-Specific RNA Exosome Cofactors as an Approach to Define Disease Mechanism. J.L. de Amarim, Emory University

E104 627.2 Energetics and Interfacial Interactions of Spliceosomal Protein Dib1 Predicted with MD Simulations. R. Goldstein, Trinity University

E105 627.3 Impact of Cancer-Associated Mutations in SF3B1 on Yeast pre-mRNA Splicing. B.J. Groubert, University of Wisconsin-Madison
628 Ribosomes

E114 628.1 Mutating the Ribosome Peptidyl Transferase Center In Vitro. A. d’Aquino, Northwestern University
E115 628.2 Ribosomal ambiguity (ram) mutations promote 3OS domain closure and thereby increase miscoding. E.D. Hoffer, Emory University
E116 628.3 Alternative mechanisms of ribosome stalling rescue in the gram-negative bacterium Francisella tularensis. P. Srinivas, Emory University
E117 628.4 Binding to the ribosome by eIF4B drives yeast translational control in response to membrane stressors. S.E. Walker, University at Buffalo, SUNY

629 Mechanisms and Regulation of Protein Synthesis and Dynamics

E118 629.1 Mechanistic and Transcriptome-wide interrogation of eukaryotic translation initiation factor 3 (eIF3). C.E. Aitken, Vassar College
E119 629.2 Investigating the Role of Rps2 in Pre-Initiation Complex Stability Using an In Vitro Assay for mRNA Recruitment. A.L. DiNardo, Vassar College
E120 629.3 Role of Ribosome Recycling Factor in Translational Coupling as a Ribosome Releasing Factor. Y. Inokuchi, Teikyo University
E121 629.4 Determining the Physiological Basis of No-Go Decay Using sod1Δ Strains in Saccharomyces cerevisiae. A. Lobbs, Winona State University
E122 629.5 Methylation of Ded1 Affects Its Role in Translation. M. Murvin, University of Richmond
E123 629.6 Identification of DED1 Suppressors Using Genomic Sequencing. J. Piciw, University of Richmond
E124 629.7 Impact of Hexavalent Chromium Exposure on Global Translation and No-Go Decay. L. Seaberg, Winona State University
E125 629.8 A specialized post-transcriptional program in chemoresistant, quiescent cancer cells. S. Vasudevan, MGH-Harvard Medical School
E126 629.9 Molecular Dissection of the Mechanism of Eukaryotic Initiation Factor 3 (eIF3). K. Yoo, Vassar College

630 tRNA and tRNA Synthetases

E127 630.1 Structural Characterization of Rosetta Designed Amino Acyl-tRNA Synthetase Active Sites for Genetic Code Expansion. J.N. Beyer, University of Kentucky
E128 630.2 Towards a New Aminoacylation Assay for Alanyl-tRNA Synthetases. K. Duplessis, Carleton College
E129 630.3 Studying Lysine Acetylation of Aminoacyl-tRNA Synthetases in Escherichia coli. C. Fan, University of Arkansas
E130 630.4 Fungicide-induced melanin loss causes changes in transfer RNA modification pool in the radiation resistant fungi Cladosporium sphaerorespermum. M. Kelley, University of Cincinnati
E131 630.5 Pathogenic Mutations in a Human Mitochondrial Enzyme Affect Protein Stability. H. Kennicott, Carleton College
E132 630.6 Importance of the mIG37 modification and 32-38 pairing in tRNAProl(CGG) on decoding and tRNA stability. H. Nguyen, Emory University
E133 630.7 Transfer RNA post-transcriptional modifications of Bacillus subtilis. C. Pshouthas, University of Cincinnati

631 Protein Interactions and Binding

E134 631.1 Versatile Tools Toward Real-time Single-molecule Biology. K. Barbets, LUMICKS
E135 631.2 Designing a Stapled Peptide Inhibitor of CHF-NHE1 Protein-Protein Interactions. I. Bell, University of San Diego
E136 631.3 MUC4 interacts and stabilizes EGFR1 in a ligand-dependent manner leading to sustained oncogenic signaling. R. Bhatia, University of Nebraska Medical Center
E137 631.4 Mutational analysis of inter-domain binding interface of Grb7. A.K. Biswas, New Mexico State University
E138 631.5 The Effects of N-Terminal Acetylation on the Membrane Binding Behavior of Alpha Synuclein. J.E. Bond, Westminster College
E139 631.6 Analyzing Protein Kinase C Interactions With Rho-type GTPases in the Filamentous Fungus Aspergillus nidulans. M. Carroll, The LeMoyne-Owen College
E140 631.7 Using Site-directed Mutagenesis alongside a Collagen binding assay to reveal the role of Polycystic Kidney Disease domain in ColH Collagenase. P. Caviness, University of Arkansas
E141 631.8 Studying the Reductase-Chaperone Activity of the Epoxidase Component of Styrene Monooxygenase. P.M. Chen, San Francisco State University
E142 631.9 Modulating the Effect of Electrostatic Steering for Protein-Protein Interactions via Circular Permutation. X. Chen, Hubel University of Technology
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**E143 631.10** Deciphering the Mechanism of 14-3-3\*Mediated Inhibition of Phosducin Binding to the G Protein Transducin Complex. Y. Chen, HuBei University of Technology

**E144 631.11** Cloning of the Escherichia coli methyl-accepting chemotaxis protein Tar and characterization of nickel repellent interactions. A.K. Coleman, Trinity University

**E145 631.12** Phosphorylation States of PEA-15 Control Binding Specificity and Regulate Cell Proliferation and Apoptosis. S. Crespo, New Jersey City University

**E146 631.13** The Structure and Function of Estrogen Receptor \( \beta \): Essential Roles in Gene Regulation. E. Dai, Olathe North High School

**E147 631.14** Turnip mosaic virus genome-linked protein inhibits in vitro activity of ricin A-chain. A.V. Domashnevsky, John Jay College of Criminal Justice, CUNY

**E148 631.15** Expression, Purification and Analysis of Recombinant Proteins Responsible for the Functional Properties of a Tough Biological Glue. R. Falconer, Ithaca College

**E149 631.16** Characterizing the Role of Metal Ion Interactions in the Elasticity and Strength of Slug Glue: Steps Toward a Novel Medical Adhesive. C. Gallego Lazo, Ithaca College

**E150 631.17** Mechanism of Competitive Binding Between HIF-1\( \alpha \) and CITED2 with TAZ1. M. Gao, HuBei University of Technology

**E151 631.18** Basigin gene products associate to form a novel cell-adhesion system used to maintain a metabolic cytoarchitecture and potentially stimulate an immune response in the neural retina. A. Gonzalez, University of North Florida

**E152 631.19** Interaction between Grx4, Fep1 and Fra2 regulates low iron response in S. pombe. M. Gupta, University of South Carolina

**E153 631.20** Saccharomyces cerevisiae as a viable model for the overexpression and purification of proteins involved in iron homeostasis. D. Hati, University of South Carolina Columbia

**E154 631.21** Method Development for Identification and Verification of Protein Metal-Binding Sites. K.L. Healy, St. Mary’s College of Maryland

**E155 631.22** Identifying the Binding Interface between Rad3 and the Cytosolic Iron Sulfur Cluster Assembly Targeting Complex. A.M. Hushka, Boston University

**E156 631.23** Illuminating Protein Interactions within a Repressor Auxin Response Factor. S.R. Johnston, Ithaca College

**E157 631.24** Closing the GAP Between IQGAP1 and its Yeast Homologue. R.P. Levtius, Brandeis University

**E158 631.25** Investigating Pal’s Interaction with Peptidoglycan. S.D. Lewis, Rochester Institute of Technology

**E159 631.26** Investigating the role of ComFA ATPase in powering DNA uptake during bacterial transformation. X. Lin, University of Wisconsin-Madison

**E160 631.27** Probing the Effect of the Pal-Peptidoglycan Interaction on Pal Release from Escherichia coli. X. Liu, Rochester Institute of Technology

**E161 631.28** Characterization of Deletion Mutants Encoding Protein Interactors of the Stress Sensor Motif of Saccharomyces cerevisiae. N. Martinez, University of Puerto Rico, Medical Sciences Campus

**E162 631.29** Searching for the Function of Ecm14, a Pseudopeptidase, Using a Synthetic Lethal Assay. R.C. McDonald, Andrews University


**E164 631.31** Unveiling the Impact of the Core Circadian Clock Protein FREQUENCY on Output in Neurospora crassa. A.E. Mosefer, Rensselaer Polytechnic Institute

**E165 631.32** The Effect of Substrate Type on Lysine Deacetylase Activity. K.A. Nicholls, Xavier University of Louisiana

**E166 631.33** Domain Specific Substrates of Lysine Deacetylase 6. I. Parham, Xavier University of Louisiana

**E167 631.34** Interaction of PKR and E3 protein present in vaccinia virus. S. Patnaik, Oklahoma State University

**E168 631.35** Cloning, Expression and Purification of DegQ Protease, a Bacterial Analog to Pregnancy Related Serine Protease (HtrA3). M. Phillips, Missouri Western State University

**E169 631.36** RNA helicase homolog and its association with the JAMM2 metalloprotease required for targeted protein turnover in Archaea. C.D. Ramirez, University of Florida

**E170 631.37** Analysis of protein-protein interactions between isofroms of malate dehydrogenase and citrate synthase. G. Remoneda, University of San Diego

**E171 631.38** Tamm-Horsfall Protein and Properdin Biochemical and Functional Interactions. D.C. Rhodes, Pacific Northwest University

**E172 631.39** Does the MS2 L protein work with E.coli host factors? K.J. Streff, Hartwick College

**E173 631.40** Elucidation of the Substrate Binding Site of the Yeast Zinc Metalloprotease, Ste24. C. Theisen, Purdue University

**E174 631.41** Modulatory effects of fibronec -tin on calcium oxalate crystallization, growth, aggregation, adhesion on renal tubular cells, and invasion through extracellular matrix. V. Thongboonkerd, Siriraj Hospital, Mahidol University

**E175 631.42** The Basigin-variant-2 binding domain in the Ig0 domain of Basigin-variant-1 stimulates an immune response in the mouse monocyte RAW 264.7 cell line. A.D. Tompa, University of North Florida

**E176 631.43** Specific Ionic Interactions Contribute to Substrate Binding of Lysine Deacetylases. T.B. Toro, Xavier University of Louisiana

**E177 631.44** Receptor Binding and Phosphorylation of Anabena Sensory Rhodopsin Transducer towards Signaling via Protein-Protein Cross Talk. V.D. Trivedi, Bethune Cookman University

**E178 631.45** Investigating HSF1-Mediated Interactions of Human Angiogenin with Chromatin. C.G. Vinopal, Lawrence University

**E179 631.46** Probing the Pal-peptidoglycan interaction. Z. Ward, Rochester Institute of Technology

**E180 631.47** Characterization of Protein-Ligand Interactions in MsrA from E. coli. M.L. Winkle, United States Naval Academy

**E181 631.48** Understanding the Interacting Mechanism For the Type III Secretion System Through Molecular Dynamics Simulations. J. Yang, HuBei University of Technology

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**E183 631.50** Exploring the functional role of Nlrp12’s interaction with Hck. Y. Zhang, University of Southern California
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E186 632.3  Deciphering the role of N-terminal methylation in modulating yeast protein function including the multitasking stress response protein, Hsp31. P. Chen, Purdue University.

E187 632.4  Carcinogenic anoreline shows a paradoxical effect in modulating nitric oxide production and the subsequent protein S-nitrosylation in endothelial cells. B. Cheng, Kaohsiung Medical University.

E188 632.5  Studying The Effect of O-GlcNAc Modification and Other Stabilizers on Nod1 and Nod2. W.R. Drake, University of Delaware.

E189 632.6  Haloacid dehalogenase of Candida albicans: An uncharted territory. S. GHOSH, UNIVERSITY OF KALYANI.


E191 632.8  Sodium Hydrogen Exchanger Isoform 1 (NHE1) Palmitoylation and Phosphorylation Barcoding: Implications on Regulation and Function. M.J. Hovde, University of North Dakota.

E192 632.9  Characterization of eNOS ser-600 Phosphorylation: A Link to the Cell Cycle. K. Patel, Kennesaw State University.

E193 632.10  Mutations in the zDHHC9 protein palmitoyltransferase result in X-Linked Intellectual Disability (XLID) by distinct mechanisms. A.S. Ramadan, University of South Florida.


E195 632.12  Predominant Beta Subunit Isoform of the Na+, K+-ATPase in Photoreceptor Neurons Undergoes S-Palmitoylation. E. Sechrist, West Virginia University.

E196 632.13  TIP60 regulation of ΔNp63α is associated with SCC proliferation. A.J. Stacy, Wright State University.

E197 632.14  Characterization of the phosphoprotein of human metapneumovirus and its role in formation of viral liquid organelles. R. Thompson, University of Kentucky.

E198 632.15  Ultradeep Palmitoyl-proteomic Analysis Uncovers Over 1,300 Novel Human Palmitoyl-proteins. W. Yang, Cedars-Sinai Medical Center.

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E203 633.5  Developing a detailed model of Hexokinase using wREFERASS to implement the King-Altman method. K.M. Christians, University of Washington.


E205 633.7  Enzymology of Columbamide Biosynthesis. G. D’Agostino, University of South Carolina.


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E212 633.14  3,4-dihydroxy-2-butanone-4-phosphate synthase (RibB) of riboflavin biosynthesis has a mononuclear magnesium active site. N. Kenjic, University of Kansas.

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E215 633.17  Exploring Enzymatic β-Keto Acid (De)Carboxylation with Malonyl-CoA Analogs. J. Lohman, Purdue University.


E217 633.19  Nitrite and NO Processing by CblC: A Human B12 Trafficking Chaperone. R.N. Mascarenhas, University of Michigan Medical School.


E219 633.21  Safety and Efficacy Study of N-SORB® a Proprietary KDI20 MEC Metabolically-Activated Enzyme Formulation: A Randomized, Double-blind, placebo Controlled Study. S. Nair, University of Wyoming School of Pharmacy.

E220 633.22  Probing the SpNOS substrate binding site for NADPH vs. NADH affinity. B.D. Notice, Kennesaw State University.

E221 633.23  Molecular Mechanisms of Isoctirate Dehydrogenase 1 Mutants in Driving the Oncogenic Neomorphic Reaction. G.G. Quichocho, San Diego State University.


E223 633.25  Function of active site residues in the dUTPase from Epstein-Barr Virus. A. Robbins, University of Wisconsin - La Crosse.

E225 633.27 Kinetic survey of evolutionary diverse isoromatics of malate dehydrogenase. G. Sampson, University of San Diego
E227 633.29 Glutathione transferase catalyzes the addition of glutathione to nitroconjugated linoleic acid. M. Steggard, University of the Republica
E228 633.30 Bidirectional Degradation of DNA Cleavage Products Catalyzed by CRISPR/Cas9. Z. Suo, Florida State University
E229 633.31 Under Pressure: Pressure and Temperature Dependent Nuclease Activity. A.C. Wibben, College of the Holy Cross

634 Chemical Biology, Drug Discovery and Bioanalytical Methods
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E233 634.4 Antimicrobial Activity of 3,4-Annelated Coumarin-Benzodiazepine-Systems. S. Govori, University of Prishtina
E234 634.5 Overcoming the Rapid Metabolism of the Promising Anticancer Natural Product Rooperol. M.A. Jemal, Texas State University
E235 634.6 Discovery of a Plant-derived Cell-penetrating Proteasome Inhibitor. A. Kam, Nanyang Technological University
E236 634.7 Monofunctionalization with dextrins endows cell-penetrative properties to proteins. H.R. Kilgore, Massachusetts Institute of Technology
E237 634.8 Efficacy of Midazolam and Ketamine Combination Therapy over Midazolam Monotherapy against Soman Exposure in Carboxyesterase Knockout Mice. B. Marro Rosado, USAIRMC
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E239 634.10 Nature-Made Catalytic Antibody Platform: From Heisenberg’s Uncertainty Principle to the Brink of Medical Interventions. S. Planque, Covalent Bioscience Inc
E240 634.11 Bioanalytical Method Development for the Detection of the Rac/Cdc42 Inhibitor MBQ-167 in Mouse Tissue. G.T. Rosado-González, University of Puerto Rico
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E243 634.14 Chemical Fingerprinting of Cyperus species using HPLC analysis. L. Udari, Eastern Illinois University
E244 634.15 Deregression of Acanthamoeba castellani steriodogenesis is ameobidal and protects cultured corneal cells from Ac attack. B.H. Vanderloop, Texas Tech University

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E246 635.2 Phage Display Selection and Identification of Novel Pancreatic Cancer Targeting Peptides. M. Asar, Western Illinois University
E247 635.3 Electrochemical Biosensor Targeting the Cancer Biomarker Human Ecto-NOX Disulfide-Thiol Exchanger 2 (ENOX2). A.J. Bonham, Metropolitan State University of Denver
E248 635.4 A New Synthetic Route to Cycloheptatrienylidene Fluorophores. N. Dav, Adelphi University
E249 635.5 Determination of Fd-tet Bacteriophage Infectivity of E. coli B918K Under Conditions That Disrupt the Biotin-Streptavidin Interaction. T.M. Gunby, Western Illinois University
E250 635.6 Quantitative measurement of pH dynamics in living cells using the mCherry-TYG red fluorescent protein as a lifetime sensor. E.P. Haynes, Purdue University
E251 635.7 Development of oligonucleotide-based contrast agent with higher relaxivity. M. Heidarian, Cal State Univ, East Bay
E252 635.8 Detection of Mycoplasma secreted protein P48 via Electrochemical DNA-based Biosensor. A. James, Metro State University of Denver
E253 635.9 Core-Shell Nanoparticle Probe Scintillation Proximity Assays for Biological Samples. C. Janczak, University of Arizona
E254 635.10 Accuracy of Canine Scent Detection of Lung Cancer in Blood Serum. H. Junqueira, BioScentDX
E255 635.11 Development of Novel Cycloheptatrienylidene Fluorophores for Detection of Metals. K. Kaur, Adelphi University
E256 635.12 FLUORESCENCE SPECTROSCOPIC ANALYSIS of TonB-DEPENDENT TRANSPORT in Klebsiella pneumoniae. A. Kumar, Kansas State University
E257 635.13 Detection of Celiac Disease Autoantibodies with a Rapid and Noninvasive Diagnostic Biosensor. M. Maldonado, Metropolitan State University of Denver
E258 635.14 Engineering a Color Palette of FRET-BRET ATP Sensors. S. Min, Purdue University
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E261 635.17 Multiplex Imaging of Activity-Dependent Changes in Neuronal Redox Dynamics Using Compartment-Specific Redox Probes. S. Radhakrishnan, Purdue University
E262 635.18 A novel use of water-soluble CdSe Quantum Dots capped with GSH for Minute Virus of Mice prototype genome labeling. J. Rivera, University of Puerto Rico
E263 635.19 Electrochemical DNA Biosensors for Detection of Mannose-capped Lipoparabimannan. T. Sodia, Metropolitan State University of Denver
E264 635.20 Fluorogenic Atom Transfer Radical Polymerization as a Strategy for Biomolecular Detection. D. Tahseen, Trinity University
E265 635.21 Activity-dependent ATP release from neurons and astrocytes. M. Tanaka, Purdue University
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636 Bioanalytical and Biophysical Methods

E268 636.1 Quadrupole ICPMS Determination of iron in Drosophila melanogaster S2 Cell Cultures using Collision Cell and Desolvation Strategies. H.A. AL-Ogaidi, Metropolitan State University of Denver

E269 636.2 Ferrozine-Based Assay for Determining Iron Content in Insect Cells. M. Castaneda, Metropolitan State University of Denver

E270 636.3 Effect Of Loading Method On Metabolism Of Foreign Molecules In Intact Cells Of Dictyostelium Discoideum. R. Chadha, Trinity College Connecticut

E271 636.4 “Personalized mechanisms of Lafora disease using Differential Scanning Fluorimetry”. K. Donohue, University of Kentucky

E272 636.5 Biodegradation of Surgical Polypropylene Meshes. A.K. Fiedler, The University of Texas at Dallas

E273 636.6 Oxytocin Analysis from Human Serum by LCMS after Derivatization. A.A. Franke, University of Hawaii Cancer Center

E274 636.7 Differentiation of Sickle Cell Zygosity Utilizing a Sodium Metabisulfite Method. A. Le, Saint Louis University


E276 636.9 Size of protein is a major factor that affects retention on preparative IMAC columns. O.O. Odunuga, Stephen F. Austin State University

E277 636.10 Increasing Efficiency of Inducing Pluripotency with a Novel Cell Penetrating Peptide-Adaptor System. L. Oja, Kennesaw State University

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637 Next-Generation Sequencing

E279 637.1 Using High-Throughput Sequencing to Identify Microbial Community Structure in United States Riverine Ecosystems. O.R. Baker, Juniata College

E280 637.2 NGS-Integrator: A Tool for Combining Information from Multiple Genome-Wide NGS Data Tracks Using Minimum Bayes Factors. H. Jung, NHLBI/NIH

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E282 637.4 Microbial diversity of Baegnyong cave and characterization of the antibiotics extracted from Streptomyces exfoliatus. S. Park, Kangwon National University

638 Lipidomics, Pharmacogenomics and Toxicogenomics

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E284 638.2 Lipidomics Profiles are Related to Preterm Birth and Depressive Symptoms in Pregnant African American Women. N. Saadat, University of Detroit Mercy

639 Metabolomics

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E286 639.2 Deciphering the mechanism of action of cholesterol analogs as inhibitors of Mycobacterium tuberculosis. M.A. Carrillo-Alvarado, University of Texas at El Paso

E287 639.3 Microbial VOC Fingerprints: Rapid Detection of Antimicrobial Resistance in Pathogenic Bacteria. A. Dailley, George Mason University

E288 639.4 Elucidating Mammalian Anaerobic Three-Carbon Metabolism by Liquid Chromatography-High Resolution Mass Spectrometry. M.T. Doan, Drexel University

E289 639.5 Metabolic Perturbations Include Homocysteine Degradation and Polyamine Synthesis in Pathogenesis of Bronchopulmonary Dysplasia. D.D. Lee, Indiana University School of Medicine

E290 639.6 Microwell-based 3D co-culture model for drug screening by shotgun metabolomic profiling. X. Lu, The University of Texas at Austin

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640 Glycomics

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641 Systems Biology and Regulatory Networks

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E295 641.2 mRNA and miRNA Expression Analysis in Multiple Brain Regions Following Soman Exposure in Rats. A. Gautam, US Army Center For Environmental Health Research

E296 641.3 Longitudinal Analysis of DNA Methylation Status Linked to Post-Traumatic Stress Disorder in Deployed Service Members. A. Gautam, US Army Center For Environmental Health Research

E297 641.4 Delineating the Neuro-Immune Regulatory Network of Acute Kidney Injury by Systems Biology Approach. A. Gupta, Panjab University

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E299 642.1 Using Molecular Dynamics Simulations to Evaluate Ligand Binding of LL-diaminopimelate Aminotransferase, an Enzyme Involved in Protein and Peptidoglycan Biosynthesis. L. Adams, Rochester Institute of Technology

E300 642.2 Simulating protein and nucleic acid sequence co-evolution. D. Camarena, Alma College

E301 642.3 Structural Determination of the Conformations of Glutathione Peroxidase-4 (GPX4) Through Markov State Modeling. D. Chung, Wesleyan University

E302 642.4 Ensemble Docking of Potential BACE1 Inhibitors for Alzheimer’s Disease. J. Guevara, CUNY - New York City College of Technology

E303 642.5 Automating the design of structure-switching aptamer biosensors. A. Haider, Metropolitan State University of Denver

E304 642.6 Experimental Computational Evaluation of Biological Immunofluorescence Data. T. Hietpas, South Dakota State University

E305 642.7 An energetics database to model protein-protein interactions. C.M. McFadden, University of Wisconsin-Madison

E306 642.8 Mutations L163P and R190C in NKX2-5 Confer More Stability to the Protein’s Binding to DNA. L.O. Tizon, National Institute of Molecular Biology and Biotechnology, University of the Philippines - Diliman

E307 642.9 Examining the Accuracy of Monosaccharide Structures Calculated with Density Functional Theory by Experimental Comparisons. E.D. Ziperman, Baylor University

E308 642.10 Metabase: A New Programming Framework for Analyzing, Visualizing, and Integrating Multi-Omics Data for Nutritional Intervention Studies. C. Zhu, UC Davis

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E311 644.3 Glucocorticoid-Driven Transcriptomes in Human Airway Epithelial Cells: Commonalities, Differences and Functional Insight. M.M. Mostafa, University of Calgary

E312 644.4 Mechanisms of Glucocorticoid-mediated Induction of Krüppel-Like Factor 9 in the Human Airways. M.M. Mostafa, University of Calgary

E313 644.5 Functional characterization of isl2/mrf2lb activation target stap2b in vascular development. Y. Wang, Doctoral Degree Program in Marine Biotechnology, National Sun Yat-sen University, Taiwan

E314 644.1 Interplay between the Yes-Associated protein and the matricellular protein CCN1 Regulates the phenotypical plasticity of endothelial cells in developing blood vessels. B. Chaqour, SUNY Downstate Medical Center

E315 644.2 MicroRNA miR-145 Modulates p38 MAP Kinase Pathway in Cardiac Fibroblasts to Suppress Cardiac Fibrosis. S. Marosis, Nationwide Children’s Hospital

E316 644.3 RECK suppresses interleukin-17/TRA3P3P2-mediated MMP-13 activation and human aortic smooth muscle cell migration and proliferation. S. Mummidi, The University of Texas Rio Grande Valley School of Medicine

E317 644.4 Unveiling the Mechanotransduction Mechanism of Substrate Stiffness-modulated Cancer Cell Motility via ROCK1 and ROCK2 Differentially Regulated Manner. Y. Peng, University of Electronic Science and Technology of China

E318 644.5 Expression of chondroitin sulfotransferases (CHST3,7,11,15) and chondroitin sulfatases in normal and malignant prostate stroma and epithelium. J.K. Tobacman, University of Illinois at Chicago

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E320 645.2 The CH2 Domain of Pseudo-phosphatase MK-STYX Regulates Neurite Outgrowth. K. Reed, William & Mary

E321 645.3 Structural Studies of a Novel Glucan Phosphatase from the Red Alga Cyanobioschyzon Merolae. S. Sharma, University of Kentucky

E322 645.4 Sit4 and PP2A Dephosphorylate Transcription Activator Gln3 When TorC1 Is Up- As Well As Down-Regulated. J.J. Tate, University of Tennessee Health Science Center

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E325 646.2 Germ Cell Apoptosis and Oxidative DNA Damage in Testicular Ischemia Reperfusion Injury: Survivin’ the Lipoxygenases. M. Al-Maghrebi, Kuwait University - Faculty of Medicine

E326 646.3 The Role of Reactive Oxygen Species in Croatalus atrox Venom-induced Cell Death. L. Brown, Kennesaw State University

E327 646.4 WWOX drives UV/cold shock-induced bubbling cell death whereas without WWOX cells pop out. N. Chang, National Cheng Kung University

E328 646.5 Palmitic Acid Stimulates Apoptosis and Extracellular Vesicle Release in Renal Proximal Tubule Epithelial Cells. A.A. Cobbs, Morehouse School of Medicine

E329 646.6 S-Fluorouracil and Gemcitabine Synergistically Facilitate the Nuclear Accumulation of Tumor Suppressors p53 and p27, Resulting in Decreased Cell Viability. E.J. D’Amico, Westminster College

E330 646.7 Embryonic Stem Cells Derived Exosomes Enhances Chemosensitivity of Doxorubicin in Breast Cancer Cells. A. Das, Virginia Commonwealth University

E331 646.8 Induction of a Non-Apoptotic Cell Death in Momordica Charantia-Treated Human Cancer Cell Lines. A.F. Ehigie, Department of Biochemistry, Ladoke Akintola University of Technology.
E32 646.9 Investigation of the role of RCAN1 Gene in apoptosis. A. Fausto, California State University Northridge
E33 646.10 Function of Yeast Bax Inhibitor BX1 in Redox and Calcium Homeostasis of the Endoplasmic Reticulum and Programmed Cell Death in Saccharomyces cerevisiae. W. Jacob, Providence College
E34 646.11 Activating transcription factor 4-dependent B cell translocation gene-1 induction promotes ferroptosis. J. Kim, Daegu Haany University
E35 646.12 Interplay of reactive oxygen species, apoptosis and necroptosis in atypical cell death of Tak1-deficient macrophages and mouse mortality. W. Lopez-Perez, North Carolina State University
E36 646.13 Calcium Dependence of Transglutaminase and its Function in Apoptosis in Human Erythroleukemia Cell Lines. W.J. Lowther, Slippery Rock University
E37 646.14 Effect of Chloroform Fraction of Adenosus Breviflorus Benth Fruit on Opening of Rat Liver Mitochondrial Permeability Transition Pore, Mitochondrial Atpase and Cytochrome C Release. T.A. Oyedoji, University of Lagos
E38 646.15 Cell Growth and Transglutaminase 2 Expression within the Human Erythroleukemia Cell Line (HEL). S.L. Schultz, Slippery Rock University
E39 646.16 Cell Growth Inhibition and Transglutaminase 2 Expression in Human Erythroleukemia Cells (K562) Following Exposure to Retinoic Acid and Sodium Butyrate. G.R. Spencer, Slippery Rock University
E40 646.17 A structural investigation of NR2 mediated apoptosis regulation in zebrafish. C.D. Suraweera, LaTrobe University
E41 646.18 Benzimidazole scaffolds as potential anticancer agents: Synthesis and Biological evaluation. H. Vemana, St Johns University
E42 646.9 Signaling and Therapeutics
E43 647.2 γ-Tocotrienol and α-Tocopheryl-oxylacetic Acid Increase the Effectiveness of Docetaxel Treatment of PC-3 Prostate Cancer Cells and Docetaxel-resistant PC-3 Cells. S. Asay, Brigham Young University
E44 647.3 Antiproliferative Properties of Lichens Parmelia vagans and Parmelia sulcata. V. Bondarenko, Touro University Nevada
E45 647.4 SKP2 Inactivation Suppresses Cell Proliferation and Regulates AR/FOXA1 Expression in PCa Cells. S.J. Celada, Tennessee State University
E46 647.5 Investigating the Role of Inhibitors of NHE1 Activation as Potential Adjutant Therapies in the Treatment of Ovarian Cancer. A.R. Corradi, Benidji State University
E47 647.6 ABC Transporter-Mediated Multidrug Resistance in Prostate Cancer Cells. T.O. Famuyiwa, Florida Atlantic University
E48 647.7 Potential Block of Direct and Secondhand Smoke-Induced Increase in Endothelin-1 Signaling of Breast Cancer Cells Lines by Hinite-AM. J. Finch, Meharry Medical College
E49 647.8 Gemcitabine Sensitivity is Improved in Pancreatic Cancer by CYR61/CCN1-Depletion-Mediated Upregulation of dCK and Suppression of CTGF. A. Ghosh Kansas City VA Medical Center
E50 647.9 Antimetastatic potential of Atovaquone against triple negative breast cancer: Involvement of the integrin-FAK-Src pathway. N. Gupta, Texas Tech University Health Sciences Center
E51 647.10 The First Laminin G Domain of Protein S (ProS) is Involved in Activation of Tyros3 Receptor Tyrosine Kinase and Downstream Signaling in Human Cancer Cells. S. Haffizi, University of Portsmouth
E52 647.11 Targeting Calcium Channels to prevent EMT. K.J. Hermanson, University of North Dakota
E53 647.12 Studying the Role of Zinc (Zn2+) in Cellular Transitions Under Acidic Conditions. Y. Hu, Ohio University
E54 647.13 Analysis of Ras G12V/D Mutation on Downstream Pathways Using Multiplex Immunoassays. J. Hwang, MilliporeSigma Corp.
E55 647.14 LY294002-induced growth inhibition of cancerous cells is linked to downregulation of MEK-ERK pathway and adhesion molecules. L. Kavege, Barry University
E56 647.15 Identifying novel molecular vulnerabilities to PTK2/FAK inhibition in Gaq-driven uveal melanoma using a kinome-wide CRISPR/Cas9 screen. A. Kishore, UC San Diego-Moores Cancer Center
E57 647.16 Study the Effect of Irisin on Prostate Cancer Cells. F. Ko, National Taiwan University
E58 647.17 The effect of hypoxia and oxygen supplementation on gynecological cancer cells. A.K. Kraus, Providence College
E59 647.18 Is Less Actually More? Investigating the Synergistic Relationship between Chemotherapy Agents and NHE1 Inhibitors in Ovarian Cancer Cells. A.C. Larson, Benidji State University
E60 647.19 Role of Programmed Death-Ligand 1 in Cancer. T. Link, Walton High School
E61 647.20 Assessing the fitness of HeLa cells expressing elongation factor 2 with mutations at the diphthamide histidine. E.K. Lowe, Towson University
E62 647.21 Epigenetic regulation of the Birc5 promoter explains mechanism of action of YM-155 in synovial sarcoma. S. Lueling, Idaho State University
E63 647.22 Comparison study of exosomes molecules driven from (NCI1975) NSCLC cell culture supernatant isolation and characterization techniques. E.O. Mahgoub, Hamad Bin Khalifa University
E64 647.23 The Effects of Epigenetic Modifiers on PD-L1 and HLA Class I Expression on Tumor Cells. T. Maini, SUNY Geneseo
E65 647.24 Experimental Modal Analysis of Tumorigenesis and Cancer Metastasis. B. Martinez, LANL
E66 647.25 Myeloid cell-derived IL-6 in Chronic Lymphocytic Leukemia. S.D. Mccamus, University of St. Thomas
E67 647.26 Med12 Mutations Promote Castration Resistant Prostate Cancer through Hyperactivated GLI3/SHH Signaling. S. Muthukumar, University of the Incarnate Word
E68 647.27 Colonc Epithelial Cells Express an Oncolytic Bispecific IgA/igG heterodimer. P.P. Nair, NonInvasive Technologies LLC
E69 647.28 Effects of SAHA and RG7388 on p21WAF1/CIP1 and p27KIP1 mediated Pathways in Cancer Cells. U. Natarajan V R R Institute for Biomedical Science
E70 647.29 Investigation of oncogenic G-protein coupled receptor signaling pathways in Kras dependent pancreatic cancer cell lines. O. Ocal, Bilkent University

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E42 647.1 Olfactory Receptor Family 7 Subfamily C Member 1 as a potential prognostic marker for pediatric T-cell acute lymphoblastic leukemia patients. H. Ahmed, The University of Texas at El Paso
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**E371 647.30** 2D vs 3D - Triple negative breast cancer spheroid formation induces quantitative heterogeneity of VEGF and PDGF receptor profiles and modulates cytosolic phosphorylation. A. Oyinfi, University of Illinois

**E372 647.31** The Effect of Notch, IL-1 and Leptin (NILCO) Inhibition in Xenograft Colorectal Cancer. R. Ozurt, Eskisehir Osmangazi University Medical Faculty

**E373 647.32** Protease-activated receptor 2 (PAR-2) biased agonism in ovarian cancer progression. N.R. Pawar, University of Maryland Baltimore School of Medicine

**E374 647.33** XRN2 Depletion is Synthetic Lethal with PARP1 Inhibition. L. Pay, IU School of Medicine

**E375 647.34** Decreased Expression of Enolase-1 Promotes Cisplatin Resistance of Ovarian Cancer Cells. R.J. Rabelo-Fernández, University of Puerto Rico at Rio Piedras

**E376 647.35** Pimavanserin tartrate: A potential drug for pancreatic cancer therapy in future. S. Ramachandran, Texas Tech University Health Sciences Center

**E377 647.36** Biochemical Basis of Steroid Hormones Inhibition of Human Melanoma Cell Growth In-Vitro & Its Implication on Melanoma Treatment. P. Ramaraj, KCOM/A T Still University

**E378 647.37** Identification of Integrin-linked Kinase Downstream Effectors in Cisplatin-Resistant Ovarian Cancer Using RNA Sequencing. J.M. Reyes-Gonzalez, University of Puerto Rico, Medical Sciences Campus, Department of Biochemistry

**E379 647.38** Synergistic effect of epigenetic inhibitors decitabine and suberoylanilide hydroxamic acid on colorectal cancer in vitro. S. Rizk, LAU

**E380 647.39** A Comprehensive Study of the Chemosensitizing Effects of AZD-1775, WEE-1 Inhibitor in Combination with DNA Damaging Treatments in the Jurkat Leukemia Cell Model. G.O. Rodriguez, Universidad Central del Caribe

**E381 647.40** Endothelial RhoA Regulates Breast Cancer Metastasis. M. Sajib, Texas Tech University Health Sciences Center

**E382 647.41** Overexpression of PCDH7 and SET Leads to Aberrant ERK and AKT Signaling and Promotes Prostate Cancer Progression. G. Shishodia, LSUHSC-Shreveport

**E383 647.42** The PRL family and other phosphatases as novel drug targets in pediatric cancer. C.N. Smith, University of Kentucky

**E384 647.43** Protein Tyrosine Phosphatase Receptor Type F Promotes Wnt Signaling in Colorectal Cancer. A. Stevens, University of Kentucky

**E385 647.44** Strength in Complementary Weaknesses: An Effective Dual Specificity Antibody Approach against Ovarian Cancer. J. Tushir-Singh, University of Virginia Cancer Center

**E386 647.45** Proteasome Inhibition increases Interleukin-8 Expression in Triple Negative Breast Cancer Cells, Resulting in Their Increased Survival, Proliferation, and Migration. M. Uddin, St. John’s University

**E387 647.46** Combinatorial use of Lovastatin and FTI-277 to alter Ras membrane association in A375 melanoma cells. B.L. Vagher, Fort Lewis College

**E388 647.47** Sensitization of Anti-EGFR/HER2 Targeted Therapy Resistance in Breast Cancer Cells by MRNA Manipulation. P.R. Vigo-Morales, University of Puerto Rico Rio Piedras Campus

**E389 647.48** The Effect of Sodium Glucose transporter 2 Inhibitors on Proliferation and Growth Factor Signaling Pathways in Triple Negative Breast Cancer. K. Ware, Tennessee State University

### 648 Bacteria and Parasites: From Microbiome to Antibiotics

**E390 648.1** Antimicrobial Properties of Cinnamon Essential Oil on Salmonella Typhimurium. V.R. Adams, AdventHealth University

**E391 648.2** Linking microbial metabolism to antibiotic tolerance in the microbiome. P.A. Belenky Brown University

**E392 648.3** Determining the role of PAF in Escherichia coli sepsis. L. Gallardo, Rochester Institute of Technology

**E393 648.4** Study and Utilization of the K2 Mycobacteriophage Findley as an Antibacterial Agent. G.C. Grimaldi, Providence College

**E394 648.5** Identifying Microbial Resistance of the Apis mellifera Melanization Immune Response. R. Knier, University of Wisconsin - Stout

**E395 648.6** Evaluating the impact of bead media diameter and material composition on bacterial cell lysis and genomic DNA extraction. C. Proctor, Omni international

**E396 648.7** Structural organization of the FtsLB complex of the bacterial divisome. A. Senes, University of Wisconsin-Madison

**E397 648.8** Analysis of Salicylic Acid-Based Ear Wash Dilutions on Canine Otic Medication Microbicidal Effects on Staphylococcus aureus and Pseudomonas aeruginosa Colonies. K.T. Waltkevich, Saint Leo University

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**E399 649.2** Parasite-Derived Vesicular-Mediated Protein Export by the Human Pathogen Babesia microti. C. Ben Mamoun, Yale

**E400 649.3** Live-Cell Fluorescent Visualization of T3SS Needle and Its Dynamics. D. Cheng, Max Planck Institute of Terrestrial Microbiology

**E401 649.4** Investigating host protein binding to SARS coronavirus untranslated region using immobilized RNA. F. Gonzales, Furman University

**E402 649.5** Symbiosis and Host Immunity in Reef Ecosystems. S. Lazar, Florida Institute of Technology

**E403 649.6** Enteropathogenic E. coli Hijacks Programmed Host-Cell Death Pathways by Interfering with the Higher Order Oligomerization of Immune System Proteins. A. Monserrat-Martinez, EMBL Australia Node in Single Molecule Science

**E404 649.7** Dissecting the mechanism of host shutoff by SARS coronavirus. A. Nag, Furman University

**E405 649.8** Translational Fusion of a G-protein Coupled-Receptor from the Hookworm Anceylostoma ceylanicum Expressed in Caenorhabditis elegans. B. Norman, Salisbury University

**E406 649.9** Investigating the Virulence Potential of E. coli Isolates Obtained from Cocoa Beans, Using Whole Genome Sequence Analyses. H. Nwanosike, The Pennsylvania State University


**E408 649.11** Incoculum and Route Variation as Determinants of Fatality Outcome and Metabolomic Fingerprints in Local Strain of Methicillin-Resistant Staphylococcus aureus (MRSA) Infection. N.N. Pilau, Usmanu Danfodiyo University Sokoto
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650.2 Characterization of non-C2 symmetric salen ligands as novel antimicrobial and antifungal agents. C.W. Allgood, Hampden-Sydney College

650.3 An Investigation of Milly, a K2 Mycobacteriophage. A. Conte, Providence College

650.4 Determination of Antimicrobial Activity and Secondary Metabolites in Acacia rigidaul and Acacia berlandieri. D.J. Gonzalez, Texas A&M International University

650.5 Synthesis and Biological Evaluation of a Photoswitchable Quorum Sensing Molecule. T. Karns, Albion College

650.6 Effect of Azadirachtin on Bacterial Biofilm Formation. V. Kaverima-n, Saint Louis University

650.7 A Step Past Phage Hunters, Modification of the Mycobacteriophage ZoEJ Genome for Phage Therapies. C.J. Scano, Providence College

650.8 Structure-activity relationship of a novel Staphylococcus aureus biofilm formation inhibitor. A. Shah, Mercer University

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651.9 Mitochondrial Oxidative Stress And Adipocyte Protein Carboxylation. Y. Huang, University of Minnesota

651.10 Hypoglycemia effect of drink containing Guava Leaf Extract in Rats with type 2 diabetic rats. H. Huang, Shih Chien University

651.11 Lactobacillus paracasei PS23 modulated the age-related inflammation in Senescence Accelerated Mouse Prone 8 (SAMP8) mice. H. Huang, Shih Chien University

651.12 Evidence for the Novel Metabolic Pathway of Ralstonia eutropha H16 to Metabolize L-ascorbate. R. Joyce, Tyler Stack, Michael Carter. R.P. Joyce, Salisbury University

651.13 Investigating a Novel Metabolic Pathway for Bacteria to Utilize L-Ascorbate as its Carbon Source. P. Kim, Salisbury University

651.14 Supplementation of multi-vitamins, not glutamine alleviate erythrocyte oxidative status in rats with trauma-hemorrhagic shock and resuscitation. H. Lo, Fu Jen Catholic University

651.15 Demonstration of Photodynamic Molecules as Larvicides towards the Yellow Fever Mosquito Aedes aegypti. C. Meier, Kenyon College

651.16 Tempol, a superoxide dismutase mimetic agent, improves dystrophic phenotype in the diaphragm muscle of mdx mice. E. Minatel, UNICAMP

651.17 Selenium Reduces Lectin-Like Oxidized LDL Receptor-1 (LOX-1)- Mediated Vascular Oxidative Stress Induced by Inhalation of Pyrolysis Oil Vapors. M.E. Moustafa, Faculty of Science, Alexandria University

651.18 Evaluating the Chemistry and Biological Action of Midwestern Medicinal Plants. N.T. Nguyen, Earlham College

651.19 In-vivo evaluation of ethanolic seed extract of Walnut (Tetracarpidium Conophorum) on N-acetyl-1,4-benzoquinone imine-induced oxidative stress in albino rats. C.I. Nosiri, Abia State University

651.20 Alda-1 shields mitochondrial dynamic proteins from hyperoxia via Aldh2 activation. S. Pattil, University of South Florida

651.21 Identification of oxidized mitochondrial mRNA in human neurons under oxidative stress. J. Rana, Kent State University

651.22 Understanding PM2.5-Induced Oxidative Stress In Alveolar Macrophages. K. Raval, CSU-Fresno

651.23 Acrolein modifies protein functions and induces tissue damage at advanced age. T. Uemura, Amine Pharma Re-search Institute

651.24 Synergistic Chemopreventive Effect of Medicinal Plants against Azoxymethane-induced Oxidative Stress and Colon Carcinogenesis. M.I. Wahl, Food Sci-ence and Nutrition Department, Sultan Qaboos University

651.25 A Novel Way to Use Vitamin C? Characterizing L-Ascorbate (Vitamin C) Catabolism in Ralstonia eutropha. B. Wille, Salisbury University
652  Metabolism and Cancer

E445 652.1  Glycogen phosphorylase inhibition activates intrinsic apoptosis pathway and potentiates multi-kinase inhibitors in liver cancer cells. S. Barot, St. Johns University

E446 652.2  Autophagy modulates lipid metabolism in Liver Kinase B1 (LKB1)-deficient Kras-driven lung tumorigenesis. V.D. Bhatt, Rutgers University

E447 652.3  Role of Protein Kinase-C and Rho Kinase in the Cytotoxic Effects of Bitter Melon Extract on Metastatic Breast Cancer Cells. H. Choi, Marian University College of Osteopathic Medicine

E448 652.4  Loss of the Retinoblastoma Protein Modulates Glucose Metabolism in Lung Cancer. B. Clem, University of Louisville

E449 652.5  Methionine Deprivation Induced Effects on the Growth of PC3 prostate cancer cells. E. Diaz, Nova Southeastern University

E450 652.6  Sustained Polyamine Depletion for the Treatment of Pancreatic Ductal Adenocarcinoma. A. Dobrovolskaite, University of Central Florida

E451 652.7  Serum Lipoproteins Regulate Hypoxia-Inducible Factors Under Normoxia. P. Espenshade, Johns Hopkins University School of Medicine

E452 652.8  Glyceraldehyde-3-phosphate dehydrogenase differentiates the cytotoxic mechanisms of cancer-active electroytes in a yeast model. J.L. Harach, University of Scranton

E453 652.9  Development of LAT-1 inhibitors for the treatment of pancreatic cancers. H. Ichle, University of Central Florida

E454 652.10  Inhibition of Prostate Cancer Cell Proliferation and Survival by Rosemary Extract. A. Jaglanian, Brock University

E455 652.11  Andrographolide alters metabolism and mitochondrial function in prostate cancer. A.R. Lopez Rivas, University of Puerto Rico - Rio Piedras

E456 652.12  Heme interaction with the Pyruvate Dehydrogenase Complex: A Novel Strategy to Promote Hypoxic Survival. J.A. Lynch, St. Jude Children’s Hospital

E457 652.13  Development of Non-Polyamine based Polyamine Transport Inhibitors for the Treatment of Pancreatic Ductal Adenocarcinoma. H. Moots, University of Central Florida

E458 652.14  Requirement of Sterol Regulatory Element-Binding Protein Pathway in Pancreatic Ductal Adenocarcinoma. S. Myers, Johns Hopkins University School of Medicine

E459 652.15  Generation of a Diffuromethylornithine (DFMO) Resistant Cell Line in a Polyamine Depletion Strategy. S. Noureddine, University of Central Florida

E460 652.16  Aqueous Gladiolus psittacinus Bulb Extract Influences Antioxidant Enzymes Activities in Diabetic Rats. F.L. Oyetayo, Ekiti State University, Ado-Ekiti Nigeria

E461 652.17  Docosahexaenoic acid (DHA) as an adjunctive therapeutic agent for the treatment of cancer. M. Rahman, Qatar University


E463 652.19  Targeting Glucose Metabolism in Medulloblastoma. S. Telang, University of Louisville

E464 652.20  Fatty Acid-Induced Hepatocellular Carcinoma Growth is Mediated by Decreasing Mitochondrial H2O2 Emission Coupled to Increased Glutathione Levels. P.C. Turnbull, York University

E465 652.21  Leucine-rich diet changes tumor metabolism, reducing glucose consumption and metastasis in Walker 256 tumor-bearing rats. L.R. Viana, University of Campinas

E466 652.22  Evaluation of Polyamine Transport Inhibitors in a Drosophila Epithelial Model. L. van Kalm, University of Central Florida

E467 652.23  Knockout of Fatty Acyl-CoA Synthetase ACSVL3 in Glioma Cells Produces Diverse Metabolic Alterations in Non-Lipid Pathways. P. Watkins, Kennedy Krieger Institute

E468 652.24  Effect of MED28 and Vitamin D on Glycolytic Metabolism and Cell Growth in Human Colon Cancer Cells. Y. Weng, China Medical University

E469 652.25  Compartmentalized glycolysis regulates lung cancer transcription. L.E. Young, University of Kentucky

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E470 653.1  Using fluazifop-p-butyl for low cost increases in lipid accumulation for the generation of algal biofuels from Chlorella vulgaris. A.G. Pauley, Marshall University

E471 653.2  Enhancement of Algal Biofeedstocks in a Mixotrophic Batch Culture Supplemented with Exogenous Glycerol. A.L. Smythers, Marshall University

654  Lipids and Inflammation

E472 654.1  Skin Lipid Abnormalities in Patients with a History of Eczema Herpeticum Indicate the Involvement of the Phosphoglucomutase-1-Phosphate Signaling System in HSV Viral Replication. E. Berdyshew, National Jewish Health

E473 654.2  Glycerol Improves Skin Lesions in a Mouse Model of Psoriasis: Possible Mechanism. W.B. Bollag Medical College of Georgia

E474 654.3  Effects of ω-3 Polyunsaturated Fatty Acids and Aspirin on Expression of Arginase 2, a Protein Implicated in Airway Remodeling in Human Lung Fibroblasts. K. Geary, Philadelphia College of Osteopathic Medicine

E475 654.4  Inflammatory and Nutritional Biomarkers in the Plasma of Women in Zambia Reflect Low DHA and HIV Status. S. Kisling, University of Nebraska-Lincoln

E476 654.5  Evaluation of n-3 fatty acid status of pregnant women in Zambia with relation to HIV infection. S. Majid, University of Nebraska-Lincoln

E477 654.6  Effects of Nicotine on Adipocyte Production of Resistin and NF-KB Translocation. J.R. Peter, Fort Lewis College

E478 654.7  TRPV4 regulates P. gingivalis lipopolysaccharide-induced exacerbation of oxidized LDL-mediated foam cell formation. S. Rahaman, University of Maryland

E479 654.8  Functional analysis of a biflavone, as a novel inhibitor of TRPV4-dependent macrophages foam cell formation. S. Rahaman, University of Maryland

E480 654.9  H-Ras Signaling Mediates Microglia Proliferation Contributing to Neuropathology in INCL Mice. T. Sadhukhan, National Institute of Health
655 Membrane Proteins and Lipid Interactions

E481 654.10 Defining the roles of host lipids in flavivirus infection. F.G. Tafesse, Oregon Health & Science University
E482 654.11 Effect of interferon gamma on neutral lipid levels, lipid droplet formation, and antiviral responses in pancreatic islets and INS-1 β cells. N. Truong, Michigan State University
E483 654.12 Berberine inhibits free fatty acid and LPS-induced inflammation via modulating ER stress response in macrophages. Y. Wang, Virginia Commonwealth University
E484 654.13 TNF ligand related molecule-1A inhibits atherosclerosis in apoe-deficient mice. D. Zhao, Nankai University
E485 654.14 Modulation of lipid accumulation in monocytes and macrophages by cyclodextrin-based nanocarriers for alpha-tocopheryl phosphate. J. Zingg, University of Miami

656 Membrane Transport and Channels

E494 655.9 Functional Water Dynamics in Rhodopsin Using Solid-State Deuterium NMR Spectroscopy. N. Weerasinghe, University of Arizona

657 Biochemistry of Organelles and Organelle Trafficking

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E508 656.14 Structural basis for human claudin-9 ion selectivity and tight junction dissociation by a bacterial toxin. A.J. Vecchio, University of Nebraska-Lincoln
E509 656.15 para-substituted methcathionones as selective and unselective inhibitors of human dopamine and serotonin transporters. M. Niello, Medical University of Vienna

658 Organelle Structure and Biogenesis and Disease Association

E514 658.1 Cargo delivery to lysosome-related organelles universally relies on the recognition of sorting signal by adaptor proteins. S. Kook, Vanderbilt University School of Medicine
E515 658.2 A Rab4-Regulated Endosomal Compartment Prolongs EGFR Activation in Breast Cancer Cells. K.E. Tubbesing, Albany Medical College
Vesicle Trafficking and Cargo

E57 659.1 Investigating regulation of the PI 4-kinase Pik1 at the Saccharomyces cerevisiae trans-Golgi network. C.M. Diefenderfer, Cornell University

E58 659.2 Role of the proteoglycan, serglycin, in platelet exocytosis. J. Lykins, University of Kentucky

E59 659.3 4D cell biology: Big data image analytics and lattice light-sheet imaging reveal dynamics of clathrin-mediated endocytosis in stem cell-derived intestinal organoids. J. Schöneberg, UC Berkeley

E60 659.4 Use of Cell Penetrating Peptides to Deliver Cargo in Protists. M.V. Warner, Kennesaw State University

E61 659.5 Podocyte-Specific Rescuing and Deletion of Acid Ceramidase Gene in Mouse Glomeruli. Q. Zhang, Virginia Commonwealth University

Mitochondria in Health and Disease

E62 660.1 Differences in mitochondrial Ca2+ handling during challenges of CaCl2 pulses in brain synaptic and non-synaptic mitochondria: implications for differential Ca2+ buffering. K. Bevers, Medical College of Wisconsin

E63 660.2 Gas7 regulates mitochondrial morphology and physiology. J. Bhupana, Molecular Cell Biology, Taiwan International Graduate Program, Institute of Molecular Biology, Academia Sinica and Graduate Institute of Life Sciences, National Defense Medical Center

E64 660.3 Inner mitochondrial translocase Tim50 is central in steroid metabolism in steroidogenic tissues. H.S. Bose, Mercer University School of Medicine

E65 660.4 Plasmalogen Precursors Reverse Lipid Changes in a Barth Syndrome Cell Model. J. Bozelli Junior, McMaster University

E66 660.5 Exploring the functional role of an ancient mitochondrial fatty acid synthesis pathway. K.K. Dove, University of Utah

E67 660.6 Avocado Oil Ameliorates Non-Alcoholic Fatty Liver Disease by Down-Regulating Inflammatory Cytokines and Improving Mitochondrial Dynamics. C.I. Garcia-Berumen, Universidad Michoacana de San Nicolás de Hidalgo

660.7 K+ influx triggers slow K+/H+ exchange detected by biphasic changes in matrix pH in Guinea pig cardiomyocyte mitochondria. D.S. Lambert, Medical College of Wisconsin

660.8 Short Variant of Mitochondrial Dynamin OPA1 Renders Improved Cell Survival under Stress Conditions. H. Lee, Medical College of Georgia, Augusta University

660.9 Cyclosporine-A Enhances Mitochondrial Calcium Buffering to Delay mPTP Opening. J. Mishra, Medical College of Wisconsin

661.10 Acid Sphingomyelinase Deficiency Protects Mitochondria and Improves Function Recovery after Traumatic Brain Injury. S.A. Novgorodov, Medical University of South Carolina

661.11 Avocado Oil Alleviates Renal Damage and decreases NADPH Oxidase Activity, Peroxynitrite Production and Mitochondrial Calcium Uptake in Hypertension Rats. B. Olmos-Orizaba, Universidad Michoacana de San Nicolás de Hidalgo


661.13 ULK1-dependent Mitophagy Is Essential for Maintaining Cardiac Function during High Fat Diet-induced Diabetic Cardiomyopathy. M. Tong, Rutgers-New Jersey Medical School

Organelle Dynamics and Dysfunctions

E65 661.1 Papuamine prevents the fusion between autophagosomes and lysosomes by inhibiting the maturation of autophagosomes. K. Fujimoto, Kyushu University

E66 661.2 The Three Blind Men: How Adhesion Proteins Binding Affects the Retinas of People with Retinoschisis. S. Strandberg, Divine Savior Holy Angels High School

E67 661.3 Gemcitabine and Thapsigargin Counteract the Effects of 5-Fluorouracil on Nuclear Transport during Apoptosis through Different Mechanisms of Action. A. Barral, Westminster College
## ASBMB Posters

**TUESDAY APRIL 9**

### Exhibit Hall

Poster set up by: 9:00 AM  
Poster display: 9:00 AM — 4:00 PM  
Poster removal: 4:00 — 6:00 PM

**Author at boards:**

Even boards present: 11:45—12:30 PM  
Odd boards present: 12:15—1:00 PM

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E2 775.2 Characterizing Binding Interactions and Elucidating 3D Structure of Aptamer-Based Biosensors. L. Armstrong, Metropolitan State University of Denver

E3 775.3 Sequence and Environmental Effect on the Formation of G-Triplex DNA. H. Bracey, Texas State University

E4 775.4 Spectroscopic, Gel Electroforetic, and Surface Plasmon Resonance Characterization of G-Triplex DNA Formation. H. Bracey, Texas State University

E5 775.5 Crystallographic Structural Elucidation of E. coli HU and a Four-Way Junction. C. Khan, Wesleyan University

E6 775.6 Fluorescence resonance energy transfer (FRET) based methods to study DNA topology and topoisomerases. F. Leng, Florida International University

E7 775.7 Increasing Methionine in the Lectin Erythroagglutin (PHA-E) of Phaseolus vulgaris (Black Bean). R. Madhwani, California State University, Northridge

E8 775.8 Varying Cation Types Differentially Stabilizes Poly(dA:dT) DNA. T. Schultz, UW-La Crosse

776 DNA Polymerases, Telomerase, Replicases and Replisomes

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E10 776.2 Using a Fluorescent Unnatural Amino Acid to Characterize the Role of Conformational Dynamics in High Fidelity DNA Replication. T. Dangerfield, University of Texas at Austin

E11 776.3 Using dual labeling of thymidine analogs to investigate cell cycle dynamics in the regenerating salamander limb. E. Jeon, Northeastern University

E12 776.4 Characterizing the conformational dynamics for DNA loading of the Escherichia coli DNA polymerase III subunit beta clamp. M.L. Liriano, Northeastern University

E13 776.5 Circularization of linear chromomes and telomerase RNA gain-of-function mutations in Saccharomyces cerevisiae. M.A. Mefford, Morehead State University

E14 776.6 Mutating the Telomere Gene. B. Palermo, Lake Forest College

E15 776.7 Mechanistic insight into oxidized ribonucleotide (8-oxo-GTP) insertion by a DNA polymerase. M. Smith, University of Kansas Medical Center

E16 776.8 Structure of Eukaryotic CMG Helicase at a Replication Fork and Implications for Replication Architecture and Origin Initiation. Z. Yuan, Van Andel Institute

777 Chromatin Structure, Remodeling and Gene Expression

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E18 777.2 The fusion oncogene ASP-SCR1-TFE3 directs epigenetic-induced autophagy in alveolar soft part sarcoma. J. Barrott, Idaho State University

E19 777.3 Investigating the Roles of Nap1, Taz2, and H1 on Nucleosome Assembly. V.K. Blackwell, University of Texas at Dallas

E20 777.4 Investigating the Mechanisms by which the Methyl-CpG Binding Protein ZBTB38 Identifies Interacting Partners and Mediates Transcription. B.A. Buck-Koehn top, University of Utah

E21 777.5 Analysis of Chromatin Accessibility Landscapes in Esophageal Squamous Cell Carcinoma. S. Choi, University of Texas at Arlington

E22 777.6 Determining if Mating Type Proteins Play a Role in Immaturity of the Ciliate Tetrahymena thermophila. R.L. Ener son, Albion College

E23 777.7 Functional and Structural Insights into RSC-mediated Nucleosome Remodeling via In Vivo Crosslinking. B. Evans, Manhattan College

E24 777.8 Rexinoid signaling promotes myogenic differentiation through a direct regulation of MyoD. M. Hamed, University of Ottawa

E25 777.9 The Histone Acetyltransferase GCN5 and Transcriptional Coactivator ADA2b Affect Trichome Initiation in Arabidopsis thaliana. A.T. Hark, Muhlenberg College

E26 777.10 Identification of nutrient metabolites capable of altering the epigenetic status at specific loci. K. Hayakawa, The University of Tokyo

E27 777.11 Validating and Optimizing A Combination of INTACT and FACS Techniques for the Isolation of Mouse Astrocyte Nuclei Upon Ablation of the Atrx Intellectual Disability Gene. Y. Jiang, Western University

E28 777.12 The myeloid lineage-determining transcription factor PU1 induces enhancer-promoter looping that promotes IL-1β enhancer and messenger RNA production in non-myeloid melanoma cells. S. Kim, Western University

E29 777.13 Screening for Novel Regulators of Wingless Signaling. G.I. Marsh-Armstrong, Vassar College

E30 777.14 Analysis and the identification of DNA binding sites for the cl repressor of Bacteriophage e34. L. McGee, Huntingdon College

E31 777.15 SV40 virion formation functions as a novel epigenetic switch controlling early and late transcription. B. Milavetz, University of North Dakota

E32 777.16 "The Flexible Nucleosome: A Cross-Kingdom Perspective". F.A. Mohamed, National Cancer Institute

E33 777.17 Determining the association of the TrmB-like protein OxsR to chromatin binding and oxidative stress in Haloferax volcanii. P.G. Mondragon, University of Florida

E34 777.18 Investigation of the Mechanistic Details of the Rsc1 and Rsc2 Subunits of the Yeast Rsc Chromatin Remodeler. A. Obinelo, Manhattan College

778 Non-coding RNAs

E35 778.1 Co-expression Network Analysis of Altered lncRNAs and mRNAs in Diabetic Cardiomyopathy using Human iPSC-derived Cardiomyocytes. A. Dhanasekaran, Anna University, Tamil Nadu
772.1 microRNA 520b Mediates ATF5 Expression under Diverse Cellular Stress in Cancer Cells. K.A. Gaither, Washington State University

772.3 MicroRNA-92b is a potential therapeutic target for Glioblastoma treatment. N. Grafas-Ruiz, UPR, Medical Sciences Campus

772.4 miRNAs regulate the expression of sterol-O acyltransferase 1 through inhibiting the 3UTR of TGFβ receptor type 1 during embryonic development. H. LIN, National Taiwan University

772.5 Long noncoding RNAs in immune response and inflammation. S.S. Mandal, University of Texas at Arlington

772.6 Endogenous siRNAs are required for a learned pathogen avoidance behavior in Caenorhabditis elegans. Y. Manzanet, Villanova University

772.7 Rapid RNA-Protein Interaction Detection with RNA5O of HCMV. K. Mickens, Fort Lewis College

772.8 Genome-wide Discovery of Rare Riboswitches in Bacteria. G. Mirhana Arachchiilage, Howard Hughes Medical Institute, Yale University

772.9 IncRNA Chronos Exacerbates Pathological Cardiac Dysfunction and Fibrosis. R.L. Neppi, Brigham and Women’s Hospital

772.10 The role of IncRNA CRNDE in obesity-associated endothelial dysfunction. N.M. Nguyen, University of Nebraska-Lincoln

772.11 The role of IncRNA HOTAIR in the regulation of glucose metabolism. M. Obaid, University of Texas at Arlington

772.12 Genome Wide Microarray Profiling Identified Differentially Expressed Circulating Biomarkers Associated with Early Development of Diabetic Cardiomyopathy. T. PANT, Medical College Of Wisconsin

772.13 Regulation of RpoS by RbsD in Escherichia coli. C. Peterson, Suffolk University

772.14 Altered dosage of noncoding RNAs expressed from the Dlk1-Dio3 locus impairs skeletal muscle differentiation. C.A. Petty, Boston University

772.15 Alcohol induces TGF-beta through suppression of miR-1946a. V. Sueblinvong, Emory University

772.16 MicroRNA-29b act as mediators of lipopolysaccharide-induced bone loss. O. Sul, University of Ulsan

773.17 Analysis of miR-21-5p and -3p expression and function during pathologi neovascularization. G.D. Tripodi, Medical College of Georgia at Augusta University

773.18 Measuring the Stability of RNAsO in Human Cytomegalovirus (HCMV). H.P. Tisingine, Fort Lewis College

773.19 Glucose-induced dysregulation of IncRNAs in a model of chronic kidney disease. N. Tsotakos, Penn State Haring

773.20 Micro-RNA isolated from liquid biopsies serve as novel molecular biomarkers for congestive heart failure in dogs. K. Shands, South Florida State College

779  Protein Structure and Biophysics

779.1 Structural basis for teneurin function in circuit-wiring: A toxin motif at the synapse. D. Arac, University of Chicago

779.2 Determining Phenotypic Consequences of EmrE Expression Under Various Environmental Stressors. W. Beeninga, University of Wisconsin-Madison

779.3 Yeast Polyalacturonase Activity is Resistant to Extreme Temperature and pH. M.L. Caspers, University of Detroit Mercy

779.4 Molecular Crowding Modulates Actin Filament Mechanics and Structure. N. Castaneda, University of Central Florida

779.5 Increasing Versatility of Small Angle X-ray Scattering in Studying Biological Macromolecules. S. Chakravarty, Biophysics Collaborative Access Team / Illinois Institute of Technology

779.6 Caspases from Scleractinian coral show unique regulatory features. C. Clark, University of Texas at Arlington

779.7 Structural Plasticity of a Human G Protein-Coupled Receptor Studied by NMR Spectroscopy. M. Eddy, University of Florida

779.8 Elementary Steps in Plant-Pathogen Recognition Revealed by Enhancing the Stability and Structure of Domains of Plant Innate Immune Receptors. E. Eisenstein, University of Maryland

779.9 Elucidating the Intermolecular Interactions of a Cataract-Causing Protein: yB Crystallin. J. Faraone, Rochester Institute of Technology

779.10 Ligand binding studies of a trimethoprim-resistant dihydrofolate reductase by fluorine NMR. G.J. Fuente Gomez, The University of Tennessee

779.11 Effects of Complex Formation on Motion in DNA Binding Domains of ARFs. N.A. George, Ithaca College

779.12 Structural Insight into the Activin Receptor Assembly Mechanism. E.J. Goebel, University of Cincinnati

779.13 Molecular modeling of the cI repressor of bacteriophage e34. R. Goodson, Huntingdon College

779.14 Exploring the Mechanism of Action of Membrane Fusion Protein InCA Using Molecular Dynamics Simulations. D.L. Greco, University of Delaware

779.15 Contribution of beta circuit completion towards virulence factor stability and function. J. Grosskopf, UW - La Crosse

779.16 Phosphorylation Impact on the Behavior of Substrate-Bound Tau. L. Harries, Vassar College

779.17 Structural Studies of GMP Reductase from Escherichia coli. D. Harris, Ithaca College

779.18 Functional Analysis and Characterization of the Metal Bound Sco Protein from Thermus thermophilus. C. Hofman, Trinity University

779.19 Molecular mechanism for accurate dephosphorylation of RNA polymerase II during euakaryotic transcription. S. Irani, University of Texas at Austin

779.20 Single Amino Acid Substitutions Dramatically Shift Equilibria of Physiologically Relevant Alternate Protein Assemblies. E.K. Jaffe, Fox Chase Cancer Center

779.21 Toward Understanding the Functional State of the Grb7 Protein. R. Koirala, NMSU

779.22 Structural mechanism of corepressor-selective inverse agonism of the nuclear receptor PPARY. D. Kojetin, Scripps Research

779.23 Structural polymorphism in actin filaments modulates gelosin binding. M. Lee, University of Central Florida

779.24 Cysteine-Mediated Dimerization of the Transmembrane Domain of Muacin. E. Li, Saint Joseph’s University

779.25 Characterizing the NaK Ion Channel through Site-Directed Mutagenesis. G. Luu, University of Wisconsin-Madison
E80  779.26 In silico Analyses of the Binding of Experimentally Tested or Potentially Anti-Prion Drugs to the PrPC Structures of Several Species of Mammals. N. Martinez, University of Puerto Rico, Medical Sciences Campus


E82  779.28 Macromolecular crowding modulates actin bundle formation induced by actin crosslinking proteins. J. Park, University of Central Florida

E83  779.29 Towards revealing the molecular mechanism of STF. P. Pathak, Oklahoma State University

E84  779.30 The conformational ensemble of an intrinsically disordered protein. L. Petridis, ORNL

E85  779.31 Characterization of the Assembly Dynamics of Streptococcus Pneumoniae FtsZ using Intrinsic Tryptophan Fluorescence. R. Rao Battaje, Indian Institute of Technology Bombay

E86  779.32 Calmodulin Induced Changes in the Active Site of Nitric Oxide Synthase. A.J. Sanchez, San Francisco State University

E87  779.33 Initial characterization of DszA for the high throughput validation of rationally designed DszC mutants. M. Sanchez, California State University Northridge

E88  779.34 The inflammasome adapter ASC and truncated constructs containing only its Death Domains self-assemble into different macrostructures. S. Sandin, University of California, Merced

E89  779.35 Mechanisms of G Protein-Selectivity in Muscarinic Acetylcholine Receptor Family. L.J. Santiago, California State University Northridge

E90  779.36 Systematic Disruption of the Nonpolar β-Helix Core of Hemolysin A and its Site-Specific Effect on Protein Structure, Function, and Secretion. R. Schlimmgen, UW La Crosse

E91  779.37 OspC's Pivotal Role in Lyme Disease Infection and Transmission. S. Shabbir, Olathe North High School

E92  779.38 Structural Basis for NLRP6 Inflammasome Assembly and Activation. C. Shen, Boston Children's Hospital

E93  779.39 Evolution of Specificity and Stability in the Folding Trajectory of Caspase. S. Shrestha, University of Texas at Arlington

E94  779.40 Structure Guided Functional Studies of a Lipoprotein Involved in Salmonella Copper Homeostasis. R. Soens, University of Wisconsin - La Crosse

E95  779.41 Structural and Functional Effects of Altering the Nonpolar Core of Hemolysin A. G.M. Stutgen, University of Wisconsin - La Crosse

E96  779.42 Structural Basis of Activation and Sustained Signaling by the PTH Receptor. I. Sutkeviciute, University of Pittsburgh

E97  779.43 Dynamic Allosteric Biomolecular Design Using Artificial Intelligence. K. Thayer, Wesleyan University

E98  779.44 Examining the Metabolic Role of the Pseudomonas aeruginosa MDO Operator. K. Tombrello, Auburn University

E99  779.45 Characterization of Novel Holomologs to the C-terminal Domain of the Orange Carotenoid Protein. D.T. Wei, Otterbein University

E100  779.46 Elucidating the Molecular Mechanisms of Antibiotic Resistance in Acinetobacter baumannii. B. Whitehead, Fisk University

E101  779.47 Protein-Protein and Protein-Detergent Interactions of the Burkholderia Type III Secretion System Protein BipC. M.C. Wilkinson, University of Kansas


E103  779.49 Insights into gasdermin pore formation from the structure of a pre-pore. S. Xia, Boston Children's Hospital

E104  779.50 The Evolution and Mechanism of Enzyme Specificity and Stability of Caspase-3. L. Yao, University of Texas at Arlington

E105  779.51 Structural And Functional Versatility of Interferon-inducible GTPases. Q. Yin, Florida State University

E106  779.52 Crystal Structures of the Periplasm Metallochaperone AztD. E.T. Yuki, New Mexico State University

E107  779.53 PDB Structure Data Impacted Discovery and Development of Recently FDA-Approved Drugs. C. Zardecki, RCSB PDB

E108  779.1 Role of LMAN1 (Ergic-53) in the trafficking of GABAARs. Y. Fu, Case Western Reserve University

E109  779.2 Expression and purification of N-terminally acetylated Ssa1 chaperone from Saccharomyces cerevisiae. A.A. Griffin, Rhode Island College

E110  779.3 Conformational Resilience of Protein Disulfide Isomerase. J. Guyette, University of Central Florida

E111  779.4 Hsp90 Recognizes a Conserved Motif in the A Chains of ADP-Ribosylating Toxins that Move from the Endoplasmic Reticulum to the Cytosol. A. Kellner, University of Central Florida

E112  779.5 Investigating the Roles of the NAC and RAC in Stress Induced Prion Formation in Yeast. C. Kelly, Ursinus College

E113  779.6 Formation of Disulfide Bonds in Proinsulin is Dependent on Both the Substrate Chemical Form and the Conditions Used for Purification and Folding. R.B. Mackin, Creighton University

E114  779.7 Acetylcholinesterase inhibitors enhance its folding and assembly in the endoplasmic reticulum. J. Medina, University of Miami Miller School of Medicine

E115  779.8 Dissecting structure/function relationship of Streptococcus mutans membrane protein chaperones/insertases, YidC1 and YidC2. S. Mishra, University of Florida

E116  779.9 Methionine sulfoxide reduction reverses oxidation of the nucleotide exchange factor Fes1 to regulate cytoplasmic Hsp70 chaperone cycle. E.E. Nicklow, Cornell University

E117  779.10 Computational studies on HdeA and its pH-Dependent Activation. S. Pacheco, California State University Northridge

E118  779.11 The Evolutionarily Conserved Obg-like ATPase-1 (OLAI) Acts as a Molecular Chaperone to Regulate Cellular Stress Responses. A. Schulz, Medical College of Wisconsin

E119  779.12 4-Phenylbutyrate rescues folding-deficient creatine transporter-1 variants linked to the creatine transporter deficiency syndrome. S. Sucic, Medical University of Vienna

780  Protein Folding and Chaperones
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Enzyme Chemistry and Catalysis

781.1 Functionally Important Conformational Sub-States in Human Ribonuclease Family. K. Bafna, University of Tennessee, Knoxville

781.2 Auto-prolylase of Type 1 Metacaspases in Schizopyllum commune. B.P. Cummings, Union College

781.3 Marine worm bioluminescence is slowly revealing its secrets. E. De Meulenaere, Scripps Institution of Oceanography / UC San Diego

781.4 Unraveling the Biosynthesis of the Essential Lipoil Cofactor in Staphylococcus aureus. Z.R. Dill, Albion College

781.5 Biosynthetic mechanism of the nonribosomal peptide AMB in Pseudomonas aeruginosa. D. Galambos, Carleton College

781.6 Kinetics of Mutations in the Active and Allosteric Sites of Fumarate Hydratase. R. Heng, Wabash College

781.7 Purification and enzymatic assay of BmaI, a quorum sensing signal synthase. J. Kellner-Rogers, Ithaca College

781.8 Bacterial Glutathione S-Transferases (GSTs) Involved in Breaking the β-Aryl Ether Bond of Lignin Reveal Novel Catalytic Abilities and Reaction Mechanisms within the GST Superfamily. W.S. Kontur, University of Wisconsin-Madison

781.9 Using Ketoreductases for the Chemoenzymatic Synthesis of a Steroid. K. Kumru, University of Texas at Austin

781.10 An Opine on Opines: Characterizing Opine Metallophore Biosynthesis in Bacterial Pathogens. J.S. McFarlane, University of Kansas

781.11 Characterizing a novel bacterial sirtuin protein in an intact protein system. J. Muroski, UCLA

781.12 Enzyme Kinetic Characterization and Substrate Specificity of Schizopyllum commune Metacaspases. L. Nguyen, Union College

781.13 A Novel Inexpensive Media for the Growth of Escherichia coli Expressing a Recombinant Lipase. J. Okpuzor, University of Lagos

781.14 Does SpNox directly produce hydrogen peroxide?. J. Scott Kennesaw State University

781.15 Expression and purification of Class D flavin dependent monoxygenase N-oxygenases. S. Truong, California State University, Northridge

781.16 Function, timing and catalytic mechanism of NosN, a class C radical SAM methylase involved in the biosynthesis of nositeptide's side-ring system. B. Wang, Pennsylvania State University

781.17 Development of a Novel In Situ Activity Assay for Lysyl Oxidase Like-2 (LOXL2). H. Wang, Johns Hopkins University

781.18 Cloning, purification, and enzymatic activity of the quorum sensing signal synthase RhlI. N. Wetherald, Ithaca College

781.19 In silico and in vitro Studies of Human Sα-reductase Type II Reveal New Loss of Function Variants. E. Katharopoulos, University Children's Hospital Bern

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Drug Screening and Development

782.1 Effect of Bioactive Component and Antiproliferative Potential of Ganoderma Spp. on Cultured Human Breast Adenocarcinoma (MCF-7) Cell Line. O.A. Adebesin, University of Lagos

782.2 Glycosaminoglycans and Glycosaminoglycan Mimetics as Human Neutrophil Elastase Inhibitors for Cystic Fibrosis Management. D.K. Afsosah, Virginia Commonwealth University

782.3 Free Radical Scavenging Activities of Extracts and Bioactive Constituents from the Roots of Plumbago zeylanica (Linn.). G.O. Ajayi, Lagos State University College of Medicine

782.4 A Non-Radioactive Cell-Based Screening Assay to Identify Inhibitors of the Monocarboxylate Transporter Protein 1 (MCT1). T.L. Bailey, Moffitt Cancer Center

782.5 Identification and Characterization Chemical Compounds that Inhibit Lysyl-tRNA Synthetase from Pseudomonas aeruginosa. S. Balboa, University of Texas - RGV

782.6 Development of a Novel Calcitulin Reporter for Determination of Immunogenic Cell Death. R. Bocian, Western Illinois University

782.7 Identification of Chemical Compounds that Inhibit the Function of Initiation Factors I and III from Pseudomonas aeruginosa. N.M. Cantu, University of Texas - RGV

782.8 Identification of Inhibitors of Glutamyl-tRNA synthetase from Pseudomonas aeruginosa. Y. Escamilla, University of Texas - RGV

782.9 Reconstituting human P-glycoprotein (MDR1) into membrane nanodiscs. R. Farokhnia, Southern Methodist University

782.10 Purification, isolation and Inhibition of Entamoeba histolytica's bifunctional alcohol/aldoxyde dehydrogenase (EHADH). M.L. Gabrielle, Roger Williams University

782.11 Modulating Activity of ABC Transporters in Blood Brain Barrier Cells in Culture. K.L. Holcomb-Webb, Southern Methodist University

782.12 Cloning and Characterization of the Tyrosyl-S and Tyrosyl-Z tRNA Synthetases from Pseudomonas aeruginosa. C.A. Hughes, University of Texas - RGV

782.13 Optimization of Breast Cancer Resistance Protein (BCRP) Purification from PichiaPinkTM. M.K. Jensen, Southern Methodist University

782.14 Pitavastatin Selectively Kills PTEN Knock Out Cells and Cancer Organoids in Mouse Model via the Mevalonate Pathway. Z. Jiao, Johns Hopkins University, School of Medicine

782.15 Disruption of Rho GTPase Prenylation by Statins Inhibits Respiratory Syncytial Virus. M. Mahi, University of Toronto

782.16 Efficacy of Naloxone as a Treatment for an Acute Exposure to Aerosolized Carfentanil. B.J. McCranor, US Army Medical Research Institute of Chemical Defense

782.17 Lipophilic Modification of an Anti-Cancer Stem Cell Agent Improves Pharmacokinetic and Anti-Cancer Properties. S. Morla, Virginia Commonwealth University

782.18 Assessing Lipid Activation of Human P-Glycoprotein for ATP Hydrolysis Analyses in the Presence of Novel Inhibitors. D.D. Okwuone, Southern Methodist University

782.19 Induction of Apoptosis by Peptide J18 in Ovarian Cancer Cells. K. Oldenburg, Western Illinois University
**ASBMB posters TUESDAY continued**

**783**
**Protein and Peptide Chemistry**

**E161 783.1** Effect of Hydrogen Peroxide on Hydrolysis of Proteins. I. Ailes, Stockton University

**E162 783.2** Purification of Palmityl Protein Thioesterase and Aeryl Protein Thioesterase for use in In Vitro Depalmitoylation Reactions. D. Esoe, Bemidji State University

**E163 783.3** Degradation of Proteins Extracted from Teeth by Hydrogen Peroxide. J. Tadros, Stockton University

**E164 783.4** Butelase: Linkage-specific Ligated C. P. Tam, Nanyang Technological University

**E165 783.5** Effect of Hydrogen Peroxide on Collagen. D. Valdes, Stockton University

**784**
**Protein-Small Molecule Interactions**

**E166 784.1** Ligand docking suggests iso- mer specific catechol induced SIRT1 activa- tion. M. Brenneman, Ohio Northern University

**E167 784.2** Effects of Dihyromotuphor- ramine C Derivatives on Actin Assembly Dynamics. J.B. Heidings, University of Central Florida

**E168 784.3** The lower base of corinnoid small molecules regulates reductive de- halogenase enzyme function in Dehalo- cocccides species. N. Jiang, University of Tennessee

**E169 784.4** Synthesis of 1,4-disubstituted aminoacontaquinone derivatives for purifi- cation of lactate dehydrogenase. J.L. Kubis- ta, Saint Mary’s University of Minnesota

**E170 784.5** Structural and Dynamics of Glucocorticoid Receptor Ligand Binding Do- main in Complex with PGClα and Synthetic Glucocorticoids. X. Liu, Emory University

**E171 784.6** pM to µM: Elucidating the Interdependence of Highly Resistant HIV-1 Proteases. G.J. Lockbaum, UMass Med School

**E172 784.7** Discovering c-di-AMP binding proteins in Streptomyces. W. Lu, Otterbein University

**E173 784.8** Improving Ligand Geometry in Protein Data Bank Structures Computa- tionally. B. Miller, Smith College

**E174 784.9** Selective Inhibitor Design Tow- ard CA IX For Breast Cancer Treatment Using Carbohydrate-Based Compounds. A. B. Murray, University of Florida

**E175 784.10** The role of osmolytes and crowders in differential binding of ligands to dihydropyruvate synthase: A glimpse into how these molecules can affect the function of an enzyme. D.K. Nambiar, University of Tennessee Knoxville

**E176 784.11** Design and Synthesis of Pho- toaffinity Probe for Identification of Pro- tein Targets of Glycosaminoglycan Mi- metics. R. Ongolu, Virginia Commonwealth University

**E177 784.12** Structural Investigation of Mel- atonin Metabolites as Calmodulin Antago- nists and potential Nitric Oxide Synthase Inhibitors. D. Pimlott, University of Waterloo

**E178 784.13** Porphyrin Nanostructures Modulates Its Protein Aggregation Ability via Differential Oxidation and Protein Binding. B.M. Pinskey, University of Michigan Medical School

**E179 784.14** C-12 Binds to Tubulin at the Cochicine-binding Site and Target Microtu- bules by Preferentially Binding to GTP- bound Tubulin. S.S. Prassanawar, Indian Institute of Technology Bombay

**E180 784.15** Methamphetamine alters the expression of Toll-like receptor 4 on mi- croglia-like cells. D.E. Rivera, University of Puerto Rico in Ponce

**E181 784.16** A Salt Bridge between α4 and α5 Helices Drives Differences in Flexibility and Potency of Inhibition among Regulator of G-protein Signaling (RGS) Proteins. V.S. Shaw, Michigan State University

**E182 784.17** The effect of caffeine on actin filament assembly. A. Zhai, University of Central Florida

**E183 785.1** Functionalizing Cell Membranes with DNA Origami for Multiplexed Biomolecular Sensing. E. Akbari, The Ohio State University

**E184 785.2** Development of Drug Delivery Systems to Overcome Cisplatin-Resis- tance in Lung Cancer. A. Aponte Diaz, San Juan Bautista School of Medicine

**E185 785.3** Induction of Neoplastic Transformation, AP-1 Signaling, PDCD4 signaling, and DNA Damage by Metal Oxide Nanoparticles Involves ROS-Medi- ated MAPK Pathways in JEB6 Cells. T.L. Bar- ber, CDC/NIOSH

**E186 785.4** Delivery of Lethal dsRNAs in Insect Diets by Branched Amphiphilic Peptide Capsules. S.M. Barros, Kansas State University

**E187 785.5** Utilization of a DNA Nanoswitch to Detect Parallel Poladenylic Duplex Formation. K. Brylow, Rochester Institute of Technology

**E188 785.6** Molecular Beacon-based Fluorescence Magnetic Nanoprobes for Tumor-related HSP90 mRNA In-suit De- tection and Imaging. Z. Chen, University of Sctronic Science and Technology of China

**E189 785.7** CAR T-cells’ Interaction with Artificial Antigen Presenting Cell Surface. Q. Dirar, North Carolina Agricultural and Technical State University

**E190 785.8** Crossing Blood-Brain Barrier with Carbon Quantum Dots. E.S. Seven, University of Miami

**E191 785.9** Biomaterials with Functionally Graded Stiffness. B. Siemens, Albion College

**E192 785.10** Refinement of the water-in- oil reverse microemulsion process for the encapsulation of proteins within silica nanoparticles. E.W. Strong, Hampden-Sydney College

**E193 785.11** Branched Amphiphilic Peptide Capsules: Agents for Gene Delivery and Immunomodulation. J.M. Tomich, Kansas State University

**E194 785.12** Tracking and Detection of Bac- terial Quantum Dots. Z. Untracht, Univer- sity of Central Florida

**786**
**Cell Stress and Xenobiotics**

**E195 786.1** Comparing ROS Production in Murine Microglial Cells in Response to Two Different Types of Particulate Matter. L.L. Merrill, Dakota Wesleyan University

**E196 786.2** Oleuropein reduces Prdx1 expression, cell proliferation and viability in K562 human leukemia cells. S.A. Phelan, Fairfield University
E197 786.3 Heat Shock Protein 90 Inhibition in Kasumi-1 Leukemic Stem Cells. M.J. Rosolen, University of Charleston
E198 786.4 Cell Death Induced by Airborne Particulate Matter in Murine Microglial Cells. M.E. Street, Dakota Wesleyan University
E199 786.5 Time-Resolved Shotgun Lipidomic Analysis of Murine Astrocyte Cells Exposed to airborne particulate matter. M. Travis, Dakota Wesleyan University
E200 786.6 The Toxicity of Electronic Cigarette Vapor on Human Oral Cells. J.F. Urena, The Pennsylvania State University

787 Allosteric Control of Signaling Pathways

E201 787.1 Membrane Physical Properties Regulate the Rate and Acyl Chain Specificity of One of the Steps of the Phosphatidylinositol Cycle. J. Bozelli Junior, McMaster University
E202 787.2 Phosphorylation of PEA-15 in HIV-TAT Mediated Disruption of Blood-Brain Barrier. A. Cabezas, New Jersey City University
E203 787.3 Examining lateral development through CXCL14 modulation of CXCL12-CXCR4 mediated gene expression in Danio rerio. A.C. Calderon-Zavala, Lawrence University
E204 787.4 Modulating Human Follicle Stimulating Hormone Signaling Activity Using Negative Allosteric Modulators. J.R. Love, Union College

788 Spatiotemporal Control of Signaling

E205 788.1 Fyn is recruited to specialized clathrin coated pits and regulates EGF receptor signaling. C.N. Antonescu, Ryerson University
E206 788.2 Spatiotemporal Control of Glycolysis Modulates ATP Generation and Enhances Restoration of Endothelial Barrier Function Following Inflammatory Injury. P.A. Gajwani University of Illinois
E207 788.3 Some reassembly required: Requirements for RAVE-mediated reassembly of the yeast V-ATPase. M.C. Jaskolka, SUNY Upstate Medical University

E208 788.4 Inducibility and role of mTORC1 signaling in intestinal epithelial cells as a result of cell differentiation. H. Kaar, University of Nebraska-Lincoln
E209 788.5 The A-kinase anchoring protein b-synemin binds PKCe. M. Russell, Kent State University at Trumbull

789 Cell Motility and Migration

E210 789.1 Ganoderma lucidum extract decreases motility and lamellipodia formation of triple-negative metastatic breast cancer. A.C. Acevedo-Diaz, University of Puerto Rico Bayamon
E211 789.2 An Evaluation of Palladin Overexpression in Pancreatic Cancer Cells. J. Bush, California State University, Fresno
E212 789.3 A Genetic Screen for Proteins Involved in ASP Invasion of the Wing Disc of Drosophila melanogaster. A. Gondal, Garton Academy, Western Kentucky University
E213 789.4 Loss of Cytoskeleton-Associated Protein 4 (CKAP4) Expression Enhances d5β1-mediated Bladder Cancer Cell Adhesion and Migration. S. Lobo, Geisinger Commonwealth School of Medicine
E214 789.5 Exosomes Promote a Metastatic Microenvironment in Triple Negative Breast Cancer. P.A. Roberts, Xavier University of Louisiana
E215 789.6 Role of hydrogen sulphide in regulating invasion in trophoblast cells. S. Saxena, AIIMS

790 Tumor Suppressors and Tumor Drivers

E216 790.1 Exploring the Structural Link Between BRCA1 and Carcinogenesis. J. Baugh, Olathe North High School
E217 790.2 Extracellular MIF and Wnt and eph/ephrin signaling are involved in WWOX-regulated cell-cell recognition and migration. N. Chang, National Cheng Kung University
E218 790.3 The effects of Se-allylseleno-cysteine (ASC), an analogue of garlic compound, on DMBA/TPA-induced skin tumorigenesis. A. Cheng, Chang Jung Christian University
E219 790.4 Garlic, Ginger and Tumeric Extracts Alter Cell Cycle Arrest through Estrogen Pathway. O.A. Ebuiehi, University of Lagos, Nigeria
E220 790.5 Deletion of Arid1a in osteosarcoma enhances aggressive cell phenotypes. K. Fatema, Idaho State University
E221 790.6 Olfactory Receptor Family 7 Subfamily C Member 1 Expression in T-cell Acute Lymphoblastic leukemia Identifies a Potential Stem Cell Sub-population. D. Jeon, University of Texas at El Paso
E222 790.7 Heme Oxygenase-1-Derived Carbon Monoxide Promotes Growth and Progression in Uveal Melanoma. L. Longhi, University of Catania
E223 790.8 MacroH2A Variant Suppresses Uveal Melanoma Progression and Rewires Cancer Metabolic Phenotype. L. Longhi, University of Catania
E224 790.9 Regulation of mTOR expression by Casein Kinase II (CK2) signaling pathway in leukemia. J. Payne, Penn State University Medical Center

791 Neurobiology and Neuronal Signaling

E225 791.1 Glia Maturation Factor-Anti-body Injection Reduces Behavioral Impairment, Neuro Inflammation and Amyloid Pathology in 5XFAD Mice Brains. M. Ahmed, University of Missouri
E226 791.2 Examination of downstream targets of the FKH-8 transcription factor in dopaminergic neurons. A. Anthony, Fisk University
E227 791.3 Effects of Androgen Availability on the Activation of Neuroprotective Pathways Following Traumatic Brain Injury. L. De La Cruz, Vassar College
E228 791.4 Tract-Tracking in Rhesus Macaques Reveals Anatomical Connectivity of the Posterior Cingulate Cortex and Medial Temporal Lobe. O.R. Drake, Juniata College
E229 791.5 Mast Cells Augment Neuroinflammation and Neurodegeneration. K. Durasamy, University of Missouri, School of Medicine, Department of Neurology
E230 791.6 Investigating the Role of Cdk5 in Alzheimer’s Disease and Type-2 Diabetes. J.L. Fumari, Marymount Manhattan College
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Immune Signaling

E246 792.1  The E3 Ligase TRAF6 directs FOXP3 localization and facilitates Treg function through K63-type ubiquitination. J. Barbi, Roswell Park Comprehensive Cancer Center

E247 792.2  Attenuated Innate Immunity in Mouse Embryonic Stem Cells as a Self-Protective Mechanism for Early Embryogenesis. B. Chen, The University of Southern Mississippi

E248 792.3  Higher-Order Clustering of the Transmembrane Anchor of DR5 Drives Signaling. T. Fu, Boston Children’s Hospital

E249 792.4  The gamma-aminobutyric acid (GABA)A receptor modulates the cytokine response to rhinovirus exposure in human monocytic cells. D.J. Hall, Lawrence University

E250 792.5  Dissecting the Role of Arg-GAP12 in Natural Killer Cell-Mediated Cytotoxicity. R.A. Heyblom, Mayo Clinic

E251 792.6  Eliciting Differentiation of Human T Lymphocytes into TH1 or TH2 cells with Inorganic Arsenic Exposure. M.A. Jewell, Salisbury University

E252 792.7  LPS decreases the expression of Monocarboxylate transporter-1 (MCT1) in mouse monocytes. J.D. Ochtrietor, University of North Florida

E253 792.8  Modulation of Nuclear Receptor Family 4A (NR4A) Expression by CO2. D.P. Phelan, University College Dublin

E254 792.9  Homogenized mouse neural retina extracts stimulate an immune response in the mouse monocyte RAW 264.7 cell line. A.N. Ray, University of North Florida

E255 792.10  Effects of DNA sequence, endosomal pH, and lipid rafts/caveolae on uptake of human cathelicidin LL-37/dsDNA complexes by monocytic cells. E. Rhodenizer, Mary Baldwin University

E256 792.11  Host-Pathogen Interactions in the Pulmonary Vasculature During Infection with Human Immunodeficiency Virus. V. Rodriguez-Irizarry, University of Puerto Rico-Ponce

E257 792.12  Measuring T-cell avidity and enrichment using an acoustic force-based technology. W. Scheper, The Netherlands Cancer Institute

E258 792.13  Flame Retardant, Hexabromocyclododecane, Alters Secretion of Interleukin 6 from Human Immune Cells. E.M. Shelby, Tennessee State University

E259 792.14  Enhancing the anti-tumor efficacy of chimeric antigen receptor-expressing T cells with naturally occurring plant stilbenes. A. Soles, Longwood University

E260 792.15  Effects of flavor chemicals commonly found in E-vaping liquids on IL-8 increase and barrier function in human epithelial cells. B. Ware, Simmons University

E261 792.16  Interferon Induces Expression of the Immune Checkpoint PD-L1 via Bcl3 Upregulation in Ovarian Cancer Cells. Y. Zou, St. John’s University

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Targeted Therapies and New Targets for Drug Discovery

E262 793.1  Polyphenol E Alters Protein Levels in PC-3 Cells. C. Couming, The University of Tampa

E263 793.2  Comparisons of ATP-competitive (Type I) versus function-selective (Type IV) ERK Inhibitors to Prevent Airway Smooth Muscle Cell Proliferation. A. Defnet, University of Maryland School of Pharmacy

E264 793.3  Synthesis and Evaluation of a Photoswitchable COX-2 Inhibitor. M. Denison, Albion College

E265 793.4  The variable C-terminal domain of human type II topoisomerases as a functionally relevant therapeutic target. J.E. Deweese, Lipscomb University College of Pharmacy and Health Sciences

E266 793.5  The hydrogel-encapsulated liver X receptor ligand, T0901317, enhances its anti-tumorigenic effects but eliminates lipogenesis. K. Feng, Nankai University

E267 793.6  Semi-Quantitative Analyses of Protein Expression in Polyphenol E-Treated PC-3 Cells. C.G. Murtagh, The University of Tampa

E268 793.7  Recombinant Immunotoxins against Latent Epstein Barr Virus Infections. Y. Zhu, Towson University
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Energy Metabolism, Oxidative Phosphorylation

E269 794.1 Angiotsin-converting enzyme (ACE) up-regulates metabolic function in myeloid-derived cells. D. Cao, Cedars Sinai Medical Center

E270 794.2 Influence of SNF1 Gene on Glycolytic Flux Addressed to Aerobic Fermentation (Crabtree Effect) of Saccharomyces cerevisiae. A. Carrillo, Universidad Politécnica de Guanajuato

E271 794.3 Importance of Hydrophobic Bulk at the Rotor-Stator Interface of E. coli ATP Synthase. M. Dodd, University of North Carolina Asheville

E272 794.4 Metformin Has Direct Protective Effect on Human Cardiac Mitochondria. L. Emelyanova, Center for Integrative Research on Cardiovascular Aging (CIRCA), Aurora Research Institute

E273 794.5 Understanding the Role of Polar Residues on the c-Ring of E. coli F1Fo ATP Synthase. M. Founds, University of North Carolina Asheville

E274 794.6 Facilitating fructose-driven metabolisms increases a capability to resist anoxic stress in Drosophila. M. Kim, Inje Univ

E275 794.7 Effect of the SNF1 Deletion in the Glycolytic Pathway of Saccharomyces cerevisiae Grown at 1% Glucose. C. Martinez-Ortiz, Universidad Politécnica de Guanajuato

E276 794.8 Loss of Carnitine Palmitoyltransferase-2 in skeletal muscle results in muscle remodeling and tissue-specific sensitivity to insulin. A.S. Pereyra, East Carolina University/East Carolina Diabetes and Obesity Institute

E277 794.9 Characterization of the NCoR1 complex and its association with the molecular control of the mitochondrial biogenesis process. L.R. Silva, Unicamp

E278 794.10 S-sulfhydration of SIRT3 by hydrogen sulfide attenuates mitochondrial dysfunction in cisplatin-induced acute kidney injury. Y. Yuan, West China Hospital, Sichuan University

E279 794.11 Energy and Cellular-Defense Systems are Target for Anti-Senescence Activity of Methylene Blue. H. Atamma, California University of Science and Medicine

E280 794.12 Aging-induced Mitochondrial Damage: The Role of Endoplasmic Reticulum Stress. Q. Chen, VCU

E281 794.13 Evidence that endurance exercise improves cardiac function in POLG mice. B. Hill, Medical College of Wisconsin


E283 794.15 Effects of resistance-induced heat on mice skin. A. Monte-Alto-Costa, Rio de Janeiro State University

E284 794.16 The role of sphingolipid metabolism in lifespan and healthspan extension in C. elegans. J. Radeny, Junia College

E285 794.17 Aging gut microbiome profile and ghrelin signaling in microbiome homeostasis. C. Wu, Texas A&M University

795
Metabolism and Nutrition

E286 795.1 Postprandial Skeletal Muscle Metabolism Following a High Fat Diet in Sedentary and Endurance Trained Males. M. Baugh, Wake Forest School of Medicine

E287 795.2 Cardiometabolic Profile after Pediatric Cancer Treatment: Insight into HDL Composition and Nutritional Intake. V. Belanger, University of Montreal

E288 795.3 Suppression of NLRP3 inflammasome activation in LPS-induced RAW264.7 cells by natural compound Lava Spirulina maxima extract. S. Chei, CHA University

E289 795.4 Pilot Studies of Two Possible Iron Uptake Mechanisms in Insect Cells. M. Coca, Kansas State University

E290 795.5 The A2B Adenosine Receptor Antagonist Alloxazine Exacerbates NASH and Disrupts Cellular Folate Metabolism in Methionine and Choline Deficient Mice. B.J. Eudy, University of Florida

E291 795.6 Drosophila CG1275 Expression, Antibody Production, and Western Blotting. B.M. Garcia, Metropolitan State University of Denver

E292 795.7 Investigating a cytochrome b561 family member in insect cellular iron uptake. J. Holst, Metropolitan State University of Denver

E293 795.8 Silk Peptide from Bombyx mori Promotes Browning and Inhibits Fat Accumulation in Subcutaneous White Adipocytes. K. Lee, CHA University

E294 795.9 Protective Role of Lycium Barbarum Polysaccharides and C-Phycocyanin against Ethanol-Induced Gastric Ulcer. Y. Lian, Taipei Medical University

E295 795.10 Effects of programming on the hepatic epigenome by maternal low-fat diet persist in adult offspring fed an obesogenic diet. L. Moody, University of Illinois at Urbana-Champaign

E296 795.11 Characterization of a Membrane-Bound Insect Transferrin. D.G. Najera, Kansas State University

E297 795.12 Anthropometry, Energy Metabolism and Nutritional Intake of Girls with Adolescent Idiopathic Scoliosis. E. Normand, Université de Montréal

E298 795.13 Novel CBWD Gene Products Augment Mammalian Zinc Homeostasis. Q.A. Ogo, Benue State University Makurdi

E299 795.14 Dietary Matrix Alters Fecal Lipids and Lipoprotein Profiles in Healthy C57Bl/6 Mice. T.R. Price, Texas A&M University

E300 795.15 Ferric Reductase Knockdown in Drosophila S2 Cells. O.A. Rodriguez Arimendiz, Metropolitan State University of Denver

E301 795.16 Ginger provides neuroprotection in experimental model of traumatic brain injury. K. Sahin, First University

E302 795.17 Ishige okamurae Extract Reduces Obesity in High Fat Diet-Induced Obese Mice. Y. Seo, CHA University

E303 795.18 Regulation of the hedgehog pathway by the ketogenic diet with radiation exposure. D. Sharma, University of Illinois, Urbana Champaign

E304 795.19 Anti-apoptotic effect of Korean ginseng extract on aging-induced ovary via inhibition of p63 signaling pathway in mouse. J. Song, CHA University

E305 795.20 Decrease of n6/n3 PUFA Ratio Augmented Growth and Improved Markers of Intestinal Barrier Integrity in Small Intestinal Organoids Derived from Naïve and Alcohol-Fed Mice. J.B. Wamer, University of Louisville

E306 795.21 Caloric Intake Affects Neonatal Bone Development and Energy Metabolism. W. Zhang, University of Maryland

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Lipids and Membranes

E307 796.1 The Catalytic Activity of the PAHI-encoded Phosphatidate Phosphatase is Required for Lipid Biosynthesis in the Oleaginous Yarrowia lipolytica. T. Carmon, Alabama A&M University
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Lipid Domains and Lipid Rafts

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Glycans and Glycobiology

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Glycosyltransferases and Hydrolases
800  
Protein-Glycan Interactions

E348 800.1 Probing galectin-3 extracellular activity using synthetic oligomers with defined carbohydrate-recognition domain valency. S. Farhadi, University of Florida

E349 800.2 Investigation of an antifungal peptide, Diapausin, from Manduca sexta. M. Li, Kansas State University

E350 800.3 Glycosaminoglycan Recognition of Neutrophil-Activating Chemokines. B. Nagarajan, Institute for Structural Biology, Drug Discovery and Development

E351 800.4 Structural Aspects of Glycosylated Protein-Glycan Interactions by NMR. J.H. Prestegard, University of Georgia

E352 800.5 Towards computational prediction of the heparan sulfate interactome. N. Sankaranarayanan, Institute for Structural Biology, Drug Discovery, and Development; Virginia Commonwealth University

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Glycan Biotechnology and Drug Development

E353 801.1 Protein Engineering and Glycan Optimization Improves Pharmacokinetics of an Enzyme Biologic 10-fold. D.T. Braddock, Yale University

E354 801.2 Engineered High-Specificity Affinity Reagents for the Detection of Glycan Sialylation. R.J. Woods, University of Georgia

E355 801.3 Novel Rigid Glycomimetics to Inhibit Influenza Infection. R.J. Woods, University of Georgia

E356 801.4 GlycoSenseTM: A Simple Alternative to Existing Methods for Glycosylation Detection and Monitoring. R.J. Woods, University of Georgia

E357 801.5 Synthesis and Development of peptidoglycan fragment microarray and probes to investigate innate immune signaling. J. Zhou, University of Delaware
**ASBMB Posters**

**TUESDAY APRIL 9**

**LATE BREAKING**

**Exhibit Hall**

Poster set up by: 9:00 AM  
Poster display: 9:00 AM — 4:00 PM  
Poster removal: 4:00 — 6:00 PM

**Author at boards:**

Even boards present: 11:45 — 12:30 PM  
Odd boards present: 12:15 — 1:00 PM

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Genome Dynamics: DNA Replication, Repair and Recombination Late Breaking Research

- LB172 Assessing the Role of Ndc80 Kinetochores Complex in Accurate Chromosome Segregation. X. Rodriguez-Lopez, The University of Puerto Rico in Ponce
- LB173 Mitochondrial DNA replication-related Nucleotide Patterns: Ancient ruins or living structures? M. Franco, Northeastern University
- LB174 A Lethal Replication Roadblock imposed by a Catalytically Inactive DNA Polymerase. A. Hernandez, Harvard Medical School
- LB175 Using an in vitro fluids approach to model the evolution of metastatic breast cancer reveals shear stress as a possible driver of genomic instability and somatic mutation. M. Bratton, Xavier University of Louisiana
- LB176 Exploring a potential link between cell cycle regulation and Cancer Testis gene misregulation. S. Alhewati, Michigan Technological University

Chromatin Structure, Remodeling and Gene Expression Late Breaking Research

- LB177 FLG loss of function mutations R501X and R2447X in Puerto Rico: Association of Genetic Ancestry with Atopic Dermatitis and Ichthyosis Vulgaris. E. Ramirez-Aponte, University of Puerto Rico at Mayagüez
- LB178 Manipulating Cellular Trafficking Positively Affects Syn-TEF Function in Human Tissue. S. Rider, University of Wisconsin-Madison
- LB179 Stress hormones induce DNA damage in ovarian cancer cells. R. Lamboy Carraballo, Ponce Health Sciences University
- LB180 Protein-DNA interactomes of cardiac transcription factors GATA4 and NKX2-5. E. Carrasquillo, University of Puerto Rico Rio Piedras campus
- LB181 Determination of the DNA binding preference of the SIX transcription factor optix in Heliconius butterflies. A. Rivera, University of Puerto Rico Rio Piedras campus

- LB182 Decitabine Treatment Demethylates Vast Majority of High-Confidence Differentially Methylated Regions in HCT-116 Colorectal Cancer Cells. W. Conrad, Lake Forest College
- LB183 Methylation of Rbl CpG island by SUV39H1/DNMT3A promotes malignant melanoma development. G. Kim, College of Pharmacy, Chosun University
- LB184 The Role of E4BP4 in Apoptosis of Human Leukemia Cells in Culture. E. Mitchell-Velasquez, California State University, Northridge
- LB185 Uncovering DNA binding properties of the GATA4 and TBX5 transcription factor complex. E. Rosado-Rodriguez, University of Puerto Rico-Rio Piedras (UPR-PR)
- LB186 Gene Expression of DNA Repair Proteins in Colon Cancer Tissue. K. Odufula, University of Salford
- LB187 Chromatin Modulation Underlies Multiple Routes to Enhanced Learning and Memory. T. Sanders, Vanderbilt University
- LB188 Systematic Characterization and Conservation of Adjacent Gene Co-Regulation in Fungi. R. Eldabagh, William Paterson University of New Jersey
- LB189 Three-dimensional reconstruction of Prdm family gene expression patterns during mouse development stage by tissue clearing technique. J. Woo, Yonsei University College of Medicine

RNA: Processing, Transport, and Regulatory Mechanisms Late Breaking Research

- LB190 Synergistic and Global Effect of C-terminus of Hfq in Small RNA Regulation. K. Kavita, National Cancer Institute, National Institutes of Health
- LB192 Characterization of the Interaction between ISET1 and Exo70E2 in Arabinoside. L. Camacho, CSUN
- LB193 A Large Scale Analysis of the Utilization of Programmed -1 Ribosomal Frameshifting as a Recoding Mechanism for the Expression of Human Genes. Z. Du, Southern Illinois University
- LB194 Regulation of 2＇-5＇oligoadenylate synthetase 1 (OAS1) by small double-stranded RNAs. S. Schwartz, Emory University

Protein Synthesis, Structure, Modifications and Interactions Late Breaking Research

- LB195 Unstructured Proteins in Biological Structures: The Case of Human Teeth from a Protein Chemist Perspective. V. Sharma, All India Institute of Medical Sciences
- LB196 The Role of &lt;alpha;v&gt;,&lt;beta;3&gt; Integrin Proteins in Glaucoma. A. Fassler, School of Marshfield
- LB197 Point Mutation of Aquaporin 4 Impairs its Binding in Neuroneutuilis Optica. J. Repligole, Summit Country Day School
- LB198 Prediction Modeling of the MYH6 R443P Variant in Hypoplastic Left Heart Syndrome. C. Kaiser, Marquette University High School
- LB199 Plant Cell-Secreted Growth Factors for ex vivo Mass Production of Red Blood Cells. J. Xu, Arkansas State University
- LB201 Regulation of Carbonic Anhydrase Expression in Experimental Colitis: A Possible Mechanistic Link with Na-H Exchanger. L. Khan, Kuwait University
- LB202 Kinetic Studies of 2＇-(2＇-hydroxyphenyl)benzenesulfinate desulfinase substrate analogs. D. Kedir, James Madison University
- LB203 Ordered and Disordered Segments of Amyloid-β Drive Sequential Steps of the Toxic Pathway. S. Maiti, Tata Institute of Fundamental Research
- LB204 Use of NMR to probe changes in the flexibility of acid-stress chaperone HdeB from its inactive to active state. L. Abbas, California State University Northridge
- LB205 Structural Insights into Phosphoarginine C[epislon] Function. N. Rugema, Purdue University
- LB206 Crystal structure of a dimerization domain of Drosophila Caprin protein. X. Zhou, Southern Illinois University
2808  
Enzyme Chemistry and Catalysis Late Breaking Research

LB207  Light sensitivity of the photoreceptor cryptochrome of the Drosophila circadian clock and its interaction with other clock components. C. Lin, Cornell University

LB208  Structural mechanism of vaccinia virus protein C6 mediated inactivation of transcription factors IRF3 and IRF7 via inhibition of TBK1 mediated scaffold protein-protein interactions. S. Chakraborty, North Carolina State University

LB209  The Pre-N Domain is a Distinct Feature of Grp94 that is Essential for Client Maturation and Regulation. J. Huck, University at Buffalo

LB210  DNA-binding specificity of TBX5 and its coding variants associated with Holt-Oram Syndrome. B. Cesar, University of Puerto Rico - Rio Piedras Campus

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Chemical Biology, Drug Discovery and Bioanalytical Methods Late Breaking Research

LB219  Explorations of Sodium-Potassium Adenosine Triphosphatase, Na+K+ ATPase, and the Inhibitory Cardiac Glycoside, Ouabain. C. Kywe, Blue Valley North High School

LB220  Using Enzyme Kinetics and Small Angle X-ray Scattering to Understand the Allosteric Regulation of SIRT1. N. Wang, San Jose State University

LB221  MppP: The Beginning of L-End (Synthesis). K. Tiffany, Cedarburg High School

LB222  Identifying an Allosteric Switch Region in Human SIRT1. A. Huynh, San Jose State University

LB223  Highly efficient capture of circulating tumor cells by microarray in a microfluidic device. H. Liu, Karlruhe Institute of Technology (KIT)

LB224  Acetoacetate Enhances the Cytoxicity of Anti-tumor Agents on MCF-7 Breast Cancer Cells Without Itself Inducing Cell Death. B. Lin, SUNY Downstate Medical Center

LB312  Highly efficient capture of circulating tumor cells by microarray in a microfluidic device. H. Liu, Karlruhe Institute of Technology (KIT)

LB225  Isolation of Synergistic Natural Products Targeting Metabolic Dysfunction in Pediatric Pre-B Cell Acute Lymphoblastic Leukemia Using High-Throughput Screening and Metabolomics. M. Collins, University of Texas at Austin

LB226  Cationic Derivatives of Polyiso- prenoids and Commercial Lipid-Based DNA Carriers for Transfection in vivo in Spontaneously Hypertensive Rats. O. Gawryls, Mossakowski Medical Research Centre Polish Academy of Sciences

LB227  Bioactive molecules isolated from olive pomace extract protect murine cortex neurons from NMDA-mediated cell death. A. Franchi, University of Genoa

LB228  Assessing anti-cancer potential of newly synthesized staurosporine analogs . B. Hurysz, Hobart & William Smith Colleges

LB229  Modulation of gap junctional intercellular communication in HaCaT cells by xenobiotics. R. Shipman, University of Wisconsin Stout

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Genomics, Proteomics and Metabolomics Late Breaking Research

LB230  Highly efficient capture of circulating tumor cells by microarray in a microfluidic device. H. Liu, Karlruhe Institute of Technology (KIT)

LB231  Acetoacetate Enhances the Cytoxicity of Anti-tumor Agents on MCF-7 Breast Cancer Cells Without Itself Inducing Cell Death. B. Lin, SUNY Downstate Medical Center

LB232  Evaluation of Anti-Lion Larvae Extract As Alpha-Glucosidase and Alpha-Amylase Inhibitor. M. Adeyanju, WMU

LB233  The assembly and function of poxvirus proteins. N. Safari, WMU

LB234  SPI01, a novel synthetic compound displays survivin suppression, apoptosis and tumor inhibition in both the EG-FR-wild type and -T790M of non-small cell lung cancer. J. Chao, National Chiao Tung University

LB235  Metabolomics Analysis of Opiate Abusers from Golestan Cohort Study (GCS). R. Ghanbari, Nutrition Research Institute, University of North Carolina at Chapel Hill

LB236  Nicotinic acetylcholine receptor si- lent agonists modulate inflammation. A. Simard, Northern Ontario School of Medicine

LB237  EU-OPENSCREEN - Innovative collaboration models for molecular biologists in early drug discovery. B. Stechmann, EU-OPENSCREEN

LB238  Super-SILAC based quantitative phosphoproteomics reveals the potential biomarkers in lung cancer. T. Hsiao, Chang Gung University

LB239  Ovarian Cancer Detection Using Plasma Metabolic Profiling. H. Gu, Arizona State University

LB240  Metabolic reprogramming of the stromal epigenome in ovarian cancer metastasis. M. Eckert, University of Chicago

LB241  Age Association Analysis between Tricarboxylic Acid Metabolites and Neurocognitive Impairment in Persons Living with HIV. S. Azzam, Case Western Reserve School of Medicine

LB242  Proteomics Profiling of Cyclosporine A Treatment of Calcineurin Isoform-Specific Renal Fibroblasts. C. Francis, PhD, Philadelphia College of Osteopathic Medi
**ASBMB posters LATE BREAKING continued**

**LB243** Biosynthesis of IAA and its role as a signal molecule in the phytopathogenic bacterium Pseudomonas savastanoi. A. Pintado Calvillo, University of Malaga

**LB244** The polymorphic region an interleukin B1 is highly associated with type 1 diabetes in Saudis. M. Hamza, King Fahad Medical City

**LB245** Quantifying Ubiquitination Signaling with a Chemical Proteomics Strategy. Y. Li, University of Minnesota

**LB246** Taxonomy and diversity of aldehyde dehydrogenases in bacteria of the Pseudomonas genus. A. Julián-Sánchez, Fac. Medicina, Universidad Nacional Autónoma de México

**LB247** Metabolomic and Lipidomic Characterization of Oxalobacter formigenes to Define Intestinal Oxalate Secretion. C. Chamberlain, University of Florida

**LB248** Long-Term Consumption of High Protein Disrupts Dog Gut Microbiome and Metabolites. E. Gebreselassie, Hill’s Pet Nutrition

**LB249** Impact of Adhd1 Knockout On Metabolic Phenotype in Mouse Liver. J. Sharma, Nutrition Research Institute

**LB250** Characterization of the CRISPR-Cas13b systems in Porphyromonas gingivalis. X. Zhou, Southern Illinois University

**LB251** The Study of the Impact of Genetic Polymorphism of Leptin Gene G2548A on Obesity and Its Related Traits. T. Kamalakanan, Rak Medical and Health Sciences University

**LB252** Coccidioidomycosis Detection Using Targeted Plasma and Urine Metabolic Profiling. H. Gu, Arizona State University

**2814 Signal Transduction and Cellular Regulation Late Breaking Research**

**LB253** Role of WWOX and Zfra in limiting neurodegeneration. N. Chang, National Cheng Kung University

**LB254** Glucocorticoids and Inflammatory Cytokines Synergize to Maintain TLR2 Expression in Airway Epithelial Cells. A. Bansal, University of Calgary

**LB255** PKC8[alpha] Mediates mTORC1 Activation in Non-Small Cell Lung Carcinoma Cells with EGFR Deletion Mutation. M. Sala, Stony Brook University

**LB256** Chromosomal Instability Promotes cGAS-Mediated Cytosolic DNA Response in Metastatic Cancer. M. D’Ausilio, The Pingry School

**LB257** Adenomatous Polyposis Coli-like protein (APCPLP) Functions as a Novel Negative Regulator of NF-κB Signaling in Colon Cancer Cells. M. Martin, IU School of Medicine

**LB258** Prostaglandin E2 signaling networks in T cells revealed through a systems approach. A. Lone, Oslo University Hospital

**LB259** Colecioxin Inhibits Proliferation, Mitochondrial Respiratory Rate, and Membrane Potential in Myoblasts. A. Kolb, USAIREM

**LB260** Colecioxim Impairs Differentiation of Primary Human Skeletal Myoblasts. A. Geddis, USAIREM

**LB261** mTOR inhibition promotes LPS-induced acute lung injury by inducing endothelial hyperpermeability. X. Chen, Nanjing Medical University

**LB262** Dietary Complexation of Peanut Protein to Polyphenolic Extracts Reduces Phospholipid Peroxidation in Mouse Liver. J. Nammour, Suffolk University

**LB263** The Large Tumor Suppressor (LATS) and 14-3-3 Regulate Mixed Lineage Kinase 3 (MLK3) Subcellular Localization. S. Kasturirangan, University of Toledo

**LB264** Investigation of Differential Post Transcriptional Regulation of 4E-BP1 and 4E-BP2 in Eukaryotic Cells Under Stress. S. Gobbooru, St. John’s University

**LB265** Characterization of MAP kinase docking specificity with yeast genetic screens. G. Shi, Yale University

**LB266** FGFR2 and TRPA1 Interaction in Lung Cancer. E. Kyrkiapoupolou, University of Leeds

**LB267** Effects of Photobiomodulation on Apoptosis Process After Induced Myocardial Infarction in Rats: Analysis of Gene Expression. J. Maretti, Nove de Julio University

**LB268** Involvement of MURC/Cavin-4 in store-operated Ca<sup>2+</sup> entry in neonatal cardiomyocytes. G. Boulay, Université de Sherbrooke

**LB269** Does DMD-10 independently affect levels of GLR-1?. J. Nammour, Suffolk University

**LB270** The potential role of IDA-1 and nemromodulatory signaling in GLR-1 regulation. S. McLaughlin, Suffolk University

**LB271** Brown adipose tissue metabolism in arsenic environmental health and obesity. S. Ro, University of Nebraska-Lincoln

**LB272** Annexin V and gaulsa luciferase fusion protein studies for bioluminescence apoptosis detection. A. Perez, University of South Florida

**LB273** Peroxiredoxin VI regulates the epithelial-mesenchymal transition in colorectal cancer. Y. PARK, Korea Research Institute of Bioscience & Biotechnology (KIRIBB)

**LB274** C<sub>16</sub>-Ceramide directly binds and activates p53 in response to cellular stress. K. Jeffries, UNC Chapel Hill NRI

**LB275** Characterization of Cks2 localization and interaction with Cdk1 in mitotic cells of Xenopus laevis embryos. Z. Lu, Grinnell College

**LB276** Arl4A-PAK1 complex establishes a positive-feedback loop contributing to PAK1 activation for cell migration. F. Lee, National Taiwan University

**LB277** Analysis of Photobiomodulation Effects in Cardiac Hypertrophy in Experimental Model of Myocardial Infarction. L. Costa, Noe de Julio University

**LB279** Protein phosphatase 2A-B56 controls mitosis by interacting with LS/TPV/V motif containing protein interactors. S. Chaudhuri, University of Calgary

**LB280** Immune response mediated by NLRP3 expression in children infected with Respiratory Syncytial Virus. E. Assumpcao Neto, UNINOVE

**LB281** The Role of Beta-2 Adrenergic Receptors in Cardiac Bioenergetics Following Severe Burns. A. El Ayadi, University of Texas Medical Branch

**LB282** Zyflamend Induces Apoptosis in Pancreatic Cancer Cells via Modulation of the JNK Pathway. A. Betaibeb, The University of Tennessee, Knoxville

**LB283** RB and CDKN2A cause Rapa-mycin resistance in cancer cells. S. Chakraborty, Hunter College, CUNY

**LB284** Temporal inhibition of ERK Activity by Optogentic Control of MAPK Phosphatase 3. S. Sharum, University of Illinois at Urbana-Champaign

**LB285** The MAL/SRF Pathway Regulates Desmosome Protein Expression and Localization in Cancer Cells. A. Dubash, Furman University
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**Bacteria and Parasites: From Microbiome to Antibiotics Late Breaking Research**

**LB287**  The Effect of Cinnamon Essential Oil on Lactobacillus species. V. Adams, AdventHealth University

**LB288**  Analysis of Genes that Mediate Persistence in Halophilic Microbes Subjected to Osmotic Shock. A. Gregory, Colby College

**LB289**  Inhibition of Multi-Resistance Bacteria by Acetone Extract of Cola acuminata. C. Telles, Southern University and A&M College

**LB290**  Comparative Microbiome Analysis of House Dust Mites, the Most Common Cause of Allergens. T. Yong, Yonsei University College of Medicine

**LB291**  Arabidopsis Histone Deacetylase 5 is Required for Pseudomonas-Induced Deacetylation of Histone H3 at Lysine 9. K. van Dijk, University of Nebraska-Lincoln

**LB292**  Aplysinosins Inhibit Growth of Cryptococcus neoformans by Interfering with Inositol Metabolism. J. Moss, University of North Georgia

**LB293**  Effects of Transplanting an Exercised or Sedentary Microbiota into Gnotobiotic Mice on Global Gene Expression in Gut, Muscle, and Brain Tissue. L. Mail, University of Illinois at Urbana-Champaign

**LB294**  How Entamoeba histolytica goes vampire: the hunt for new genes in the conserved process of trogocytosis. S. Fee-ney, University of California, Davis

**LB295**  How Entamoeba histolytica goes vampire: the hunt for new genes in the conserved process of trogocytosis. S. Fee-ney, University of California, Davis

**LB296**  Evolutionary, Functional and Structural Studies of the ALDH27 Enzymes. R. Muñoz-Clares, Universidad Nacional Autónoma de México

**LB297**  The Phylogenetics of Rhizopha-lus sanguineus and its Role as a Vector of Rocky Mountain Spotted Fever. C. Schaefer, Midwestern University

**LB298**  Shocking! The Effect of TSST-1 in Toxic Shock Syndrome. M. Amholt, Hartford Union High School

**LB299**  The Synergistic Effect of Fiber Blends on Lactobacillus rhamnosus. A. Johnson, AdventHealth University

**LB300**  Characterization of Three Food-borne Bacteria using Hyperspectral Microscopy. R. Rigs, Auburn University College of Veterinary Medicine

**LB301**  Microbial Co-occurrence Patterns and Keystone Species in the Gut Microbial Community of Mice in Response to Stress and Chondroitin Sulfate Disaccharide . R. Li, USDA-ARS

**LB302**  Bio-risk assessment research on genetically engineered cyanobacteria for sustainable biofuels . T. Nguyen, Old Domin- ion University

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**Metabolism and Bioenergetics Late Breaking Research**

**LB303**  Bile Acid Excess Impairs Thermogenic Function in Brown Adipose Tissue. W. Zhou, University of Illinois at Urbana-Champaign

**LB304**  Analysis of an Omega 6:3 Balanced Diet Impact on Hibernation Behavior and Cortisol of Captive Arctic Ground Squirrels. M. Mikes, University of Alaska Fairbanks

**LB305**  EXPRESSION OF IRISIN AND ITS RELATION WITH ANTHROPOMETRIC AND BIOCHEMICAL PARAMETERS IN DIABETES MELLITUS TYPE II PATIENTS. M. Mendonça, Faculdade de Medicina ABC

**LB306**  MicroRNA Profile in Metabolic Heart Disease. M. Rosca, Central Michigan University College of Medicine

**LB307**  Assessment of Cellular Respiration and Oxidative Phosphorylation in Cocks Semen after Freezing. E. Nikitkina, Russian Research Institute of Farm Animal Genetics and Breeding

**LB308**  Quantifying the Contribution of Cardiomyocyte Metabolic Dysfunction to the Heart Mechanical Function. R. Lopez, University of Michigan

**LB309**  Early Alterations in the Expressions of MCTs and HIF-1α[alpha] in Experimental Diabetes Mellitus. J. Encinas, Facul-de de Medicina do ABC - FAMBC

**LB310**  Changes in VEGF and HIF 1α[alpha] gene expression levels as potential diagnostic/prognostic markers in liquid biopsies on breast cancer patients. C. Peiró, FMABC

**LB311**  Elucidating diterpene biosynthesis in Setaria italica (foxtail millet) towards enhancing stress tolerance in food crops. P. Karunanithi, UC Davis

**LB312**  Atg Controls Cellular Warburg Effects by Modifying Hif1a with Arginylation. B. T. Moorhy, University of Miami

**LB313**  Control of Cardiac Mitochondrial Fuel Selection by Calcium. E. Jones, University of Michigan

**LB314**  Ganoderma Lucidum polysaccha-ride inhibits lipid accumulation in vivo and in vitro by activating HIF-1α through ERK1/2 signaling pathway. Y. Wang, Zheji-ang Chinese Medical University

**LB315**  Metabonomic analysis of a mouse model of NASH and correlation with cytokine expression. C. McDermott, University of Florida

**LB316**  NAG-1/GDF5 inhibits HFD-induced obesity and inflammation by modulating gut microbiota. T. Sang, Zhejiang Chinese Medical University

**LB317**  Adaptive effects of prolonged mito-chondrial-targeted catalase on adipocyte differentiation. S. Yang, Appalachian State University

**LB318**  LPS-induced mTORC1 Signaling Activates Lipid Raft-Actin Cytoskeletal Interactions for Phagocytosis through SREBP-1a. J. Lee, Keimyung University

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**Lipids and Membranes Late Breaking Research**

**LB319**  That’s Swell! The Role of Aquaporin in an Inflammatory Response. M. Amholt, Hartford Union High School

**LB320**  The Multifaceted Role of Lipid A 1-phosphatase in Bacterial Envelope Bio-gene-sis. J. Zhao, Duke University Medical Center

**LB321**  Impacts of a Balanced Omega 6:3 Diet on Fatty Acid Deposition in White and Brown Adipose Tissue and Circu-lating Plasma in the Hibernating Arctic Ground Squirrel. S. Rice, University of Alaska at Fairbanks

**LB322**  Mediation of Vesicular Fusion by SNARE Proteins during Macrophtogy. D. Shannon, Archbishop Moeller High School

**LB323**  Impact of the lipid bilayer on energy transfer kinetics in the photosynthetic protein LH2. A. Tong, MIT
L8234 Lipid Composition Alters the Assembly of MHCI in Nanodiscs. K. Rivera, University of Alaska Fairbanks
L8235 Dietary Rice Bran Oil and [(gamma)]-Oryzanol Attenuates Toll Like Receptor-mediated IL-12 Family cytokines. K. Nguyen, Joint Department of Biomedical Engineering, University of North Carolina at Chapel Hill and North Carolina State University
L8236 A Reassessment of Phosphatidylinositol Transfer Protein Alpha’s Growth Factor Signaling Role. M. McDermott, E. L. Wehner-Welch Laboratory, Texas A&M Health Science Center

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Glycans and Glycobiology
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L8232 Isolation and Identification of C-Mannosylated Hsc70 Conjugates in RAW 264.7 Macrophage-Like Cells. M. Parsons, Marshall University

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Interdisciplinary/Translational Science (SEBM)
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L8233 Glucosamine Fructose 6-phosphate Aminotransferase (GFAT) from Plasmodium berghei: a clue for novel therapeutic perspectives?. M. Laugier, Universita Degli Studi di Genova
L8234 Species-specific differences in heparin-induced modulation of IL-12 family cytokines. K. Nguyen, Joint Department of Biomedical Engineering, University of North Carolina at Chapel Hill and North Carolina State University

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BMB Education and Professional Development
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L8232 Preliminary Results of Assessing the Impact of a High School Science Outreach Program on the Confidence, Attitudes, and Skills of the Participants. I. Calderon, The Summit Country Day School
L8233 Avoiding a Swelled Head: Aquaporin-4 and Brain Edema. K. Shelton, Chicago Public Schools
L8234 Promoting Team Building, Collaboration and Communication Skills in Graduate Students through Interactive Scientific Retreats. J. Schmidt, Ponce Health Sciences University - Ponce Research Institute
L8235 TmAFP Interaction with an Ice Lattice. B. MacGillivray, Ashbury College
L8236 A comparative analysis between PrPc and PrPsc to determine the structure-function relationship of protein misfolding in Scapie prion disease. A. Peterson, Minnetonka High School
L8237 Enhancing Biochemistry Lab with Arduino. E. Galebeck, UNICAMP
L8238 The Snow Flea Antifreeze Protein and Cryopreservation. B. MacGillivray, Ashbury College
L8239 Squishing Cellular H2O. B. Bartolomei, El Capitan High School
L8240 Ras and RTK: PI3K Activation, PIP3 Formation, Signal Transduction, Cancer Creation. C. Chou, Longmont High School
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