A PROGRAM

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Program at-a-glance

Saturday April 6

Time	Location	Event
8:30 AM - 4:30 PM	Convention Center W307ABC	ASBMB Graduate Student and Postdoctoral Researcher Travel Awardee Career Development Event
11:30 AM - 12:00 PM	Convention Center W306AB	ASBMB Annual Meeting Orientation for Undergraduate Students
11:30 AM - 6:00 PM	Convention Center W303ABC	ASBMB Undergraduate Poster Competition Judges' Orientation
1:00 PM - 4:30 PM	Convention Center W304	ASBMB Undergraduate Student Research Poster Competition
1:15 PM - 2:45 PM	Convention Center W305A	Career Development Workshop for Grads and Postdocs: Networking Skills
1:15 PM - 2:45 PM	Convention Center W307D	Career Development Workshop for Grads and Postdocs: Constructing Your Elevator Pitch
1:15 PM - 2:45 PM	Convention Center W305B	Career Development Workshop for Grads and Postdocs: Practical Tools for Navigating Your Career Path Evolution
4:45 PM - 5:45 PM	Convention Center W306AB	ASBMB Undergraduate Workshop: Exploring Careers Speed Networking
7:00 PM - 8:30 PM	Convention Center Valencia Ballroom ABCD	EB Welcome Reception with Science Outreach Poster Session

GRANT WRITING WORKSHOP June 13–15 • Washington, D.C.



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

ASBMB.ORG/GRANTWRITING



At-a-glance

Sunday April 7

Time	Location	Event
8:00 AM - 8:15 AM	Convention Center Valencia Ballroom A	ASBMB Annual Meeting Welcome and Business Meeting
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

Sunday April 7

Time	Location	Event
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

Time	Location	Event
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 AMv11:30 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	Stem Cells and Therapy, organized by SEBM
1:15 PM - 1:45 PM	Convention Center Valencia Ballroom A	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
1:45 PM - 2:15 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
2:30 PM - 3:30 PM	Convention Center W303ABC	Molecular & Cellular Proteomics, an ASBMB Journal Symposium
2:30 PM - 3:45 PM	Convention Center W304AB	Chemical Modifications and Mechanisms of DNA Metabolism

Monday April 8

Time	Location	Event
2:30 PM - 3:45 PM	Convention Center W304GH	Enzyme Chemistry and Catalysis
2:30 PM - 3:45 PM	Convention Center W306AB	Exploring Experimentation in Biochemistry Lab and Non-Lab Settings
2:30 PM - 3:45 PM	Convention Center W304CD	Glycosyltransferases and Hydrolases
2:30 PM - 3:45 PM	Convention Center W304EF	Regulation of Lipid Metabolism
2:30 PM - 4:30 PM	Convention Center W307AB	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
3:00 PM - 3:30 PM	EB Career Central	How to Get Started with Science Writing and Build a Portfolio
3:00 PM - 5:00 PM	Convention Center W305AB	Molecular Medicine: A Student Organized Symposium, organized by SEBM
3:30 PM - 4:00 PM	EB Career Central	How to Develop a Comprehensive Job-Search Strategy: Part 1
4:00 PM - 5:15 PM	Convention Center W304AB	Epigenetic Factors that Contribute to Gene Regulation
4:00 PM - 5:15 PM	Convention Center W303ABC	Genomics, Proteomics and Metabolomics
4:00 PM - 5:15 PM	Convention Center W304EF	Journal of Lipid Research, an ASBMB Journal Symposium
4:00 PM - 5:15 PM	Convention Center W304CD	Protein-Glycan Interactions
4:00 PM - 5:15 PM	Convention Center W304GH	Sensing
5:30 PM - 7:00 PM	Convention Center W306AB	Navigating Difficult Conversations
5:30 PM - 7:00 PM	Convention Center W307CD	Transforming Science Research into Science Outreach
5:30 PM - 7:00 PM	Convention Center W303ABC	A Word of Advice: Success in Scientific Publishing
7:00 PM - 8:30 PM	Rosen Centre Grand Ballroom C	ASBMB Student Flashtalk Science Communication Competition and Reception

Tuesday April 9

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

Time	Location	Event
3:00 PM - 5:00 PM	Convention Center W305AB	Biotherapies and Immunotherapies, organized by SEBM
4:00 PM - 5:15 PM	Convention Center W307AB	Advances in Drug Delivery
4:00 PM - 5:15 PM	Convention Center W304GH	Biochemistry and Biology of Cancer
4:00 PM - 5:15 PM	Convention Center W306AB	Biochemistry of Organelles and Organelle Trafficking
4:00 PM - 5:15 PM	Convention Center W304CD	Glycan Biotechnology and Drug Development
4:00 PM - 5:15 PM	Convention Center W304EF	Obesity
4:00 PM - 5:15 PM	Convention Center W304AB	RNA Editing and Alternative Splicing
4:00 PM - 5:15 PM	Convention Center W303ABC	Signal Transduction and Cellular Regulation

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

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

CORB



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

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

OLDACH



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

KRIDELBAUGH

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

Central

GREER

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

⁹⁰ 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

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

91

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

92 Epigenomics and Chromatin Dynamics

SYMPOSIUM

10:00 AM - 12:00 PM CONVENTION CENTER, W304EF

CHAIR: Y. Shi

10:00		Regulation of chromatin states by nuclear pore proteins. Maya Capelson, University of Pennsylvania
10:30	92.1	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

93 Microbiome and Disease

SYMPOSIUM

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

⁹⁴ 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

- 10:00 New Insights into Mitochondrial Medicine. T. Huang, Cincinnati Children's Hospital Medical Center
- 10:40 Title tba. D. Wallace, Children's Hospital of Philadelphia
- Mitochondria as Reversible Regulators of Skin Wrinkles and Hair Loss in Mice. K. Singh, University of Alabama at Birmingham

95 Synthetic Biology

SYMPOSIUM

10:00 AM - 12:00 PM CONVENTION CENTER, W307AB

CHAIR: M. Chang

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

⁹⁶ Using Large Sets of Data with Students

SYMPOSIUM

10:00 AM - 12:00 PM CONVENTION CENTER, W306AB

CHAIRS: V. Moore and M. Rosenberg

Sponsored by: ASBMB Education and Professional Development Committee

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.

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

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.

97 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 (**#ASBMBTownHall**) 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.

98 ASBMB Meet the Speakers

SOCIETY EVENT

12:30 PM - 1:30 PM CONVENTION CENTER EXHIBIT HALL, ASBMB LOUNGE

SPEAKERS: Anchi Cheng, New York Structural Biology Ctr., Yifan Cheng, UCSF, Lawrence David, Duke Univ., Christine Dunham, Emory Univ., Neil Garg, UCLA, Karin Musier-Forsyth, Ohio State Univ., Julie Segre, NHGRI, Jeremy Thorner, UC, Berkeley

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

¹⁰⁷² 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.

⁹⁹ 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

100 ASBMB Young Investigator Award

LECTURE

www.asbmb.org/meeting2019

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



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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

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 K63type ubiquitination. J. Barbi, *Roswell Park Comprehensive Cancer Center*



Feeling lucky?

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

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

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-Kß Translocation. J. R. Peter,** Fort Lewis College
- 4:30 **654.7** TRPV4 regulates P gingivalis lipopolysaccharide-induced exacerbation of oxidized LDLmediated 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-1 ß 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 TGFβ receptor type 1 during embryonic development. H. LIN, *National Taiwan University*
- 4:45 778.15 Alcohol induces TGFβ through suppression of miR-1946a. V. Sueblinvong, Emory University
- 5:00 778.9 IncRNA 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
- 4:30 631.30 Filling in the gaps for the master regulator of biofilm formation in Bacillus subtilis: A structural and biochemical look at SinR and SinI. M. E. Milton, *Agile Sciences, Inc.*
- 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 elF2α 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 **454.25Are 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.

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 glycans, 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.

GLYCAN



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."

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.



www.jlr.org

VISIT ASBMB BOOTH #1421

ASBMB oral program

Monday APRIL 8

²¹⁴ 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 **214.1** 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

²¹⁵ 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
- 9:00 215.1 Dissecting the Mechanisms of Cell Division. J. Z. Torres, University of California Los Angeles

²¹⁶ Glycobiology

SYMPOSIUM

9:30 AM - 11:30 AM CONVENTION CENTER, W303ABC

CHAIR: A. Imberty

- 9:30 **216.1** Lectins from Bacteria and Fungi: Therapeutical Targets and Research Tools. A. Imberty, *CERMAV-CNRS*
- 10:00 **216.2** 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 **216.3** Roles of Galectins in Infection: First barrier or Trojan Horse? G. R. Vasta, University of Maryland School of Medicine
- 11:00 216.4 Glycobiology of Host-Microbe Interactions in the Gut. N. Juge, Quadram Institute Bioscience

Inequities in Precision Medicine

SYMPOSIUM

217

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 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

²¹⁸ 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

²¹⁹ **Mitochondrial Biology**

SYMPOSIUM

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

CHAIR: D. Neufer

- 9:30 **219.1** Mitochondrial Driving Forces and Metabolic Resilience. D. M. Muoio, Duke Molecular Physiology Institute, Duke University
- 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

²²⁰ 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

- 9:30 221.1 Fractional-nucleotide translocation in sequence-dependent pausing by RNA polymerase: Single-molecule picometer-resolution nanopore tweezers (SPRNT). R. Ebright, Waksman Institute of Microbiology, Rutgers University
- 10:00 **221.2** Dynamics and Spatial Genomics of the Nascent Transcriptome by Intron seqFISH. L. Cai, California Institute of Technology
- 10:30 221.3 Three-dimensional in situ sequencing of single cells in intact tissue. X. Wang, Stanford University

11:00 221.4 Single Cell Genomics: When Stochasticity Meets Precision. S. Xie, Peking University

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

- 9:30 Single Particle cryo-EM of Membrane Proteins. Y. Cheng, Howard Hughes Medical Institutel/ University of California San Francisco
 10:10 Imaging Smaller and Smaller Macromolecules at Higher and Higher Resolution Using
- Conventional Single-particle Cryo-EM. M. Herzik, University of California San Diego
- 10:50 Single-particle cryo-EM analysis of lipopolysaccharide transport driven by ABC transporters. M. Liao, Harvard Medical School

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.

9:30	Introduction
9:35	Using Scientific Teaching to Grow Your Academic Profile as an Educator and Scientist. R. C. Cardullo, University of California, Riverside
9:50	Transitioning from Academia to Industry and Back Again. I. T. Knight, Penn State, Behrend
10:05	The Post-tenure Sabbatical. V. Moore, Elon University
10:20	From Research to Faculty Developer. M. Rosenberg, University of Connecticut
10:35	Transitioning to Leadership in Higher Education. R. Zeneildin, Mercy College
10:50	Panel discussion

ASBMB Meet the Speakers

SOCIETY EVENT

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

SPEAKERS: Shu-Sin Chng, National Univ. of Singapore, Katrina Claw, Univ. of Washington, Richard Ebright, Rutgers Univ., Chrostopher Holley, Duke Univ., Nathalie Juge, Quadram Inst. Bioscience, Barbara Kahn, Harvard Med. Sch., Michael Karin, UCSD, Ivor Knight, Penn State Behrend, Judy Lieberman, Harvard Med. Sch./ Boston Children's Hosp., Jorge Torres, UCLA, Gerardo Vasta, Inst. of Marine and Environmental Tech., UMB, Xiao Wang, Pfizer

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

- 1:00 Title tba. J. Kang, University of Tennessee, Health Science Center
- 1:40 Organoids in the Gut. J. Wells, Cincinnati Children's Hospital Medical Center
- 2:20 Stem Cell Therapy for Ischemic Stroke. C. Borlongan, University of South Florida

²²⁶ ASBMB Bert and Natalie Vallee Award in Biomedical Science

Disease. C. B. Thompson, Memorial Sloan Kettering Cancer Center

LECTURE

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

1:15		Introduction
1:20	226.1	Cancer Cell Metabolism: Reexamining the Regulation of Anabolic Growth in Health and

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.

1:45 Introduction

1:50 **227.1** Bacterial lipid trafficking and outer membrane homeostasis. S. Chng, National University of Singapore



²²⁸ 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.

MCP MCP MOLECULAR & CELLULAR PROTEOMICS

- 2:30 **228.1** The Role of Mass Spectrometry in the Advancement of HLA Epitope Prediction. J. G. Abelin, *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

²²⁹ 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 it 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

²³⁰ 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

²³⁴ ASBMB Alice and CC Wang Award in Molecular Parasitology Lecture and Symposium

LECTURE

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

- 2:30 Introduction
- 2:35 **234.1** "Prison Break" Toxoplasma egress from infected cells is a tightly programmed event. D. Soldati-Favre, University of Geneva
- 3:05 234.2 Molecular Genetics for Cryptosporidium. B. Striepen, School of Veterinary Medicine, University of Pennsylvania
- 3:35 **234.3** Environmental signals control transmission stage formation in Plasmodium falciparum. N. Brancucci, Swiss Tropical & Public Health Institute
- 3:50 **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*

²³⁵ 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

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

²³⁶ Epigenetic Factors that Contribute to Gene Regulation

SYMPOSIUM

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

CHAIR: B. Buck-Koehntop

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

²³⁷ Genomics, Proteomics and Metabolomics

SYMPOSIUM

4:00 PM - 5:15 PM CONVENTION CENTER, W303ABC

CHAIR: A. Kettenbach

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

²³⁸ 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.

- 4:00 238.1 Complex genetic determinants of hypertriglyceridemia. J. S. Dron, Western University
- 4:15 **238.2** The structure of apoA-II on HDL reveals novel insights into its regulation of lipoprotein composition and function. J. T. Melchior, University of Cincinnati
- 4:30 **238.3 Small HDL, diabetes, and proinflammatory effects in macrophages. V. Kothari,** *University of Washington*

4:45 238.4 Retinol Binding Protein 4 (RBP4) in Adipocytes and Obesity. I. Shmarakov, Columbia University

5:00 238.5 Chlorolipids: Mediators and Outcome Predictors of Sepsis. D. Pike, Saint Louis University School of Medicine

²³⁹ Protein-Glycan Interactions

SYMPOSIUM

4:00 PM - 5:15 PM CONVENTION CENTER, W304CD

CHAIR: R. Woods

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

240	Sensir	Sensing Imposium				
	4:00 PM - 5	5:15 PM	CONVENTION CENTER, W304GH			
	CHAIR: M. T	antama				
	4:00	635.3	Electrochemical Biosensor Targeting the Cancer Biomarker Human Ecto-NOX Disulfide-Thiol Exchanger 2 (ENOX2). A. J. Bonham, <i>Metropolitan State University of Denver</i>			
	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.



²⁴⁴ 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.



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.

www.asbmb.org/symposia

ASBMB oral program

Tuesday

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

³⁴⁴ Circadian Rhythm

SYMPOSIUM

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

CHAIR: A. Sehgal

- 9:30 **344.1** Advantages and Disadvantages of Circadian Rhythms: A Tale of Two Microbes. M. Rust, University of Chicago, Institute for Genomics and Systems Biology
- 10:00 344.2 Circadian Control of Animal Physiology. A. Sehgal, University of Pennsylvania
- 10:30 344.3 Circadian biology in translation. J. Hogenesch, Cincinnati Children's Hospital Medical Center
- 11:00 344.4 Molecular Genetics of Human Sleep Behaviors. Y. Fu, University of California San Francisco

³⁴⁵ DNA Repair, Recombination and Replication

SYMPOSIUM

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

CHAIR: A. Bielinsky

- 9:30 345.1 Responses to replication stress in human cells. A. Bielinsky, University of Minnesota
- 10:00 **345.2 Genomic and Proteomic Signatures of Replication Fork Collapse. E. Brown**, Perelman School of Medicine, University of Pennsylvania
- 10:30 **345.3** Replication origin licensing deficiency and genome instability during cell cycle re-entry from quiescence. J. Cook, University of North Carolina, Chapel Hill
- 11:00 345.4 How Replication Stress Drives Genome Instability. S. Forsburg, University of Southern California

³⁴⁶ Lipid Metabolism

SYMPOSIUM

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

CHAIR: B. Finck

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

³⁴⁷ 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

- 9:30 The SIRT3-MnSOD-Ac Axis in Tumorigenesis and Tumor Cell Resistance. D. Guis, Northwestern University
 10:10 SIRT3 plays a role in adaptive mitochondrial metabolism J. J. Li, University of California, Davis
- 10:10 SIRT3 plays a role in adaptive mitochondrial metabolism J. J. Li, University of California, Davis
 10:50 Title tba. J. Baur, University of Pennsylvania Perelman School of Medicine

348 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, Amita 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.

³⁴⁹ 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

³⁵⁰ ASBMB DeLano Award for Computational Biosciences

LECTURE

1:45 PM - 2:15	PM	CONVENTION CENTER, VALENCIA BALLROOM A
1:45		Introduction
1:50 3	50.1	Designing new protein structures and functions with the molecular modeling program Rosetta. B. Kuhlman, University of North Carolina

351 **ASBMB Herbert Tabor Young Investigator Award, a Journal of Biological Chemistry Symposium** JOURNAL OF BIOLOGICAL CHEMISTRY

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 Dynamic Disulfide Exchange in a Crystallin Protein in the Human Eye Lens Promotes Cataract-associated Aggregation. E. Serebryany, Harvard Universitiy
- 2:45 351.1 Antibody Recognition of a Polysaccharide Common to many Microbes and Biofilms. C. Soliman, Royal Melbourne Institute of Technology University
- 351.2 Metabolic Origin of the Fused Aminoacyl tRNA Synthetase, Glutamyl-Prolyl tRNA 3:00 Synthetase (EPRS). S. M. Eswarappa, Indian Institute of Science
- 3:15 351.3 Mallostery: Ligand-dependent Misfolding as a Strategy for Protein Regulation. M. Wangeline, University of California, San Diego
- 351.4 Can Cellular Labile Iron Pool be Considered Solely a Pro-oxidant Species in Cells? F. C. 3:30 Damasceno, Universidade de São Paulo

352 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

353 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, PennState 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

³⁵⁴ 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*
- 3:30 794.14 Quantitative Survey of NAD+ Flux in Aged Mice. 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 gasdermin 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 AUF1 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 IncRNA 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 Cinncinatti
- 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. Ni. 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 Pharmicokinetics 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 GTPaseactivating 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



ASBMB professional-development resources

Learn more at booth #1421

Jobs board

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.

asbmb.org/careers



Sunday

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

1-26	BMB Education and Professional Development		
27-30	Big Data in Molecular Life Sciences, Student Projects, Labs and the Classroom		
31-39	Institutional Change and Faculty Perspectives about Teaching in the Life Sciences		
40-69	DNA Damage and Repair		
70-89	Transcriptional Mechanisms, Regulation and RNA Polymerases		
90-103	RNA: Processing, Transport, and Regulatory Mechanisms		
104-116	RNA Binding Proteins		
117-141	Protein Synthesis, Structure, Modifications and Interactions		
142-145	Protein Dynamics and Fluctuations, Turnover and Quality Control		
146-155	Protein Turnover, Misfolding, Aggregation and Degradation		
156-163	Intrinsically Disordered Proteins, Prions and Amyloids		
164-170	Ubiquitin Pathway and Targeting		
171-176	Proteasomes: Structure and Regulation		
177-179	Proteolytic Enzymes and Inhibitors		
180-187	Structural Dynamics of Enzymes and Multien- zyme Complexes		
188-193	Cytochromes P450		
194-206	Enzyme Inhibitors and Drug Design		
207-235	Chemical Biology of Natural Products, Nucleic		

236-248	Protein Engineering and Design	
249-256	Genomics, Proteomics and Metabolomics	
257-269	Genomics	
270-282	Proteomics	
283-319	Signal Transduction and Cellular Regulation	
320-333	G Proteins and Small GTPases	
334-345	Protein Kinases	
346-349	Ion Channels	
350-355	Inositol Phosphates	
356-359	Redox Signaling	
360-376	Antibiotic Resistance	
377-390	Microbiomes	
391-402	Metabolism and Bioenergetics	
403-413	Plant Metabolism and Biosynthetic Pathways	
414-440	Diabetes, Obesity and Metabolic Syndrome	
441-455	Regulation of Lipid Metabolism	
456-462	Lipid Signaling and Eicosanoids	
463-481	Lipid Storage and Trafficking	
482-490	Interdisciplinary/Translational Science	
491-495	Mitochondria Dysfunction and Disease	
496-507	Structural Biology	
508-511	Biotherapies and Immunotherapies	
512-520	Molecular Medicine	

Acids and Small Molecules

ASBMB posters SUNDAY

454

BMB Education and Professional Development

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

12 454.2 Illuminating Biochemistry Education with Infographics. M.B. Borror, *Our Lady of the Lake University*

B 454.3 Developing a Physical Model of HigB Toxin and its Endonuclease Cleavage Mechanism. A. Chabbra, *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, *Rollins 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*

Ell 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* EI3 454.13 Investigating Undergraduate Student Misconceptions Regarding Pedigree Analysis. O. James, *Middle Tennessee State University*

El4 454.14 A Toxic Tragedy: The Molecular Story of the Toxin YafQ's Regulation of Protein Translation. D. Kerska, *University of Minnesota Rochester*

EI5 454.15 A one semester biochemistry lab course with a partial research component. C.K. Park, *University of Arizoa*

El6 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

Ell 454.18 Undergraduate Student (Mis) understandings of Mutations. R. Seipelt-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. Wolyniak, *Hamp-den-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. Wolyniak, *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 (EScAN) 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

E27 455.1 Novel Research Projects in the Bioinformatics Classroom. J.A. Bennett, *Otterbein University*

E28 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 Ptfla gene Expression Patterns During Pancreas Development in Zebrafish. W . Coats, *DISD*

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 The RS/RGG Domain of the SRlike Protein Npl3 is Required for Efficient

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Ell4 460.11 Modeling the Targeting of RNA-Binding Proteins Using Small Molecular Inhibitors: A Novel Approach For Cancer Treatment. J. Parsai, *Olathe North High School* Ell5 460.12 RNA binding properties of the Lsm1-7 ring from Schizosaccharomyces pombe. J. M. Virta, University of Wisconsin-Madison

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EI54 463.9 Study of Multidrug Efflux System Protein Degradation in E. coli Using Transposons Library. P. I. Rajapaksha, *University of Kentucky*

EI55 463.10 Examination of HSF Activation in a Saccharomyces cerevisiae Model for TPI Deficiency. K. Skolnick, *Slippery Rock University*

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EI58 464.3 Neurodegeneration-related amyloids interact with the prion protein. E. De Cecco, *SISSA*

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El61 464.6 A possible connection between plant longevity and the absence of protein fibrillation: basis for identifying aggregation inhibitors in plants. D. E. Otzen, *Aarhus University*

El62 464.7 Protein Disulfide Isomerase Inhibits and Reverses Alpha-Synuclein Fibrillization. J. Ragusa University of Central Florida

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El66 465.3 Structural and Functional Characterization of the Leishmania donovani Ufm-ylation Pathway. A. D. Lee, *James Madison University*

E167 465.4 SPOP Regulates the Nuclear Pore Protein NupJ. J. Ong, University of California, Los Angeles

El68 465.5 Identification and Interaction Between Centrosomal Protein Centriolin and the E3 Ubiquitin Ligase, HECTD1. J. Salas, Lincoln Memorial University DeBusk College of Osteopathic Medicine

El69 465.6 Ube2v1, a ubiquitin-conjugating enzyme variant, is an essential component for the ubiquitination of MEKK1 in FGF2-mediated signaling in endothelial cells. Y. Yoo, *Gwangju Institute of S&T*

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E200 470.7 The Effect of Sulfur Atom Substitution on Organophosphorus Inhibitors of Butyrylcholinesterase. P. LyvCalifornia State University Long Beach

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E216 471.10 Binding of Telomeric DNA G-Quadruplexes by Abietane Diterpene Natural Products. J. Kanlong, State University of New York at Geneseo

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E218 471.12 Pharmacological activities of Nepenthes miranda extracts. Y. Lien, *Chung Shan Medical University*

E219 471.13 Identification of a Naturally-occurring Heparin-binding Peptide Preferentially Targeting the Nucleolus. S. Loo, *Nanyang Technological University*

E220 471.14 Epigenetic regulation of osteoblastogenesis by blackcurrant fruit extracts in vitro and in vivo. G. B. Mahady University of Illinois at Chicago

E221 471.15 Structure-Activity Relationships of Chalcone Derivatives as Inhibitors of Breast Cancer Cell Growth. H. E. Neal, *Bellarmine University*

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E221 411.21 Jasmine (Jasminum officinale L. var. grandiflorum) Flower Extracts Inhibit the Formation of Methylglyoxal Induced Advanced Glycation Endproducts. X. Tang, *Wuyi University*

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E230 471.24 Do Lactic Acid Bacteria produce antifungal bacteriocins? M. Turcotte, *Hartwick College*

E231 471.25 Yiqi-Huoxue Granule reduces pro-thrombotic factors induced by lipopolysaccharide in HUVECs via upregulating KLF2 and inhibiting NF-κB. z. Wang, *Henan University of Chinese Medicine*

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E233 471.27 Yiqi-Huoxue Granule ameliorates the apoptosis induced by hydrogen peroxide through modulating UCP2 in H9c2 cells. H. WU, *Henan University of Chinese Medicine*

E234 471.28 Wenyang-Yiqi Granule inhibits OGD-induced autophagy by activating mTOR pathway. X. Yu, *Henan University of Chinese Medicine*

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E242 472.7 Development of antigen-specific blocking monobodies against the β 2-glycoprotein I receptor for the inhibition of systemic lupus erythematosus. I. Rasasack, *Rhodes College*

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E319 476.37 Life and Death: The Role of ADOR-1 in Mediating Activation of the CEP-1-Apoptotic Pathway and IGF-1 Signaling Pathway in Caenorhabditis elegans Exposed to Caffeine. H. Zarrinnegar, *The Nueva School*

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E397 485.7 Effects of a moderate physical training protocol on the metabolism hepatic of malnourished juvenile rats. T. Lima, *Universidade Federal de Pernambuco*

E398 485.8 Thyroid hormone regulation of retinoic acid synthesis in brown adipose tissue. C. J. Olson, *Minnesota State University, Mankato*

E399 485.9 Platelet bioenergetics and its implications in disease. K. S. Prakhya, *University of Kentucky*

E400485.10 Physiological cardiac hypertrophy activates PPARγ/PGC-1α axis and up-regulates perilipin family. J. G. Soñanez-Organis, *Universidad de Sonora*

E401 485.11 Reprogramming of Colonic Cell Metabolism by H2S. V. Vitvitsky, University of Michigan Medical School

E402 485.12 New Finding in Oxidative Phosphorylation: Isothermal Utilization of Latent Heat Energy by Electrostatically Localized Protons at Liquid-Membrane Interface. J. W. Lee, *Old Dominion University*

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Plant Metabolism and Biosynthetic Pathways

E403 486.1 Designer Biosynthetic Pathways for Photosynthetic Biofuels and Bioproducts: Opportunities and Challenges. J. W. Lee, *Old Dominion University*

E404486.2 Does Urbanization Drive Adaptive Evolution in White Clover (Trifolium repens)? P. Akinwole, *DePauw University*

E405486.3 Evidence for the Accumulation of 3-Hydroxypropionate and β -Alanine in Arabidopsis thaliana Seedlings via Isoleucine Degradation. M. H. Goldfarb, Kenyon College

E406486.4 Transgenic analysis of maize endosperm metabolism. E. Juhl, *Iowa State University*

E407 486.5 Structure and mechanism of isopropylmalate dehydrogenase from Arabdiopsis thaliana: insights on leucine and aliphatic glucosinolate biosynthesis. S. Lee, *University of North Carolina Wilmington*

E408486.6 The Increase of Efficiency of RuBisCO. T. Link, *Walton High School*

E409486.7 Functional characterization of microsomal fatty acid desaturation pathway genes in Buglossoides arvensis: A stearidonic acid rich oilseed plant. P. Prasad, CSIR-Central Food Technological Research Institute

E410 486.8 Substrate Binding, Kinetics and Regulation of Glucan Phosphatase Starch EXcess4. M. U. Raththagala, *Skidmore College*

E411 486.9 Metabolic Tracing and Quantification of β -Alanine in Wheat. P. E. Reinhart, Kenyon College

E412 486.10 Isoleucine Serves as a Precursor for the Synthesis of β -Alanine in Plants. K. A. Rouhier, Kenyon College

E413 486.11 Investigation of Biochemical Effects of Nano-Silicon Dioxide (SiO2) on Sunflower (Helianthus annuus L.) Plants. F. Yurekli, *Inonu University*

487 Diabetes, Obesity and Metabolic Syndrome

E414 487.1 Assessment of bio-protective potentials of mistletoe leaves extract against biochemical imbalances induced by Combined Oral Contraceptives in rats. A. A. Adebisi, *Lagos State University College of Medicine, Lagos, Nigeria*

E415 487.2 Antioxidant Potential of Artocarpusaltilis Leaf Powder in Alloxan Induced Diabetic Rat. O. B. Ajayi, *Ekiti State University*

E416 487.3 Prospective Changes in Fasting Glucose Inversely Affects Spexin Levels in Females with Prediabetes. N. Al-Daghri, *King Saud University*

E417 487.4 Cell morphology changes in 3T3-L1 cells grown in monolayer and treated with cinnamon extract. K. Baxendell, *Ohio Northern University*

E418 487.5 Hypoglycemic Activity of the Methanolic Extract of Immature Fruits of Capsicum Pubescens Ruiz et Pavón (Peron Chili Pepper) in Diabetic Rats. A. Carrillo-Corona, Universidad Michoacana de San Nicolás de Hidalgo

E419 487.6 Fluoxetine Ameliorates the Depressive-Like Behaviors and Metabolic Abnormalities Induced by Chronic High-Fat Diet. Y. Chiu, *National Cheng Kung University*

E420 487.7 Gender specific effects of Nr4a1 on functional β -cell mass. J. A. Herring, *Brigham Young University*

E421 487.8 Knock-on effects of gestational diabetes in offspring learning and anxiety without influence of oxidative stress: Effects dependent on sex and age. M. Huerta-Cervantes, Universidad Michoacana de San Nicolás de Hidalgo

E422 487.9 ATP Released from Skeletal Myofibers to Extracellular Medium Induces an Inflammatory State Linked to Insulin Resistance in Obese Mice. G. Jorquera, *Universidad de Valparaíso*

E423 487.10 Western diet-induced insulin resistance impairs recovery after experimental spinal cord injury. H. Kim, *Mayo Clinic*

E424 487.11 In Vitro and In Vivo Anti-Hyperglycemic and Antioxidant Effects of Phenolic Compounds isolated from Oryza sativa L.(Keun-nun-Jami) Variety. T. Kim, Hannam University

E425 487.12 The relationship between food exposure frequency and expression of AMP-activated protein kinase (AMPK) mRNA in the brain, liver, and muscle of channel catfish. D. L. Kostner, *Fort Hays State University*

E426 487.13 Cardiac KLF5 Is Upregulated by FOXO1 and Accounts for Cardiomyopathy in Type 1 Diabetes. I. Kyriazis, *Temple University*

E427 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*

E428 487.15 Effect of Avocado Oil on Metabolic Profile and Development of Diabetic Nephropathy in Goto-Kakizaki Rats. O. Ortiz-Avila, Instituto de Investigaciones Químico-Biológicas, Universidad Michoacana de San Nicolás de Hidalgo

E429 487.16 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 Nicolas de Hidalgo*

E430 487.17 Differential Effects of De Novo Lipogenesis Inhibitors on plasma lipids and liver PNPLA3. A. Pocai, *Janssen*

E431 487.18 Expression of Iron Regulatory Proteins in Healthy and Osteoarthritic Chondrocytes. B. J. Rose, *Brigham Young University*

E432 487.19 Functional decline in brown adipose progenitors during BAT remodeling. H. Ruan, *University of Minnesota*

E433 487.20 Hexokinase activity were decreased in erythrocytes and increased in blood serum at the DM. Z. Shamansurova, *TashPMI*

E434 487.21 Physico-chemical characteristics and antioxidant capacity of chickpea and wheat flour blends. *J. S. Sidhu, T. A. Zafar, A. S. Almusallam, M. Ali, and A. Al-Othman, Department of Food Science & Nutrition, College of Life Sciences, Kuwait University, Department of Chemical Engineering, Kuwait University, Department of Biological Sciences, College of Science, Kuwait University, Dept of Computer Science, Kuwait Institute for Scientific Research, Kuwait University **E435 487.22** Topical Application of Wogonin Provides a Novel Treatment of Knee Osteoarthritis. J. F. Smith, *Brigham Young University*

E436 487.23 Pre-Transplant Medical Arterial Calcification and Post-Transplant Hypertension. E. Tantisattamo, University of California Irvine School of Medicine

E437 487.24 Molecular mechanism of cereblon-dependent down regulation of AMP-activated protein kinase. S. Yang, *GIST*

E438 487.25 Investigation of the effects of cold stress on angiogenic factors in adipose tissue of obese rats. M. Yurekli, *Inonu University*

E439 487.26 Investigation of Some Angiogenic Factors Related to Aging in Brown and White Adipose Tissues of Rats. M. Yurekli, *Inonu University*

E440487.27 Oleic acid ameliorates palmitic acid induced pyroptosis by attenuating endoplasmic reticulum stress in HepG2 cells. X. Zeng, West China Hospital, Sichuan University

488 Regulation of Lipid Metabolism

E441 488.1 A Novel Animal Model to Investigate the Pathophysiology of Atherosclerosis Through Regulation of Cholesterol Homeostasis and the Highly Atherogenic LDL-L5. C. Chang, *Taipei American School*

E442 488.2 The yeast Nem1-Spo7 phosphatase complex, which dephosphorylates and regulates Pah1 phosphatidate phosphatase, is phosphorylated by protein kinase C. P. Dey, *Rutgers University*

E443 488.3 Cross Regulation of Phospholipid and Unsaturated Fatty Acid Biosynthesis. S. Dible, *Hope College*

E444488.4 Acyl-CoA Synthetase 6 Mediates Brain Docosahexaenoic Acid (DHA) Enrichment and Neuroprotection. J. M. Ellis East Carolina University

E445 488.5 Exploring the effects of FATP2 gene deletion on fatty acid-responsive gene expression in liver. J T. Gabell, *University of Nebraska - Lincoln*

E446 488.6 Diacylglycerol links lipid droplets and tubular ER during growth resumption from stationary phase. S. Ganesan, *University of Calgary*

ASBMB posters SUNDAY continued

E447 488.7 Bisphenol A, but not Bisphenol S, exposure increases lipid deposition by acting on the PI3K pathway in vivo. Y. Gibert, University of Mississippi Medical Center

E448 488.8 Phosphorylation of yeast Pah1 phosphatidate phosphatase by casein kinase I. A. Hassaninasab, *Rutgers University*

E449 488.9 O-GIcNAc signaling orchestrates metabolic adaptation to prolonged fasting. M. Li, *Yale University School of Medicine*

E450 488.10 Transcriptional regulation of the yeast TGL3-encoded triacylglycerol lipase. C. Lu, *National Dong Hwa University*

E451 488.11 The conserved hydrophobic sequence LLI of yeast Spo7 is required for its regulatory role in Nem1-Spo7 phosphatase function. M. Mirheydari, *Rutgers University*

E452 488.12 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*

E453 488.13 Breast cancer cell invasiveness is stimulated by loss of membrane interaction of actin-binding protein profilin1 via altered phosphoinositide metabolism. P. Roy, *University of Pittsburgh*

E454 488.14 Fatty Acids Bind to Them1, a Negative Regulator of Thermogenesis in Brown Adipose Tissue. M. C. Tillman, *Emory University*

E455 488.15 MEK1/2 inhibitor reduces vascular calcification by regulating both canonical and non-canonical Wnt signaling pathways. P. Zeng, *Nankai University*

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Lipid Signaling and Eicosanoids

E456 489.1 The lipid acyltransferase LYCAT controls phosphatidylinositol-3,4,5-trisphosphate (PIP3) signaling. C. N. Antonescu, *Ryerson University*

E457 489.2 Leukotriene D4 and prostaglandin E2 synergism in inflammation and asthma. T. Chachkovskyy, *The University of Akron*

E458 489.3 Δ -2 Hexadecenal Generated from S1P by Nuclear S1P Lyase Is a Regulator of HDAC1/2 Activity and Histone Acetylation in Lung Epithelial Cells. D. L. Ebenezer, University of Illinois **E459 489.4** Unique enzyme specificity of three human phospholipases A2 toward phospholipids containing sn-2 omega-3 and omega-6 fatty acids. D. Hayashi, *UC San Diego*

E461 489.6 CysLT1R regulates cys-LT-mediated calcium influx and oxidized LDL-uptake in macrophages. S. Pokhrel, *University* of Akron

E462 489.7 Role of Cysteinyl Leukotriene 2 Receptor in Tumor Angiogenesis, Permeability and Metastasis. L. R. Teegala, *University* of Akron

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Lipid Storage and Trafficking

E463 490.1 Interactions of Perilipin 5 with Cytoskeletal Elements. R. L. Austin, *Otterbein University*

E464 490.2 Characterization of the Perilipin 5 C-Terminus. T. D. Clinton, Jr., Otterbein University

E465 490.3 Characterization of a Shortened Form of the Perilipin 5 Protein. R. C. Dalton, *Otterbein University*

E466 490.4 Mapping Perilipin 5 interactions via Protein Crosslinking Studies. N. B. Forney, *Otterbein University*

E467 490.5 Perilipin 5 and Rab 18 Occupy Similar Cellular Pools. E. K. Hughes, Otterbein University

E468 490.6 Differential Splicing of Perilipin 5. S. P. Jordan, *Otterbein University*

E469 490.7 Characterization and Structure Determination of the Perilipin 5 N-Terminal Domain. E. C. Juarez Manning, *Otterbein University*

E470 490.8 A Regulatory Mechanism for Nuclear Lipid Droplet Biogenesis. J. Lee, *Dalhousie University*

E471 490.9 Dynamic Analysis of Discoidal Nascent HDL Structure by IPET. J. J. Li, *Mercer University*

E472 490.10 Phosphorylation Dependent Interactions of Perilipin 5 with Adipocyte Triacylglycerol Lipase. R. E. Osborn, Otterbein University

E473 490.11 Targeting Molecular Chaperone HSP90 To Treat Niemann-Pick Type C1 Disease. N. H. Pipalia, *Weill Cornell Medicine* **E474 490.12** Lipid Droplet Protein Binding in Response to Altered Phospholipid Composition. T. Renier, *St. Olaf College*

E475 490.13 Vitamin E Reduces Hepatic VLDL Secretion by Disrupting its ER-to-Golgi Transport. S. A. Siddiqi, *University of Central Florida*

E476 490.14 Lysosome-Associated Membrane Protein 1 Rescues Cholesterol Accumulation in NPC1 Mutant Cell by Enhancing Lysosome-ER Contacts. A. Singhal, *Meharry Medical College*

E477 490.15 Analysis of Phosphorylation Sites in Perilipin 5. N. M. Sumser, Otterbein University

E478 490.16 Interaction of Perilipin 5 with Mitochondria. C. I. Todd, *Otterbein University*

E479 490.17 Characterization of the Perilipin 5 11-mer Region. T. M. Tucker, *Otterbein University*

E480 490.18 Evaluation of Dietary Protein Isolated from Different Sources on Hepatic and Adipose Lipid Metabolism. D. C. Warren, *West Virginia University*

E481 490.19 Hepatic perilipin 5 promotes lipophagy and alters lipid droplet and mitochondrial dynamics. E. Zhang, *Beijing Ad*vanced Innovation Center for Food Nutrition and Human Health, College of Food Science and Nutritional Engineering, China Agricultural University

491 Interdisciplinary/ Translational Science

E482 491.1 The effects of Uncaria tomentosa on acetylsalicylic acid and paclitaxel. J. I. Contreras, *Mount Saint Mary's University*

E483 491.2 The chinchilla as a novel animal model of gestational diabetes. C. S. Duvald, *Aarhus University*

E484 491.3 Correlating Indigenous Peruvian Women's Distance to Cusco and Their Access to Healthcare, and Investigating the Effect of Cat's Claw Extracts on HeLa Cells. A. Lamba, *Mount Saint Mary's University*

E485 491.4 Repression of COUP-TFII by proinflammatory cytokines contributes to endometriotic lymphangiogenesis. W. Li, Institute of Basic Medical Sciences, College of Medicine, National Cheng Kung University

E486 491.5 Targeted Interleukin-27 Gene Therapy Development for Disrupting Key Malignant Crosstalk between Metastatic Prostate Cancer and Bone. J. W. Salameh, *Purdue University* **E487 491.6** 1,3,4-thiadiazines as promising compounds acting on the serotonin turnover. A. P. Sarapultsev, *Ural Federal University*

E488 491.7 Comparative Analysis of Healthcare Providers and Patient Perspectives on Natural Remedies as Alternative Medicine in Two Communities in Peru. B. N. Simental, Mount St Mary's University

E489 491.8 Proteomic screening reveals the PARylation landscape of base excision repair proteins after Beta-Lapachone treatment in colorectal cancer cells. N. Singh, Indiana University School of Medicine

E490 491.9 Antioxidant and Haematological Activities of Ethanolic Extract of Ricinus communis. O. Ihekuna, *University of Lagos*

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Mitochondria Dysfunction and Disease

E491 492.1 High-Fat Diet Causes Mitochondrial Dysfunction and Renal Fibrosis in Minipigs. M. Chien, Department of Animal Science and Technology, National Taiwan University

E492 492.2 Deletion of PINK1 Accelerates and Exacerbates High-fat-diet Induced Cardiomyopathy. J. Mu, *Georgia State University*

E493 492.3 The Powerhouse of Depression: The Impact of MTCH-1 Deficiency on Reward Signaling in C. Elegans. K. Penchina, *The Nueva School*

E494 492.4 Uremic Toxins Decrease Skeletal Muscle Mitochondrial Energy Transfer Through Disruption of the Electron Transport System. T. Thome, *University of Florida*

E495 492.5 STX17 dynamically regulated by Fis1 induces mitophagy via hierarchical macroautophagic mechanism. H. Xian, *National University of Singapore*

493 Structural Biology

E496 493.1 Immune focusing to a broadly protective subdominant viral epitope by antigen engineering. G. Bajic, *Harvard Medical School*

E497 493.2 Crystal Structure of Poly(Aspartic Acid) Hydrolase-1. A. L. Bolay, *Georgia Southern University*

E498 493.3 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*

E499 493.4 Crystallization of SARS Coronavirus 3CL Protease to Identify Inhibitor Targets. S. Z. Fernandes, *Florida International University*

E500 493.5 Structural and functional consequences of SMCHD1 mutations associated with arhinia and muscular dystrophy. S. O. Kim, National Institute of Environmental Health Sciences

E501 493.6 Cost-effective synthesis of polyethylene glycol diacrylate-acrylic acid (PEGDA-AA), a tissue engineering hydrogel ideal for C2C12 mouse muscle cells. H. M. Lee, *Hampden-Sydney College*

E502 493.1 A Potential Specificity Code for B. subtilis SsbA and SsbB Quaternary Structures. T. Nguyen, University of Wisconsin-Madison

E503 493.8 Development of Enhanced Conformational Sampling Methods for GPCRs. E. Serrano, California State University, Northridge

E504 493.9 RNA Exclusion Mechanism of the Cytidine Deaminase APOBEC3G. W. C. Solomon, *Metropolitan State University*

E505 493.10 Data Mining Scientific Literature Demonstrates Use of Biological and Medical Data Across Scientific Disciplines. N. Verdiguel, *University of Central Florida*

E506 493.11 Comprehensive snapshots of an unusual reaction cycle for an atypical protein tyrosine phosphatases (PTP). H. Wang, *NIEHS*

E507 493.12 Cannabinoid Receptor CB2 Structure and CB2/Gi Signaling Mechanisms. C. Xing, University of Pittsburgh

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Biotherapies and Immunotherapies

E508 494.1 Re-polarization of tumor-associated macrophages via reconstituted high- density lipoprotein nanoparticles. A. S. Dossou, *UNT Health Science Center*

E509 494.2 Cellulose hydrogels as delivery vehicle of immunomodulatory mesenchymal stem cells. A. S. Flores, *University of Puerto Rico*

E510 494.3 Sensitizing Prostate Cancer Cells to IL-27 Immunotherapy by Chemotherapy Induced Immunogenic Modulation. S. Kumar, *Purdue University*

E511 494.4 Probiotic Effects of Yeasts on Virulence of Candida Species. L. Kunyeit, *Worcester Polytechnic Institute*

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Molecular Medicine

E512 495.1 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*

E514 495.3 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*

E515 495.4 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

E516 495.5 Discovery of a novel small-molecule activator that corrects G6PD deficiency. S. Hwang, *Stanford University*

E517 495.6 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

E518 495.7 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*

E519 495.8 Akt1 and Akt2 Isoforms Play Distinct Roles in the Development of Inflammation and Fibrosis during Alcoholic Liver Disease. K. Reyes Gordillo, *The George Washington University*

E520 495.9 Combination of Ionizing Radiation with Glutaminase Inhibition Improves Treatment Response in Head and Neck Squamous Cell Carcinoma. C. A. Wicker, University of Cincinnati

Meeting Notes				

ASBMB Posters MONDAY APRIL 8

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

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 Bioinformatic	
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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Active Learning in the Molecular Life Sciences

El 617.1 Engaging Nontraditional Students by CURE-ing Microbes on Ocean Plastics. A. Barral, *National University*

12 617.2 Creating and Using the Malate Dehydrogenase CURE Community to Explore Critical Aspects of Sustainable Protein Centric CUREs. J.K. Bell, *University of San Diego*

E3 617.3 Managing course embedded research projects of any size using the Open Science Framework. C. Berndsen, James Madison University

E4 617.4 Exploring Enzyme Catalysis: A 3D Model of the Myocobacterium tuberculosis MazF-mt6 toxin. R. Billings, *Lane College*

E5 617.5 Serum albumin as a model protein in designing an undergraduate laboratory course in biochemistry. S.E. Browning, *Stephen F. Austin State University*

E6 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*

E7 617.7 A Protein Centric CURE That Promotes Student Collaborations Across Different Universities. K.P. Callahan, *St. John Fisher College*

E8 617.8 Infrared Thermography Applied to the Study of Enzyme Kinetics. D.A. Cochran, *Ithaca College*

E9 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*

EI0 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*

Ell 617.11 Integration of Authentic Research into an Undergraduate Laboratory Course: Design and Synthesis of a Gene Therapy Vector. K.V. Gousse, *Monmouth University*

E12 617.12 A Comparison of Instructional Design Approaches for Teaching Noncovalent Interactions. S.M. Halmo, *University of Georgia*

EI3 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*

El4 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

EI5 617.15 Using Forensic Science as an Engagement Tool for Student Retention and Student Success in General Biology. c. Jones, *Lane College*

El6 617.16 CRISPR-cas9 gene editing in undergraduate laboratory experience. H.L. Kee, *Stetson University*

E17 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*

E18 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

E19 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*

E20 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*

E21 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*

E22 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*

E23 617.23 Innovative Biochemistry Course Redesign to Integrate Basic and Clinical Sciences. N. Nusair, York College of Pennsylvania **E24 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*

E25 617.25 A Multi-year Biochemistry Lab Experiment Using a Putative Enzyme from Arabidopsis thaliana. K.A. Rouhier, *Kenyon College*

E26 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

E27 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*

E28 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*

E29 617.29 The BiosProject: An Erasmus+ European Action for Enhancing Bioinformatics and Computational Biology Knowledge, Skills and Literacy. G.M. Trovato, *European Medical Association*

E30 617.30 Peer-Led Team Learning and Course-based Undergraduate Research Experiences in General Biology and General Chemistry. M. Van Stry, *Lane College*

E31 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*

E32 617.32 XRT: A reproducible and scalable training system that produces students capable of conducting novel molecular biology research. H. Zarrinnegar, *The Nueva School*

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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 BRCT 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 PARP-1 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 Correspond 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 DnaAtrio Motifs in E. coli OriC Reveals Multiple Modes for Bacterial Replication Origin Activation. K. Oyman, *Florida Institute of Technology*

E43 619.9 Counting R-loops: A Novel Quantification Method for Nuclear DNA:R-NA 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. Sawyer, *University of St. Thomas*

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

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E238 634.9 Antioxidants prevent cytotoxic and mutagenic effects of hexavalent chromium on human and bacterial cell cultures. T. Mayotte, *Olivet Nazarene University*

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

E241 634.12 A novel method for insulin detection. L. Slachtova, *Institute of Organic Chemistry and Biochemistry*

E242 634.13 Optimization of Cell Free Protein Synthesis: Development of a Fusion Protein Fitness Strategy. T. Travieso, *David*son College

E243 634.14 Chemical Fingerprinting of Cyperus species using HPLC analysis. L. UDARI, *Eastern Illinois University*

E244 634.15 Deregulation of Acanthamoeba castellanii steroidogenesis is amoebicidal and protects cultured corneal cells from Ac attack. B.H. Vanderloop, *Texas Tech University*

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E245 635.1 Development of a Rapid, DNA-Based Field Test for Detection of Ranavirus, an Emerging Amphibian Disease. A. Angel, *Montclair State University*

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. David, *Adelphi University*

E249 635.5 Determination of Fd-tet Bacteriophage Infectivity of E. coli B91BK 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 SPECTRO-SCOPIC 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*

E259 635.15 Engineering Living Biosensors using the Hemeprotein Transcription Factor CooA. A.K. Murchison, *San Francisco State University*

E260 635.16 Alcohol + PLD = Phosphatidylethanol, a Long-Term Alcohol Biomarker. P.O. Neilsen, *Echelon Biosciences*

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 Lipoarabinomannan. 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. Tantama, *Purdue University*

E266 635.22 Kd determination and characterization of zinc complexes by fluorescence titration. H.S. Weiland, *Hampden-Sydney College*

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E267 635.23 Design and Application of a Mutational Sensor for Characterizing AID Activity. A.T. Woods, *St. Mary's University*

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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*

1273 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*

E275 636.8 Rapid Recovery of DNA from Dried Blood Spots: Use of a Novel Electrophoretic Method. M. Machado, *Brown 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*

E278 636.11 Optimization of a Functional T Cell Panel for Mass Cytometry. H. Schoon, *Albion College*

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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*

E281 637.3 Targeted resequencing using the MinION long read sequencing platform. M.W. McBride, *University of Glasgow*

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 and

E283 638.1 Optimizing Lipid Extraction in Anabaena. H.D. Menning, *Dakota Wesleyan* University

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

E285 639.1 Metabolomic Responses to Burn Injury in a Rodent Model. A. Alkhalil, *Medstar Health Research Institute*

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. Dailey, *George Mason University*

E288 639.4 Elucidating Mammalian Anabolic Three-Carbon Metabolism by Liquid Chromatography-High Resolution Mass Spectrometry. M.T. Doan, Drexel University A.J. Drexel Autism Institute **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*

E291 639.7 Gut Check on Air Pollution: Effects of Biodiesel Ultrafine Particles on Gut Microbial Metabolism. J. Zhu, *The Ohio State University*

640 Glycomics

E292 640.1 Assessing Fucosyltransferase

Activity via MSn. D. Ashline, University of New Hampshire

E293 640.2 An open source bioinformatic pipeline to decipher how the human milk metabolome protects infants from pediatric obesity. D.J. Lemas, *University of Florida*

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E294 641.1 Reconstruction of biological subsystems using bottom-up genetics. W. Aoki, *Kyoto University*

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*

E298 641.5 Single Neuron and Microglia Gene Expression Networks Demonstrate Cellular Subphenotype Shifts and Altered Glial-Neuronal Signaling in Solitary Nucleus during Alcohol Withdrawal: A Time Series. S.J. O'Sullivan, *Thomas Jefferson University*

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E299 642.1 Using Molecular Dynamics Simulations to Evaluate Ligand Binding of L,L-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. Camenares, *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 R19OC 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*

643 Hormone Signaling in Animals and Plants

E309 643.1 Progress towards development of an ELISA for quantifying avian CBG. I. Antunes, *St. Mary's College of Maryland* **E310 643.2** Mechanisms of exercise protein FNDC5/Irisin in vasculature during zebrafish development. Y. HUANG, *National Sun* Yat-Sen University

E311 643.3 Glucocorticoid-Driven Transcriptomes in Human Airway Epithelial Cells: Commonalities, Differences and Functional Insight. M.M. Mostafa, *University* of Calgary

E312 643.4 Mechanisms of Glucocorticoid-mediated Induction of Krüppel-Like Factor 9 in the Human Airways. M.M. Mostafa, *University of Calgary*

E33 643.5 Functional characterization of isl2/nr2flb activation target stap2b in vascular development. Y. Wang, Doctoral Degree Program in Marine Biotechnology, National Sun Yat-sen University, Taiwan

644 Extracellular Matrix and Cell Signaling

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/TRAF3IP2-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



E319 645.1 MK-STYX Impacts Autophagy and Microtubule Dynamics. A.M. Mattei, *College of William and Mary* E320 645.2 The CH2 Domain of Pseudophosphatase MK-STYX Regulates Neurite Outgrowth. K. Reed, *William & Mary*

E321 645.3 Structural Studies of a Novel Glucan Phosphatase from the Red Alga Cyanidioschyzon 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

1323 645.5 Dephosphorylation of Epidermal Growth Factor Receptor by Protein Tyrosine Phosphatase 1B. M.W. Young, *SUNY College at Old Westbury*

646 Apoptosis and Cell Death

E324 646.1 Curcumin Induces Apoptosis by regulating the cell cycle proteins in MDA-MB-231 Breast Cancer Cells. M.S. Ali, *William Beaumont Army Medical Center*

B25 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 Crotalus 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 5-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.* **E332 646.9** Investigation of the role of RCAN1 Gene in apoptosis. A. Fausto, *California State University Northridge*

E333 646.10 Function of Yeast Bax Inhibitor BXI1 in Redox and Calcium Homeostasis of the Endoplasmic Reticulum and Programmed Cell Death in Saccharomyces cerevisiae. W. Jacob, *Providence College*

1334 646.11 Activating transcription factor 4-dependent B cell translocation gene-1 induction promotes ferroptosis. J. Kim, *Daegu Haany University*

E335 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

E336 646.13 Calcium Dependence of Transglutaminase and its Function in Apoptosis in Human Erythroleukemia Cell Lines. W.J. Lowther, *Slippery Rock University*

E337 646.14 Effect of Chloroform Fraction of Adenopus Breviflorus Benth Fruit on Opening of Rat Liver Mitochondrial Permeability Transition Pore, Mitochondrial Atpase and Cytochrome C Release. T.A. Oyedeji, University of Lagos

E338 646.15 Cell Growth and Transglutaminase 2 Expression within the Human Erythroleukemia Cell Line (HEL). S.L. Schultz, *Slippery Rock University*

E339 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*

E340 646.17 A structural investigation of NRZ mediated apoptosis regulation in zebrafish. C.D. Suraweera, *LaTrobe University*

E341 646.18 Benzimidazole scaffolds as potential anticancer agents: Synthesis and Biological evaluation. H. Vemana, *St Johns University*

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E344 647.3 Antiproliferative Properties of Lichens Parmelia vagans and Parmelia sulcata. V. Bondarenko, *Touro University Nevada*

E345 647.4 SKP2 Inactivation Suppresses Cell Proliferation and Regulates AR/FOXA1 Expression in PCa Cells. S.I. Celada, *Tennes*see State University

E346 647.5 Investigating the Role of Inhibitors of NHE1 Activation as Potential Adjuvant Therapies in the Treatment of Ovarian Cancer. A.R. Corradi, *Bemidji State University*

E347 647.6 ABC Transporter-Mediated Multidrug Resistance in Prostate Cancer Cells. T.O. Famuyiwa, *Florida Atlantic University*

E348 647.7 Potential Block of Direct and Secondhand Smoke-Induced Increase in Endothelin-1 Signaling of Breast Cancer Cell Lines by Hinute-AM. J. Finch, *Meharry Medical College*

E349 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

E350 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

E351 647.10 The First Laminin G Domain of Protein S (ProS1) is Involved in Activation of Tyro3 Receptor Tyrosine Kinase and Downstream Signaling in Human Cancer Cells. S. Hafizi, *University of Portsmouth*

E352 647.11 Targeting Calcium Channels to prevent EMT. K.J. Hermanson, University of North Dakota

E353 647.12 Studying the Role of Zinc (Zn2+) in Cellular Transitions Under Acidic Conditions. Y. Hu, *Ohio University*

E354 647.13 Analysis of Ras G12V/D Mutation on Downstream Pathways Using Multiplex Immunoassays. J. Hwang, *MilliporeSigma* Corp.

E355 647.14 LY294002-induced growth inhibition of cancerous cells is inked to downregulation of MEK-ERK pathway and adhesion molecules. L. Kavege, *Barry University* **E356 647.15** Identifying novel molecular vulnerabilities to PTK2/FAK inhibition in Gαq-driven uveal melanoma using a kinome-wide CRISPR/Cas9 screen. A. Kishore, *UC San Diego-Moores Cancer Center*

E357 647.16 Study the Effect of Irisin on Prostate Cancer Cells. F. Ko, National Taiwan University

E358 647.17 The effect of hypoxia and oxygen supplementation on gynecological cancer cells. A.K. Kraus, *Providence College*

E359 647.18 Is Less Actually More? Investigating the Synergistic Relationship between Chemotherapy Agents and NHE1 Inhibitors in Ovarian Cancer Cells. A.C. Larson, *Bemidji State University*

E360 647.19 Role of Programmed Death-Ligand 1 in Cancer. T. Link, *Walton High School*

E361 647.20 Assessing the fitness of HeLa cells expressing elongation factor 2 with mutations at the diphthamide histidine. E.K. Lowe, *Towson University*

E362 647.21 Epigenetic regulation of the Birc5 promoter explains mechanism of action of YM-155 in synovial sarcoma. S. Luelling, *Idaho State University*

E363 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*

E364 647.23 The Effects of Epigenetic Modifiers on PD-L1 and HLA Class I Expression on Tumor Cells. T. Maini, *SUNY Geneseo*

E365 647.24 Experimental Modal Analysis of Tumorigenesis and Cancer Metastasis. B. Martinez, *LANL*

E366 647.25 Myeloid cell-derived IL-6 in Chronic Lymphocytic Leukemia. S.D. McManus, *University of St. Thomas*

E367 647.26 Med12 Mutations Promote Castration Resistant Prostate Cancer through Hyperactivated GLI3/SHH Signaling. s. Muthutkumar, University of the Incarnate Word

E368 647.27 Colonic Epithelial Cells Express an Oncolytic Bispecific IgA/IgG heterodimer. P.P. Nair, *NonInvasive Technologies LLc*

E369 647.28 Effects of SAHA and RG7388 on p21WAF1/CIP1 and p27KIP1 mediated Pathways in Cancer Cells. U. Natarajan VRR Institute for Biomedical Science

E370 647.29 Investigation of oncogenic G-protein coupled receptor signaling pathways in Kras dependent pancreatic cancer cell lines. O. Ocal, *Bilkent University* **E311 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*

E372 647.31 The Effect of Notch, IL-1 and Leptin (NILCO) Inhibition in Xenograft Colorectal Cancer. R. Ozyurt, *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-I 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 Wht 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 es 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 MiRNA Manipulation. P.R. Vigo-Morales, *Uinversity 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*

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

E392 648.3 Determining the role of Pal 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. Waitkevich, *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. Gonzalez, *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 Ancylostoma 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*

E407 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*

E408 649.11 Inoculum 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 **E409 649.12** PGE2 Augments Inflammasome Activation and M1 Polarization in Macrophages Infected with Salmonella Typhimurium and Yersinia enterocolitica. A. Sheppe, University of Florida

E410 649.13 Intestinal epithelial O-GlcNAc signaling is indispensable for anti-helminth type 2 immunity. M. Zhao, *University* of *Minnesota*

650 Antibacterial Targets and Drug Discovery

E411 650.1 UPLC-MS Analysis of Characterization of Bioactive Compounds Produced by Endophytic Bacillus tequilensis ALR-2 from Aloe vera Plant. M.A. Akinsanya, Lagos State University College of Medicine

E412 650.2 Characterization of non-C2 symmetric salen ligands as novel antimicrobial and antifungal agents. C.W. Allgood, *Hampden-Sydney College*

E413 650.3 An Investigation of Milly, a K2 Mycobacteriophage. A. Conte, *Providence College*

E414 650.4 Determination of Antimicrobial Activity and Secondary Metabolites in Acacia rigidula and Acacia berlandieri. D.I. Gonzalez, *Texas A&M International University*

E415 650.5 Synthesis and Biological Evaluation of a Photoswitchable Quorum Sensing Molecule. T. Karns, *Albion College*

E416 650.6 Effect of Azadirachtin on Bacterial Biofilm Formation. V. Kaverimanian, *Saint Louis University*

E417 650.7 A Step Past Phage Hunters, Modification of the Mycobacteriophage ZoeJ Genome for Phage Therapies. C.J. Scano, *Providence College*

E418 650.8 Structure-activity relationship of a novel Staphylococcus aureus biofilm formation inhibitor. A. Shah, *Mercer University*

E419 650.9 Investigation of Antimicrobial Properties of Essential and Natural Oils on Cronobacter Species. N.T. Whitehead, North Carolina A&T State University

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Oxidative Stress and Reactive Oxygen

E420 651.1 Upregulation of cellular protective mechanisms against oxidative damage via pharmacological intervention. S.K. Allani, *Florida Atlantic University*

E421 651.2 Neuromuscular function during aging is protected in baicalein-treated C57BL/6 mice. A. Bhattacharya University of the Incarnate Word School of Osteopathic Medicine

E422 651.3 Selenium status influences selenoprotein H interactions with other selenoproteins in the response to oxidative stress. L. Cao, *Mississippi State University*

E423 651.4 Exposure to Electronic Cigarette Vapor Causes Systemic Accumulation of Biomolecular Free Radicals. G. Clemons, *West Virginia University*

E424 651.5 The Effect of Grafting on Antioxidant Capacity in Heirloom Varieties of Tomato (Solanum lycopersicum). J. Greathouse, *Western Illinois University*

E425 651.6 SOD2 Overexpression Affects Mouse Hepatic OXPHOS Complex Integrity. T.J. Harris, *Appalachian State*

E426 651.7 Establishing the Role of Rieske Protein Reduction Potential in the Formation of Reactive Oxygen Species in Complex III. V. Henderson, *Trinity University*

E427 651.8 Full-Time Physioxic Cell Culture and Handling Improves MSC Proliferation Over Hypoxic Pre-Conditioning in Vitro. A.D. Henn, *BioSpherix*

E428 651.9 Mitochondrial Oxidative Stress And Adipocyte Protein Carbonylation. Y. Huang, University of Minnesota

E429 651.10 Hypoglycemia effect of drink containing Guava Leaf Extract in Rats with type 2 diabetic rats. H. Huang, *Shih Chien University*

E430 651.11 Lactobacillus paracasei PS23 modulated the age-related inflammation in Senescence Accelerated Mouse Prone 8 (SAMP8) mice. H. Huang, *Shih Chien University*

E431 651.12 Evidence for the Novel Metabolic Pathway of Ralstonia eutropha H16 to Metabolize L-ascorbate Ryan Joyce, Tyler Stack, Michael Carter. R.P. Joyce, *Salisbury University*

E432 651.13 Investigating a Novel Metabolic Pathway for Bacteria to Utilize L-Ascorbate as its Carbon Source. P. Kim, *Salisbury Unversity* **E433 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*

E434 651.15 Demonstration of Photodynamic Molecules as Larvicides towards the Yellow Fever Mosquito Aedes aegypti. C. Meier, *Kenyon College*

E435 651.16 Tempol, a superoxide dismutase mimetic agent, improves dystrophic phenotype in the diaphragm muscle of mdx mice. E. Minatel, *UNICAMP*

E436 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

E437 651.18 Evaluating the Chemistry and Biological Action of Midwestern Medicinal Plants. N.T. Nguyen, *Earlham College*

E438 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*

E439 651.20 Alda-1 shields mitochondrial dynamic proteins from hyperoxia via Aldh2 activation. S. Patil, *University of South Florida*

E440 651.21 Identification of oxidized mitochondrial mRNA in human neurons under oxidative stress. J. Rana, *Kent State University*

E441 651.22 Understanding PM2.5-Induced Oxidative Stress In Alveolar Macrophages. K. Raval, *CSU-Fresno*

E442 651.23 Acrolein modifies protein functions and induces tissue damage at advanced age. T. Uemura, *Amine Pharma Research Institute*

E443 651.24 Synergistic Chemopreventive Effect of Medicinal Plants against Azoxymethane-induced Oxidative Stress and Colon Carcinogenesis. M.I. Waly, Food Science and Nutrition Department, Sultan Qaboos University

E444 651.25 A Novel Way to Use Vitamin C? Characterizing L-Ascorbate (Vitamin C) Catabolism in Ralstonia eutropha. B. Wille, *Salisbury* University

ASBMB posters MONDAY continued

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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 electrophiles 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. Ikhlef, *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 Difluoromethylornithine (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*

E462 652.18 A Transcriptomics and Functional Genetics Approach to Identifying Components of the Drosophila Polyamine Transport System. J. Saldanha, *University of Central Florida*

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. von 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 Colorectal Cancer Cells. Y. Weng, *China Medical University*

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

653 Biofuels and Lipid Metabolizing Enzymes

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*

E411 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 Sphingosine-1-Phosphate Signaling System in HSV Viral Replication. E. Berdyshev, *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-K β 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*

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

655 Membrane Proteins and Lipid Interactions

E486 655.1 Using simulation to probe membrane defects with a pH-sensitive peptide. V. Burns, *West Virginia University*

E487 655.2 Computational determination of the binding kinetics of the pH-Low Insertion Peptide. K. Freshwater, *West Virginia University*

E488 655.3 Insights into the Role of the Membrane on PLC β and G α q-Mediated Activation and Adsorption. B.N. Hudson, *Purdue University*

E489 655.4 Implication of Cholesterol in Regulating the Pore-formation Mechanism of Vibrio Cholerae Cytolysin, a β -barrel Pore-forming toxin. R. Kathuria, Indian Institute of Science Education and Research Mohali

E490 655.5 Interactions of protein translocation machinery components of Streptococcus mutans. P. Lara Vasquez, *University of Florida*

E491 655.6 The role of cholesterol trafficking in BACE-1 and APP co-localization. C.H. Levitt, *Ithaca College*

E492 655.7 Variable Surface Display and Post-Translational Regulation of the Fungal Adhesin Epa1p. C. Raposo, *Tufts University*

E493 655.8 Role of IGSF3 in Lung Epithelial Barrier Disruption Induced by Cigarette Smoke Exposure. K. Schweitzer, National Jewish Health **E494 655.9** Functional Water Dynamics in Rhodopsin Using Solid-State Deuterium NMR Spectroscopy. N. Weerasinghe, University of Arizona

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Membrane Transport and Channels

E495 656.1 Investigation of Calcineurin B Homologous Protein (CHP) Isoform Specific Function. S. Davis, *University of San Diego*

E496 656.2 Handover mechanism of the growing pilus by the bacterial outer-membrane usher FimD. M. Du, *Van Andel Institute*

E497 656.3 Substrate Selectivity of a P4-ATPase Flippase. D. Dudek, *Indiana University*

E498 656.4 Mechanism of a membrane 'transceptor': A transporter and a receptor in one. M. Gupta, *UCSF*

E499 656.5 NaAtm1: Studying a Heavy-Metal ABC Transporter System. D. Hicks, University of San Francisco

E500 656.6 A free-exchange mathematical model of EmrE. G. Hussey, University of Wisconsin-Madison

E501 656.7 Movements of N-terminus of LeuT during the Substrate Transport Cycle. J. Khan, Center for Physiology and Pharmacology, Institute of Pharmacology, Medical University of Vienna

E502 656.8 Disruption of C-terminal tyrosine-based internalization motifs and putative N-terminal lysine residues increase the cell surface expression and activity of System xc-. J. Larson, *Hope College*

E503 656.9 The Function of the KCNQ1 Potassium Ion Channel in the Human Heart. T. Link, *Walton High School*

E504 656.10 Synthesis and characterization of BODIPY-FL-cyclosporine A as a substrate for both human and mouse multidrug resistance-linked P-glycoprotein. A. Sajid, *Center for Cancer Research, National Cancer Institute, NIH*

E505 656.11 Examining the Bacterial Methionine Transporter Utilizing Soluble Lipid Bilayer Systems. G. Servito, *University of San Francisco*

E506 656.12 Investigation of the Relative Activity of Monomer and Dimer SecYEG Translocons. A. Strauss, *Wesleyan University* **E507 656.13** ABC Transporter: Atm1 and the Transport of Heavy Metals. L. Ureta, *University of San Francisco*

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 methcathinones as selective and unselective inhibitors of human dopamine and serotonin transporters. M. Niello, *Medical University of Vienna*

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Biochemistry of Organelles and Organelle Trafficking

E510 657.1 Sterols promote atlastin-mediated endoplasmic reticulum membrane fusion in Saccharomyces cerevisiae. Y. Jun, *Gwangju Institute of Science and Technology*

E511 657.2 Regulation of Vesicle Formation at the Golgi Complex by the Arf GEFs Geal and Gea2. A. Muccini, *Cornell University*

E512 657.3 Primary cilia on LECs play a crucial role in lymphatic vasculature development and remodeling. D.M. Paulson, *South Dakota State University*

E513 657.4 PCID2 influences BRCA1/ BARD1 Localization and Centrosome Duplication through its functions in Nuclear Protein and mRNA Export. K.K. Resendes, *Westminster College*

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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*

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Vesicle Trafficking and Cargo

E517 659.1 Investigating regulation of the PI 4-kinase Pik1 at the Saccharomyces cerevisiae trans-golgi network. C.M. Diefenderfer, *Cornell University*

E518 659.2 Role of the proteoglycan, serglycin, in platelet exocytosis. J. Lykins, *Uni*versity of Kentucky

E519 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*

E520 659.4 Use of Cell Penetrating Peptides to Deliver Cargo in Protists. M.V. Warner, *Kennesaw State University*

E521 659.5 Podocyte-Specific Rescuing and Deletion of Acid Ceramidase Gene in Mouse Glomeruli. Q. Zhang, Virginia Commonwealth University

660 Mitochondria in Health and Disease

E522 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*

E523 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

E524 660.3 Inner mitochondrial translocase Tim50 is central in steroid metabolism in steroidogenic tissues. H.S. Bose, *Mercer University School of Medicine*

E525 660.4 Plasmalogen Precursors Reverse Lipid Changes in a Barth Syndrome Cell Model. J. Bozelli Junior, *McMaster University*

E526 660.5 Exploring the functional role of an ancient mitochondrial fatty acid synthesis pathway. K.K. Dove, *University of Utah*

E527 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 **E528 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*

E529 660.8 Short Variant of Mitochondrial Dynamin OPA1 Renders Improved Cell Survival under Stress Conditions. H. Lee, *Medical College of Georgia, Augusta University*

E530 660.9 Cyclosporine-A Enhances Mitochondrial Calcium Buffering to Delay mPTP Opening. J. Mishra, *Medical College of Wisconsin*

E531 660.10 Acid Sphingomyelinase Deficiency Protects Mitochondria and Improves Function Recovery after Traumatic Brain Injury. S.A. Novgorodov, *Medical University of South Carolina*

E532 660.11 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

E533 660.12 Prevention of mitochondrial pH gradient dissipation: a novel role for cyclosporin A on inhibiting calcium-hydrogen exchange activity in cardiac isolated mitochondria. D.F. Stowe, *Medical College of Wisconsin*

E534 660.13 ULK1-dependent Mitophagy Is Essential for Maintaining Cardiac Function during High Fat Diet-induced Diabetic Cardiomyopathy. M. Tong, *Rutgers-New Jersey Medical School*

661 Organelle Dynamics and Dysfunctions

E535 661.1 Papuamine prevents the fusion between autophagosomes and lysosomes by inhibiting the maturation of autophagosomes. K. Fujimoto, *Kyushu University*

E536 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

E537 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

1-8	DNA Recombination, Structure and Topolo		
9-16	DNA Polymerases, Telomerase, Replicases and Replisomes		
17-34	Chromatin Structure, Remodeling and Gene Expression		
35-54	Non-coding RNAs		
55-107	Protein Structure and Biophysics		
108-120	Protein Folding and Chaperones		
121-139	Enzyme Chemistry and Catalysis		
140-160	Drug Screening and Development		
161-165	Protein and Peptide Chemistry		
166-182	Protein-Small Molecule Interactions		
183-194	Nanotechnology		
195-200	Cell Stress and Xenobiotics		
201-204	Allosteric Control of Signaling Pathways		
205-209	Spatiotemporal Control of Signaling		

210-215	Cell Motility and Migration	
216-224	Tumor Suppressors and Tumor Drivers	
225-245	Neurobiology and Neuronal Signaling	
246-261	Immune Signaling	
262-268	Targeted Therapies and New Targets for Drug Discovery	
269-285	Energy Metabolism, Oxidative Phosphorylation	
286-306	Metabolism and Nutrition	
307-324	Lipids and Membranes	
325-330	Lipid Domains and Lipid Rafts	
331-342	Glycans and Glycobiology	
343-347	Glycosyltransferases and Hydrolases	
348-352	Protein-Glycan Interactions	
353-357	Glycan Biotechnology and Drug Developmen	

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DNA Recombination, Structure and Topology

El 775.1 G-Triplex DNA Formation Determined by SPR and Native Agarose Gel Electrophoresis. C.C. Al-Der, *Texas State University*

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

I3 715.3 Sequence and Environmental Effect on the Formation of G-Triplex DNA. H. Bracey, *Texas State University*

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

I5 175.5 Crystallographic Structural Elucidation of E. coli HU and a Four-Way Junction. C. Khun, *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 Erythroagglutanin (PHA-E) of Phaseolus vulgaris (Black Bean). R. Madhwani, *California State University*, *Northridge*

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

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DNA Polymerases, Telomerase, Replicases and Replisomes

E9 776.1 Protein Lysine Acetylation Regulates the Choice of the Okazaki Fragment Maturation Pathway. L. Balakrishnan, Indiana University Purdue University Indianapolis

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*

Ell 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*

EI3 776.5 Circularization of linear chromosomes and telomerase RNA gain-offunction mutations in Saccharomyces cerevisiae. M.A. Mefford, *Morehead State University*

El4 776.6 Mutating the Telomere Gene. B. Palmero, Lake Forest College

EI5 776.7 Mechanistic insight into oxidized ribonucleotide (8-oxo-GTP) insertion by a DNA polymerase. M. Smith, University of Kansas Medical Center

El6 776.8 Structure of Eukaryotic CMG Helicase at a Replication Fork and Implications for Replisome Architecture and Origin Initiation. Z. Yuan, *Van Andel Institute*

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Chromatin Structure, Remodeling and Gene Expression

E17 777.1 Characterizing Basal-like Triple Negative Breast Cancer using Gene Expression Analysis: A Data Mining Approach. Q.A. ALSABI, *Wright State University*

Ell 111.2 The fusion oncogene ASP-SCR1-TFE3 directs epigenetic-induced autophagy in alveolar soft part sarcoma. J. Barrott, *Idaho State University*

E19 111.3 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-Koehntop, University of Utah

E21 77.5 Analysis of Chromatin Accessibility Landscapes in Esophageal Squamous Cell Carcinoma. S. Choi, University of Texas at Arlington

E22 177.6 Determining if Mating Type Proteins Play a Role in Immaturity of the Ciliate Tetrahymena thermophila. R.L. Enerson, *Albion College*

E23 111.1 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 111.9 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 111.11 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 PU.1 induces enhancer-promoter looping that promotes IL-1 β 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 ε34. 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 111.17 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 IncRNAs and mRNAs in Diabetic Cardiomyopathy using Human iPSC-derived Cardiomyocytes. A. Dhanase-Karan, *Anna University, Tamil Nadu*

Tuesday

E36 778.2 microRNA 520b Mediates ATF5 Expression under Diverse Cellular Stress in Cancer Cells. K.A. Gaither, *Washing*ton State University

E37 778.3 MicroRNA-92b is a potential therapeutic target for Glioblastoma treatment. N. Grafals-Ruiz, UPR, Medical Sciences Campus

E38 778.4 miRNAs regulate the expression of sterol-O acyltransferase 1 through inhibiting the 3'UTR of TGF β receptor type 1 during embryonic development. H. LIN, National Taiwan University

E39 778.5 Long noncoding RNAs in immune response and inflammation. S.S. Mandal, *University of Texas at Arlington*

E40 778.6 Endogenous siRNAs are required for a learned pathogen avoidance behavior in Caenorhabditis elegans. Y. Manzanet, *Villanova University*

E41 778.7 Rapid RNA-Protein Interaction Detection with RNA5.0 of HCMV. K. Mickens, *Fort Lewis College*

E42 778.8 Genome-wide Discovery of Rare Riboswitches in Bacteria. G. Mirihana Arachchilage, Howard Hughes Medical Institute, Yale University

E43 778.9 IncRNA Chronos Exacerbates Pathological Cardiac Dysfunction and Fibrosis. R.L. Neppl, *Brigham and Women's Hospital*

E44 778.10 The role of InCRNA CRNDE in obesity-associated endothelial dysfunction. N.M. Nguyen, *University of Nebraska-Lincoln*

E45 778.11 The role of IncRNA HOTAIR in the regulation of glucose metabolism. M. Obaid, University of Texas at Arlington

E46 778.12 Genome Wide Microarray Profiling Identified Differentially Expressed Circulating Biomarkers Associated with Early Development of Diabetic Cardiomyopathy. T. PANT, *Medical College Of Wisconsin*

E47 778.13 Regulation of RpoS by RbsD in Escherichia coli. C. Peterson, *Suffolk University*

E48 778.14 Altered dosage of noncoding RNAs expressed from the Dlk1-Dio3 locus impairs skeletal muscle differentiation. C.A. Petty, *Boston University*

E49 778.15 Alcohol induces TGF-beta through suppression of miR-1946a. V. Sueblinvong, *Emory University*

E50 778.16 MicroRNA-29b act as mediators of lipopolysaccharide-induced bone loss. O. Sul, *University of Ulsan* **E51 778.17** Analysis of miR-21-5p and -3p expression and function during pathological neovascularization. G.D. Tripodi, *Medical College of Georgia at Augusta University*

E52 778.18 Measuring the Stability of RNA5.0 in Human Cytomegalovirus (HCMV). H.P. Tsingine, Fort Lewis College

153 778.19 Glucose-induced dysregulation of IncRNAs in a model of chronic kidney disease. N. Tsotakos, *Penn State Harriburg*

E54 778.20 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

155 779.1 Structural basis for teneurin function in circuit-wiring: A toxin motif at the synapse. D. Arac, *University of Chicago*

E56 779.2 Determining Phenotypic Consequences of EmrE Expression Under Various Environmental Stressors. W. Beeninga, University of Wisconsin-Madison

179.3 Yeast Polygalacturonase Activity is Resistant to Extreme Temperature and pH. M.L. Caspers, *University of Detroit Mercy*

E58 779.4 Molecular Crowding Modulates Actin Filament Mechanics and Structure. N. Castaneda University of Central Florida

E59 779.5 Increasing Versatility of Small Angle X-ray Scattering in Studying Biological Macromolecules. S. Chakravarthy, *Biophysics Collaborative Access Team / Illinois Institute of Technology*

E60 779.6 Caspases from Scleractinian coral show unique regulatory features. C. Clark, *University of Texas at Arlington*

E61 779.7 Structural Plasticity of a Human G Protein-Coupled Receptor Studied by NMR Spectroscopy. M. Eddy, *University of Florida*

E62 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*

E63 779.9 Elucidating the Intermolecular Interactions of a Cataract-Causing Protein: γB Crystallin. J. Faraone, *Rochester Institute of Technology*

E64 779.10 Ligand binding studies of a trimethoprim-resistant dihydrofolate reductase by fluorine NMR. G.J. Fuente Gomez, *The University of Tennessee*

165 779.11 Effects of Complex Formation on Motion in DNA Binding Domains of ARFs. N.A. George, *Ithaca College*

E66 779.12 Structural Insight into the Activin Receptor Assembly Mechanism. E.J. Goebel, University of Cincinnati

E67 779.13 Molecular modeling of the cl repressor of bacteriophage ϵ 34. R. Goodson, *Huntingdon College*

E68 779.14 Exploring the Mechanism of Action of Membrane Fusion Protein IncA Using Molecular Dynamics Simulations. D.L. Greco, *University of Delaware*

E69 779.15 Contribution of beta circuit completion towards virulence factor stability and function. J. Grosskopf, *UW - La Crosse*

E70 779.16 Phosphorylation Impact on the Behavior of Substrate-Bound Tau. L. Harries, Vassar College

E71 779.17 Structural Studies of GMP Reductase from Escherichia coli. D. Harris, *Ithaca College*

E72 779.18 Functional Analysis and Characterization of the Metal Bound Sco Protein from Thermus thermophilus. C. Hofman, *Trinity University*

E73 779.19 Molecular mechanism for accurate dephosphorylation of RNA polymerase II during eukaryotic transcription. S. Irani, *University of Texas at Austin*

E74 779.20 Single Amino Acid Substitutions Dramatically Shift Equilibria of Physiologically Relevant Alternate Protein Assemblies. E.K. Jaffe, *Fox Chase Cancer Center*

E75 779.21 Toward Understanding the Functional State of the Grb7 Protein. R. Koirala, *NMSU*

E76 779.22 Structural mechanism of corepressor-selective inverse agonism of the nuclear receptor PPARγ. D. Kojetin, *Scripps Research*

E77 779.23 Structural polymorphism in actin filaments modulates gelsolin binding. M. Lee, *University of Central Florida*

E78 779.24 Cysteine-Mediated Dimerization of the Transmembrane Domain of Mucin 16. E. Li, *Saint Joseph's University*

E79 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

E81 779.27 Superposition of Macromolecular Electron-Density Maps in X-ray Solution Scattering (SAXS). N.D. Nguyen, *Wabash College*

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. Schlimgen, *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*

179.39 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. Stuttgen, *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 Operon. K. Tombrello, *Auburn University*

E99 779.45 Characterization of Novel Homologs 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

E102 779.48 Structure and thermal stability of a coral metabolic enzyme. J.A. Wolfe, *Franklin & Marshall College*

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

Ello4 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 Periplasmic Metallochaperone AztD. E.T. Yukl, New Mexico State University

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

780 Protein Folding and Chaperones

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El09 780.2 Expression and purification of N-terminally acetylated Ssa1 chaperone from Saccharomyces cerevisiae. A.A. Griffith, *Rhode Island College*

Ello 780.3 Conformational Resilience of Protein Disulfide Isomerase. J. Guyette, University of Central Florida

EIII 780.4 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

Ell2 780.5 Investigating the Roles of the NAC and RAC in Stress Induced Prion Formation in Yeast. C. Kelly, *Ursinus College*

Ell3 780.6 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*

Ell4 780.7 Acetylcholinesterase inhibitors enhance its folding and assembly in the endoplasmic reticulum. J. Medina, University of Miami Miller School of Medicine

Ell5 780.8 Dissecting structure/function relationship of Streptococcus mutans membrane protein chaperones/insertases, YidC1 and YidC2. S. Mishra, *University* of Florida

Ello 780.9 Methionine sulfoxide reductase reverses oxidation of the nucleotide exchange factor Fes1 to regulate cytoplasmic Hsp70 chaperone cycle. E.E. Nicklow, *Cornell University*

Ell7 780.10 Computational studies on HdeA and its pH-Dependent Activation. S. Pacheco California State University Northridge

Ell8 780.11 The Evolutionarily Conserved Obg-like ATPase-1 (OLA1) Acts as a Molecular Chaperone to Regulate Cellular Stress Responses. A. Schulzt, *Medical College of Wisconsin*

Ell9 780.12 4-Phenylbutyrate rescues folding-deficient creatine transporter-1 variants linked to the creatine transporter deficiency syndrome. S. Sucic, *Medical University* of Vienna

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E120 780.13 Determining the Mechanism of Hemolytic Function and Type Vb Secretion by a Gram-Negative Pathogen. G. Wade, *UW La Crosse*

781 Enzyme Chemistry and Catalysis

E121 781.1 Functionally Important Conformational Sub-States in Human Ribonuclease Family. K. Bafna, *University of Tennes*see, Knoxville

E122 781.2 Auto-proteolysis of Type 1 Metacaspases in Schizophyllum commune. B.P. Cummings, *Union College*

E123 781.3 Marine worm bioluminescence is slowly revealing its secrets. E. De Meulenaere, *Scripps institution of Oceanography / UC San Diego*

E124 781.4 Unraveling the Biosynthesis of the Essential Lipoyl Cofactor in Staphylococcus aureus. Z.R. Dill, *Albion College*

E125 781.5 Biosynthetic mechanism of the nonribosomal peptide AMB in Pseudomonas aeruginosa. D. Galambos, *Carleton College*

E126 781.6 Kinetics of Mutations in the Active and Allosteric Sites of Fumarate Hydratase. R. Heng, *Wabash College*

E127 781.7 Purification and enzymatic assay of Bmal1, a quorum sensing signal synthase. J. Kellner-Rogers, *Ithaca College*

E128 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

E129 781.9 Using Ketoreductases for the Chemoenzymatic Synthesis of a Stereotriad. K. Kumru, *University of Texas at Austin*

E130 781.10 An Opine on Opines: Characterizing Opine Metallophore Biosynthesis in Bacterial Pathogens. J.S. McFarlane, *University of Kansas*

E131 781.11 Characterizing a novel bacterial sirtuin protein in an intact protein system. J. Muroski, *UCLA*

E132 781.12 Enzyme Kinetic Characterization and Substrate Specificity of Schizophyllum commune Metacaspases. L. Nguyen, *Union College* E133 781.13 A Novel Inexpensive Media for the Growth of Escherichia coli Expressing a Recombinant Lipase. J. Okpuzor, University of Lagos

E134 781.14 Does SpNox directly produce hydrogen peroxide?. J. Scott K e n n e s a w State University

E135 781.15 Expression and purification of Class D flavin dependent monooxygenase N-oxygenases. S. Truong, *California State Uni*versity, Northridge

EI36 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*

E137 781.17 Development of a Novel In Situ Activity Assay for Lysyl Oxidase Like-2 (LOXL2). H. Wang, *Johns Hopkins University*

E138 781.18 Cloning, purification, and enzymatic activity of the quorum sensing signal synthase RhII. N. Wetherald, *Ithaca College*

E139 781.19 In silico and in vitro Studies of Human 5α -reductase Type II Reveal New Loss of Function Variants. E. Katharopoulos, University Children's Hospital Bern

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E140 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*

E141 782.2 Glycosaminoglycans and Glycosaminoglycan Mimetics as Human Neutrophil Elastase Inhibitors for Cystic Fibrosis Management. D.K. Afosah, Virginia Commonwealth University

E142 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

Ell3 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*

El44 782.5 Identification and Characterization Chemical Compounds that Inhibit Lysyl-tRNA Synthetase from Pseudomonas aeruginosa. S. Balboa, *University of Texas* - *RGV*

Ells 782.6 Development of a Novel Calreticulin Reporter for Determination of Immunogenic Cell Death. R. Bocian, Western Illinois University

El46 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*

E147 782.8 Identification of Inhibitors of Glutaminyl-tRNA synthetase from Pseudomonas aeruginosa. Y. Escamilla, *University of Texas - RGV*

Ella 782.9 Reconstituting human P-glycoprotein (MDR1) into membrane nanodiscs. R. Farokhnia, *Southern Methodist University*

El49 782.10 Purification, Isolation and Inhibition of Entamoeba histolytica's bifunctional alcohol/aldehyde dehydrogenase (EHADH2). M.L. Gabrielle, *Roger Williams University*

EI50 782.11 Modulating Activity of ABC Transporters in Blood Brain Barrier Cells in Culture. K.L. Holcomb-Webb, Southern Methodist University

EI51 782.12 Cloning and Characterization of the Tyrosyl-S and Tyrosyl-Z tRNA Synthetases from Pseudomonas aeruginosa. C.A. Hughes, University of Texas - RGV

EI52 782.13 Optimization of Breast Cancer Resistance Protein (BCRP) Purification from PichiaPinkTM. M.K. Jensen, *Southern Methodist University*

EI53 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*

EI54 782.15 Disruption of Rho GTPase Prenylation by Statins Inhibits Respiratory Syncytial Virus. M. Malhi, *University of Toronto*

EI55 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

E156 782.17 Lipophilic Modification of an Anti-Cancer Stem Cell Agent Improves Pharmacokinetic and Anti-Cancer Properties. S. Morla, *Virginia Commonwealth University*

EI57 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*

EI58 782.19 Induction of Apoptosis by Peptide J18 in Ovarian Cancer Cells. K. Oldenburg, *Western Illinois University* EI59 782.20 Biochemical evaluation of drug inhibition of human MDR1 P-glycoprotein. M.C. Oliveira, *Southern Methodist University*

E160 782.21 Purification of Recombinant Zika Virus NS3 Helicase for the Identification of an Antiviral Drug. E. Westemeier, *Bemidji State University*

783 Protein and Peptide Chemistry

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El62 783.2 Purification of Palmitoyl Protein Thioesterase and Acyl Protein Thioesterase for use in In Vitro Depalmitoylation Reactions. D. Esoe, *Bemidji State University*

EI63 783.3 Degradation of Proteins Extracted from Teeth by Hydrogen Peroxide. J. Tadros, *Stockton University*

E164 783.4 Butelase: Linkage-specific Ligase. J.P. Tam, Nanyang Technological University

E165 783.5 Effect of Hydrogen Peroxide on Collagen. D. Valdes, *Stockton University*

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E167 784.2 Effects of Dihydromotuporamine C Derivatives on Actin Assembly Dynamics. J.B. Heidings, *University of Central Florida*

El68 784.3 The lower base of corrinoid small molecules regulates reductive dehalogenase enzyme function in Dehalococcoides species. N. Jiang, University of Tennessee

E169 784.4 Synthesis of 1,4-disubstituted aminoanthraquinone derivatives for purification of lactate dehydrogenase. J.L. Kubista, *Saint Mary's University of Minnesota*

E170 784.5 Structural and Dynamics of Glucocorticoid Receptor Ligand Binding Domain 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 Ell'2 784.7 Discovering c-di-AMP binding proteins in Streptomyces. W. Lu, Otterbein University

E173 784.8 Improving Ligand Geometry in Protein Data Bank Structures Computationally. B. Miller, *Smith College*

E174 784.9 Selective Inhibitor Design Toward 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 dihydropteroate 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 Photoaffinity Probe for Identification of Protein Targets of Glycosaminoglycan Mimetics. R. Ongolu, Virginia Commonwealth University

E177 784.12 Structural Investigation of Melatonin Metabolites as Calmodulin Antagonists 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. Pinsky, University of Michigan Medical School

E179 784.14 C-12 Binds to Tubulin at the Colchicine-binding Site and Target Microtubules by Preferentially Binding to GTPbound Tubulin. S.S. Prassanawar, *Indian Institute of Technology Bombay*

El80 784.15 Methamphetamine alters the expression of Toll-like receptor 4 on microglia-like cells. D.E. Rivera, *University of Puerto Rico in Ponce*

E181 784.16 A Salt Bridge between α 4 and α 5 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*

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E185 785.3 Induction of Neoplastic Transformation, AP-1 Signaling, PDCD4 signaling, and DNA Damage by Metal Oxide Nanoparticles Involves ROS-Mediated MAPK Pathways in JB6 Cells. T.L. Barber, *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 Detection and Imaging. Z. Chen, University of Electronic Science and Technology of China

Ello 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. Siemers, *Albion College*

E192 785.10 Refinement of the water-inoil 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

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El96 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

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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 CX-CL12-CXCR4 mediated gene expression in Danio rerio. A.C. Calderon-Zavala, *Lawrence University*

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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. Kaur, *University of Nebraska-Lincoln*

E209 788.5 The A-kinase anchoring protein b-synemin binds PKCe. M. Russell, Kent State University at Trumbull

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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, *Gatton Academy, Western Kentucky University*

E213 789.4 Loss of Cytoskeleton-Associated Protein 4 (CKAP4) Expression Enhances α 5 β 1-mediated Bladder Cancer Cell Adhesion and Migration. S. Lobo, *Geisinger Commonwealth School of Medicine*

E214 789.5 Exosomes Promote a Metastatic Mircroenvironment 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*

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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-allylselenocysteine (ASC), an analogue of garlic compound, on DMBA/TPA-induced skin tumorigenesis. A. Cheng, *Chang Jung Christian Univerity* **E219 790.4** Garlic, Ginger and Tumeric Extracts Alter Cell Cycle Arrest through Estrogen Pathway. O.A. Ebuehi, *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. Longhitano, University of Catania

1223 790.8 MacroH2A Variant Suppress Uveal Melanoma Progression and Rewires Cancer Metabolic Phenotype. L. Longhitano, University of Catania

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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-Tracing 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. Duraisamy, 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. Furnari, *Marymount Manhattan College*

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E231 791.7 Glia Maturation Factor Dependent Mast Cell Activation and Calpain 1 Synergize Dopaminergic Neuronal Loss and Behavioral Deficits in an MPTP Mouse Model of Parkinson's Disease. S. Govindhasamy Pushpavathi, *Harry S. Truman Memorial Veterans Hospital*

E22 791.8 Overexpression of Catalase in Mitochondria Mitigates the Inflammatory Effects of Simulated Microgravity and Social Isolation in Mouse Hippocampus. L. Guttmann, *NASA*

E233 791.9 Regulation of SNARE-Dependent Membrane Fusion by Alpha-Synuclein. B.J. Hawk, *lowa State University*

E234 791.10 Effect of adenosine A1 receptor agonist induced- hibernation on the arousal pathway in the Arctic Ground Squirrel. M. Jenkins, *University of Alaska Fairbanks*

E235 791.11 The effect of experience with phonological sequences on the suppression effect, used to assess echoic sensory memory, within the auditory-evoked potentials (AEPs). E. Kalontar, *St. John's University*

E236 791.12 Na,K-ATPase β2-subunit/ AMOG as a regulator of Merlin/NF2 signaling in the cerebellum. S.A. Langhans, *Nemours/Al duPont Hospital for Children*

E237 791.13 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*

E238 791.14 Deletion of Arginase 2 reduces neurodegeneration in a model of Multiple Sclerosis. C.D. Palani, *University of Georgia*

E239 791.15 Setting Up an In Vitro System for Echinoderm Radial Nerve Cord Explants. E.A. Quesada Díaz, *University of Puerto Rico Rio Piedras Campus*

E240 791.16 Correlation Between Accumulation of Alzheimer's Disease Markers in Brain and Retina of Individuals with Late Stage of the Disease. L. Salloum, *Touro University Nevada*

E241 791.17 The Role of Chemokine Co-receptor CXCR4 in HIV-1 gp120 Induced Synaptic Dysfunction. L.K. Smith University of Alaska Fairbanks

E242 791.18 Construction of Fluorescently Tagged Proteins to Determine Potential Interactions in a Non-native Cellular System. M.A. Soska Otterbein University

E243 791.19 Co-localization of Glia Maturation Factor and Progranulin in the Human Alzheimer's Disease Brains. R. Thangavel, *University of Missouri School of Medicine* E244 791.20 Understanding the Role of Cyclin Dependent Kinase 5 (Cdk5) in Insulin Related Neurodegenerative Disease. B. Tran, Marymount Manhattan College

E245 791.21 Analysis of neural networks of Caenorhabditis elegans by functional cellomics. Y. Yamauchi, *Kyoto University*

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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 Arh-GAP12 in Natural Killer Cell-Mediated Cy-totoxicity. 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 (MCTI) in mouse monocytes. J.D. Ochrietor, *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/dsD-NA 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 Polyphenon 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, TO901317, enhances its anti-tumorigenic effects but eliminates lipogenesis. K. Feng, *Nankai University*

E267 793.6 Semi-Quantitative Analyses of Protein Expression in Polyphenon 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 Angiotensin-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

E212 794.4 Metformin Has Direct Protective Effect on Human Cardiac Mitochondria. L. Emelyanova, *Center for Integrative Research on Cardiovascular Aging (CIRCA), Aurora Research Institute*

1273 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. Silveira, *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. Atamna, *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*

E282 794.14 Quantitative Survey of NAD+ Flux in Aged Mice. M.R. McReynolds, *Princeton University*

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, *Juniata College*

E285 794.17 Aging gut microbiome profile and ghrelin signaling in microbiome homeostasis. C. Wu, *Texas A&M University*

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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 obe-sogenic 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. O.A. Ogo, *Benue State University Makurdi*

E299 795.14 Dietary Matrix Alters Fecal Lipids and Lipoprotein Profiles in Healthy C57BI/6 Mice. T.R. Price, Texas A&M University

E300 795.15 Ferric Reductase Knockdown in Drosophila S2 Cells. O.A. Rodriguez Arismendiz, *Metropolitan State University of Denver*

E301 795.16 Ginger provides neuroprotection in experimental model of traumatic brain injury. K. Sahin, *Firat 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. Warner, 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 PAH1-encoded Phosphatidate Phosphatase is Required for Lipid Biosynthesis in the Oleaginous Yarrowia lipolytica. T. Carmon, *Alabama A&M University*

E308 796.2 Hypolipidemic and anti-atherogenic effect of omega-3 enriched structured lipids from linseed oil (LSO) with refined palm olein oil (RPOO) on rats fed atherogenic diet. S. Dhavamani, University of Illinois

E309 796.3 Enhancement of Lipid Signal in MALDI MS imaging obtained from Formalin Fixed Human Brain Tissue. A. Harris, Western University

E310 796.4 The Effects of Pasteurization Types on the Content and Isomerization of Conjugated Linoleic Acid in Milk. S. Hurst, *Medpace*

III 796.5 Investigating the Kinetics of the Arabidopsis thaliana Acyltransferase At1g78690. M. Jahns, *Vassar College*

E312 796.6 Characterization of Gylcerophosphocholine Acyltransferase Homolog, Gpc1, in Candida albicans. W.R. King, *Duquesne University*

E313 796.7 Abrogation of Pancreatic Cancer Using a Brain Malady Drug. M.B. Lankadasari, *Rajiv Gandhi Centre for Biotechnology*

E314 796.8 Regulation of genes responsible for cholesterol uptake and efflux by fatty acids in THP-1 macrophages. K. Moctar, *California State University Northridge*

E315 796.9 Lipidomic and proteomic evaluation of extracellular membrane vesicles from Streptococcus mutans wild-type, Δ srtA and Δ sfp strains. J.C. Morales Aparicio, University of Florida

E316 796.10 The acyltransferase Gpc1 impacts PC molecular species and phenotypic outcomes. A. Nikiforov, *Duquesne University*

E317 796.11 Investigating the Role of the Escherichia coli Lysophospholipase PldB in Determining Cell Length. N. Nikpour, Vassar College

E318 796.12 Exploring Cellular Pathways of Saturated Fatty Acid Toxicity. H. Nilsson, *St. Olaf College*

E319 796.13 Pannexin 1 and Pannexin 3 regulate body fat accumulation in mouse models of diet-induced obesity. C. Wake-field, *University of Western Ontario*

E320 796.14 Characterizing the Lone Acyltransferase Homolog in Saccharomyces cerevisiae. A. Ullrich, University of Michigan-Dearborn

1321 796.15 Quantitative Comparison of GM1 Gangliosidosis Afflicted Ovine Tissue using Thin-Layer Chromatography, Mass Spectrometry and Nuclear Magnetic Resonance. C. Venegas Mata, Northern State University

E322 796.16 Molecular mechanisms of STARD3 addiction in HER2 tumors. L. Voilquin, *IGBMC*

1323 796.17 Identification of Proteins Released from the Egg Cell Surface During Fertilization. E. Wiseman, *Florida Institute of Technology*

E324 796.18 Differential Assessments of Blood Lipids, Lipid Peroxidation, Antioxidant Status, and Fatty Acids in Women with Uterine Tumors during Menopausal Period. N. Kotrikadze, *Ivane Javakhishvili Tbilisi State University*

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Lipid Domains and Lipid Rafts

E325 797.1 Mutations in the Human Follicle Stimulating Hormone Receptor Caveolin Binding Motif Cause Increased Basal Activation. E.K. Altman, Union College

E326 797.2 A mechanism for anesthetics through membrane lipids. M. Arif Pavel, Scripps Research

1327 797.3 Characterization of Membrane Microdomains on a Human Granulosa Cell Line by Atomic Force Microscopy. M. Brogie, *Union College*

E328 797.4 The biological function of PIP2 clustering in enzyme activation and ion channel regulation. S.B. Hansen, *The Scripps Research Institute*

E329 797.5 Direct Imaging of the Cholesterol and Sphingolipid Abundance at the Site of Influenza Virus Assembly with High-Resolution SIMS. M.L. Kraft, *University* of Illinois, Urbana-Champaign

E330 797.6 Lipid rafts transduce force to TREK-1 channels via phospholipase D. E. Petersen, *The Scripps Research Institute*

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Glycans and Glycobiology

E331 798.1 Biological Synthesis of Short Glycogen Polymers. B. Beacham, Davidson College

E332 798.2 DPMS is Essential for Tumor Angiogenesis. D. Collazo-Irizarry, University of Puerto Rico

E333 798.3 Comparison of lipoprotein lipase glycosylation from adipocytes in lean and obese Zucker rats. A.B. Cook, *Marshall University*

E334 798.4 The resilience of cancer-specific protein galectin-3: Implications in biological functions. T. Dam, *Michigan Technological University*

E335 798.5 The Dual Specific Hemolysin-X is a Bioactive Natural Product that Forms Pores on the Surface of Erythrocytes. T. Dam, *Michigan Technological University*

E336 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*

E337 798.7 Metabolic Labeling of Bacterial Cell Walls Using Fluorine-Containing N-Acetyl-Muramic Acid (NAM) Derivatives. J.L. Follmar, *University of Delaware*

E338 798.8 Identifying C-Mannosylated Proteins in RAW264.7 Cells. N.R. Kegley, Marshall University

E339 798.9 The New Buzz about Sugars: Novel N-Glycans in Bees, Moths and Mosquitoes. I.B. Wilson, *Universitaet fuer Bodenkultur*

E340 798.10 Structural and biochemical analysis completes the puzzle of chitin hydrolysis in insects. Q. Yang, *Dalian University* of *Technology*

E341 798.11 Uptake of Sialic Acids by Macrophage Cell Lines under Inflammatory Conditions. Y. Zhao, *Cleveland State University*

E342 798.12 2-Amino Muramyl Dipeptide Derivatives: Chemical probes to assay the stability and activation of NOD2. A.R. Brown, University of Delaware

799 Glycosyltransferases and Hydrolases

E343 799.1 Assessment of XXT1 and XXT5 Modes of Substrate Binding and Structure-Solubility Relationship Using Site-Directed Mutagenesis. J.J. Ehrlich, *Iowa State University*

E344 799.2 Characterization of O-GlcNAc Hydrolase with Phosphomimetic Mutations in HeLa Cells. M.L. Hinkle, *Mercer University*

E345 799.3 Cellulases Specific Activities Study of Enzymes secreted by Fusarium sp. and Phlebia sp. in Aerobic and Anaerobic Conditions. B. Mercado, *University of Puerto Rico*

E346 799.4 Unraveling the activity of glycosyltransferases and other PTM enzymes with bioluminescent biochemical and cell based assays. H. Zegzouti, *Promega Corporation* **E347 799.5** Targeting the O-GlcNAc Transferase to Specific Proteins Using RNA Aptamers. Y. Zhu, *Johns Hopkins University*

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*

801 Glycan Biotechnology and Drug Development

E353 801.1 Protein Engineering and Glycan Optimization Improves Pharmicokinetics 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*

Meeting Notes				

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

172-176	Genome Dynamics: DNA Replication, Repair and Recombination Late Breaking Research		
177-189	Chromatin Structure, Remodeling and Gene Expression Late Breaking Research		
190-194	RNA: Processing, Transport, and Regulatory Mechanisms Late Breaking Research		
195-210	Protein Synthesis, Structure, Modifications and Interactions Late Breaking Research		
211-222	Enzyme Chemistry and Catalysis Late Break- ing Research		
223-237	Chemical Biology, Drug Discovery and Bioana lytical Methods Late Breaking Research		
238-252	Genomics, Proteomics and Metabolomics Late Breaking Research		
253-285	Signal Transduction and Cellular Regulation Late Breaking Research		

287-301	Bacteria and Parasites: From Microbiome to Antibiotics Late Breaking Research	
302-318	Metabolism and Bioenergetics Late Breaking Research	
319-326	Lipids and Membranes Late Breaking Research	
327-331	Biochemistry of Organelles and Organelle Traf ficking Late Breaking Research	
332-334	Glycans and Glycobiology Late Breaking Research	
335-341	Interdisciplinary/Translational Science (SEBM) Late Breaking Research	
342-350	BMB Education and Professional Development Late Breaking Research	

ASBMB posters LATE BREAKING

2800

Genome Dynamics: DNA Replication, Repair and Recombination Late Breaking Research

LB172 Assessing the Role of Ndc80 Kinetochore 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 fluidics 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*

2802

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 Caraballo, 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 RB1 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-Rodríguez, University of Puerto Rico-Río Piedras (UPR-RP)

LB186 Gene Expression of DNA Repair Proteins in Colon Cancer Tissue. K. Odufuwa, 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*

2804

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

LB191 Compensatory Evolution within Viral RNA Structure: The Potential Role of Stable Intermediates in RNA Structural Heterogeneity. B. Rife Magalis, *Temple University*

LB192 Characterization of the Interaction between ISTL1 and Exo70E2 in Arabidopsis. 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*

2806

Protein Synthesis, Structure, Modifications and Interactions Late Breaking Research

LB195 Unstructured Proteins in Biological Structures: The Case of Human Teeth from a Protein Chemist's Perspective. V. Sharma, *All India Institute of Medical Sciences*

LB196 The Role of &[alpha]vß3 Integrin Proteins in Glaucoma. A. Fassler, School District of Marshfield

LB197 Point Mutation of Aquaporin 4 Impairs its Binding in Neuromyelitis Optica. J. Replogle, *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*

LB200 On the Spectrum with T-box Brain Protein 1: A Transcription Factor Protein Critical for Normal Neural Development. L. Andrews, *The Independent School*

LB201 Regulation of Carbonic Anhydrase Expression in Experimental Colitis: A Possible Mechanistic Link with Na-H Exchanger. I. Khan, *Kuwait Uinversity*

LB202 Kinetic Studies of 2-(2'-hydroxyphenyl)benzenesulfinate desulfinase substrate analogs. D. Kedir, *James Madison University*

LB203 Ordered and Disordered Segments of Amyloid-&[beta] 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. Abasi, *California State University Northridge*

LB205 Structural Insights into Phospholipase C&[epsilon] Function. N. Rugema, *Purdue University*

LB206 Crystal structure of a dimerization domain of Drosophila Caprin protein. X. Zhou, *Southern Illinois University*

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

2808 Enzyme Chemistry and Catalysis Late Breaking Research

LB211 Explorations of Polyethylene Terephthalate (PET) Hydrolase for addressing PET Plastic Pollution. O. Cheranov, Center for Advanced Professional Studies (CAPS)

LB212 Investigating the Kinetic Effects of the Allosteric Interaction Between Newly-Discovered Dynamic Hydrogen-Bonded Residues and the HINT1 Active Site. D. Wang, University of Minnesota

LB214 Isolation and characterization of lipase inhibitory activity from Solanum tuberosum L. D. Katimbwa, *Kyungpook National University*

LB215 Kinetic Basis for Selective Inhibition of Hepatitis C Virus RNA-Dependent RNA Polymerase by Nucleoside Analogs. B. Vil-Ialba, University of Texas at Austin

LB216 Electrochemical Investigation of R2lox, a Novel Class of Heterobimetallic Mn/Fe Protein. C. Schneider, *The Ohio State University*

LB217 Effects of Macromolecular Crowding on Alcohol Dehydrogenase and Citrate Synthase Kinetics. K. Slade, *Hobart and William Smith Colleges*

LB218 Protein-Polymer Bioconjugation Effects on Activity and Stability of Cellulase (FnCel5a) with Varying Molecular Weights of Polymer Chains. N. Ram, *University of South Florida*

LB219 Explorations of Sodium-Potassium Adenosine Triphosphatase, Na+K+ AT-Pase, 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

2810

Chemical Biology, Drug Discovery and Bioanalytical Methods Late Breaking Research

LB223 Examination of specific binding activity of packaging sequence RNAs to the SARS-CoV nucleocapsid by using cellbased in vivo assay for RNA-Protein interaction. J. Woo, Yonsei University College of Medicine

LB224 A Securinine Derivative as a Novel Treatment for Acute Myeloid Leukemia. N. Oldford, *Case Western Reserve University*

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 Polyisoprenoids and Commercial Lipid-Based DNA Carriers for Transfection in vivo in Spontaneously Hypertensive Rats. O. Gawrys, 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 & Wm. Smith Colleges*

LB229 Modulation of gap junctional intercellular communication in HaCaT cells by xenobiotics. R. Shipman, University of Wisconsin Stout LB230 Highly efficient capture of circulating tumor cells by microarray in a microfluidic device. H. Liu, *Karlsruhe Institute of Technology (KIT)*

LB231 Acetoacetate Enhances the Cytotoxicity of Anti-tumor Agents on MCF-7 Breast Cancer Cells Without Itself Inducing Cell Death. B. Lin, *SUNY Downstate Medical Center*

LB232 Evaluation of Ant-Lion Larvae Extract As Alpha-Glucosidase and Alpha-Amylase Inhibitor. M. Adeyanju, *16*

LB233 The assembly and function of poxvirus proteins. N. Jafari, *WMU*

LB234 SP101, 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 silent 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 ERIC*

2812

Genomics, Proteomics and Metabolomics Late Breaking Research

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 University

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 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 Aldh111 Knockout On Metabolic Phenotype in Mouse Liver. J. Sharma, Nutrition Research Institute

LB250 Characterization of the CRIS-PR-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. Kamalakannan, *Rak Medical and Health Sciences University*

LB252 Coccidioidomycosis Detection Using Targeted Plasma and Urine Metabolic Profiling. H. Gu, *Arizona State University*

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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 PKC&[alpha] Mediates mTORC1 Activation in Non-Small Cell Lung Carcinoma Cells with EGFR Deletion Mutation. M. Salama, *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 (APCLP) Functions as a Novel Negative Regulator of NF-kB 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 Celecoxib Inhibits Proliferation, Mitochondrial Respiratory Rate, and Membrane Potential in Myoblasts. A. Kolb, US-ARIEM

LB260 Celecoxib Impairs Differentiation of Primary Human Skeletal Myoblasts. A. Geddis, USARIEM

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 Peanut Specific Plasma IgE levels in Peanut Sensitized C3H/HeJ mice. P. Randolph, North Carolina Agriculture and Technical State 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. Kyriakopoulou, University of Leeds

LB267 Effects of Photobiomodulation on Apoptosis Process After Induced Myocardial Infarction in Rats: Analysis of Gene Expression. J. Maretti, *Nove de Julho University*

LB268 Involvement of MURC/Cavin-4 in store-operated Ca²⁺ 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 neuromodulatory 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 gaussia 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 (KRIBB)

LB274 C₁₆-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 ArI4A-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, *Nove de Julho University*

LB279 Protein phosphatase 2A-B56 controls mitosis by interacting with LS/TPI/V motif containing protein interactors.. S. Chaudhuri, *University of Calgary*

LB280 Immune response mediated by NRLP3 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. Bettaieb, *The University* of Tennessee, Knoxville

LB283 RB and CDKN2A cause Rapamycin resistance in cancer cells. S. Chakraborty, *Hunter College, CUNY*

LB284 Temporal inhibition of ERK Activity by Optogenetic 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 Aplysinopsins Inhibit Growth of Crypotococcus 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. Mailing, University of Illinois at Urbana Chamaign

LB294 How Entamoeba histolytica goes vampire: the hunt for new genes in the conserved process of trogocytosis. S. Feeney, *University of California, Davis*

LB294 How Entamoeba histolytica goes vampire: the hunt for new genes in the conserved process of trogocytosis. S. Feeney, *University of California, Davis*

LB295 Evolutionary, Functional and Structural Studies of the ALDH27 Enzymes. R. Muñoz-Clares, Universidad Nacional Autónoma de México

LB296 The Phylogenetics of Rhipicephalus sanguineus and its Role as a Vector of Rocky Mountain Spotted Fever. C. Schaefer, *Midwestern University*

LB297 Shocking! The Effect of TSST-1 in Toxic Shock Syndrome. M. Arnholt, Hartford Union High School

LB298 The Synergistic Effect of Fiber Blends on Lactobacillus rhamnosus. A. Johnson, AdventHealth University LB299 Characterization of Three Foodborne Bacteria using Hyperspectral Microscopy. R. Riggs, Auburn University College of Veterinary Medicine

LB300 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

LB301 Bio-risk assessment research on genetically engineered cyanobacteria for sustainable biofuels . T. Nguyen, Old Dominion University

2818 Metabolism and Bioenergetics Late Breaking Research

LB302 Bile Acid Excess Impairs Thermogenic Function in Brown Adipose Tissue. W. Zhou, University of Illinois at Urbana-Champaign

LB303 Osteogenic and chondrogenic differentiation effect of neohesperidin dihydrochalcones in human adipose-derived stem cells. H. Heo, *CHA University*

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 DI-ABETES 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-1&[alpha] in Experimental Diabetes Mellitus. J. Encinas, *Faculdade de Medicina do ABC - FMABC*

LB310 Changes in VEGF and HIF 1&[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 Ate1 Controls Cellular Warburg Effects by Modifying Hifla with Arginylation. B. T. Moorthy, *University of Miami*

LB313 Control of Cardiac Mitochondrial Fuel Selection by Calcium. E. Jones, University of Michigan

LB314 Ganoderma Lucidum polysaccharide inhibits lipid accumulation in vivo and in vitro by activating HIF-1a through ERK1/2 signaling pathway. Y. Wang, *Zhejiang Chinese Medical University*

LB315 Metabolomic analysis of a mouse model of NASH and correlation with cytokine expression. C. McDermott, *University of Florida*

LB316 NAG-1/GDF15 inhibits HFD-induced obesity and inflammation by modulating gut microbiota. T. Sang, *Zhejiang Chinese Medical University*

LB317 Adaptive effects of prolonged mitochondrial-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. Arnholt, *Hartford Union High School*

LB320 The Multifaceted Role of Lipid A 1-phosphatase in Bacterial Envelope Biogenesis. 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 Circulating Plasma in the Hibernating Arctic Ground Squirrel. S. Rice, *University of Alaska at Fairbanks*

LB322 Mediation of Vesicular Fusion by SNARE Proteins during Macroautophagy. D. Shannon, Archbishop Moeller High School

LB323 Impact of the lipid bilayer on energy transfer kinetics in the photosynthetic protein LH2. A. Tong, *MIT*

LB324 Lipid Composition Alters the Assembly of MHCII in Nanodiscs. K. Rivera, University of Alaska Fairbanks

LB325 Dietary Rice Bran Oil and &[gamma]-Oryzanol Attenuates Toll Like Receptor-mediated I&[kappa]B&[alpha] Phosphorylation, NF-&[kappa]B p65 Activation and Matrix Metallo Protease-9 Expression in Peritoneal Macrophages from Rats Fed Partially Hydrogenated Vegetable Fat and thereby Exhibit Anti-Inflammatory Activity. P. Yalagala, *University of Illinois at Chicago*

LB326 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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Biochemistry of Organelles and Organelle Trafficking Late Breaking Research

LB327 Glucose Metabolism Regulates Mitochondrial Supercomplex Abundance in Murine Heart. V. Shang, University of Louisville

LB328 Increased hexokinase interactions with mitochondria protect against cell damage. D. Sampe, *Brown Deer High School*

LB329 Distinct Missense Mutations of the Parkinson's Disease-Related Ubiquitin Kinase PINK1 Alter Auto- or Substrate-Phosphorylation . W. Springer, Mayo Clinic

LB330 Novel Regulation of Lipid Metabolism by a Phosphatidylinositol Transfer Protein and a Phosphatidylinositol 4-Kinase. Y. Wang, *Texas A&M University*

LB331 Marinobufagenin, a mammalian endogenous cardiotonic steroid, is synthesized from the intermediates in the classical bile acid pathway in Cyp27A1 knockout mice. L. Zheng, *NIH*

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Glycans and Glycobiology Late Breaking Research

LB332 Isolation and Identification of C-Mannosylated Hsc70 Conjugates in RAW 264.7 Macrophage-Like Cells. M. Parsons, *Marshall University* LB333 Glucosamine Fructose 6-phosphate Aminotransferase (GFAT) from Plasmodium berghei: a clue for novel therapeutic perspectives?. M. Laugieri, Università Degli Studi di Genova

LB334 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

2826 Interdisciplinary/ Translational Science (SEBM) Late Breaking Research

LB335 Oncogenic mechanism of soluble Keratin 17 offers potential therapeutic vulnerability in pancreatic cancer. R. Kawalerski, *Stony Brook University*

LB336 Sulforaphane Induces Colorectal Cancer Cell Proliferation through Nrf2 Activation in a p53-Dependent Manner. J. Oh, *Kyungpook National University*

LB337 Activation of Histone Deacetylase 6 (HDAC6) in the diabetic retina and in retinal endothelial cells exposed to glucidic stress, promotes oxidative stress through suppression of the thioredoxin system. H. Abouhish, *Augusta University*

LB338 Delineating the Link Between Dilated Cardiomyopathy and Arrhythmogenic Symptoms. T. Muser, *Biola University*

LB339 Bioinformatic Identification of Candidate miRNA Biomarkers for Traumatic Brain Injury. C. Smothers, *Case Western Reserve University*

LB340 Direct Current Electric Fields Induce Collective Migration of Human Corneal Epithelial Monolayers. A. Contreras, *University* of California Davis

LB341 Toxicity and Immunogenicity of a Tardigrade Cytosolic Abundant Heat Soluble Protein. H. Esterly, *Appalachian State University*

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BMB Education and Professional Development Late Breaking Research

LB342 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*

LB343 Avoiding a Swelled Head: Aquaporin-4 and Brain Edema. K. Shelton, *Chica*go Public Schools

LB344 Promoting Team Building, Collaboration and Communication Skills in Graduate Students through Interactive Scientific Retreats. J. Schmidt, Ponce Health Sciences University - Ponce Research Institute

LB345 TmAFP Interaction with an Ice Lattice. B. MacGillivray, *Ashbury College*

LB346 A comparative analysis between PrPc and PrPsc to determine the structure-function relationship of protein misfolding in Scrapie prion disease. A. Peterson, *Minnetonka High School*

LB347 Enhancing Biochemistry Lab with Arduino. E. Galembeck, UNICAMP

LB348 The Snow Flea Antifreeze Protein and Cryopreservation. B. MacGillivray, *Ashbury College*

LB349 Squishing Cellular H2O. B. Bartolomei, El Capitan High School

LB350 Ras and RTK: PI3K Activation, PIP3 Formation, Signal Transduction, Cancer Creation. C. Chou, *Longmont High School*



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