American Society for Biochemistry and Molecular Biology

Discover BMB | 2024

SAN ANTONIO | MARCH 23–26

2024 ASBMB Undergraduate Poster Competition

Henry B. González Convention Center
Saturday, March 23

Organized by the
2024 Undergraduate Poster
Competition Steering Group

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2024 ASBMB Undergraduate Poster Competition

American Society for Biochemistry and Molecular Biology
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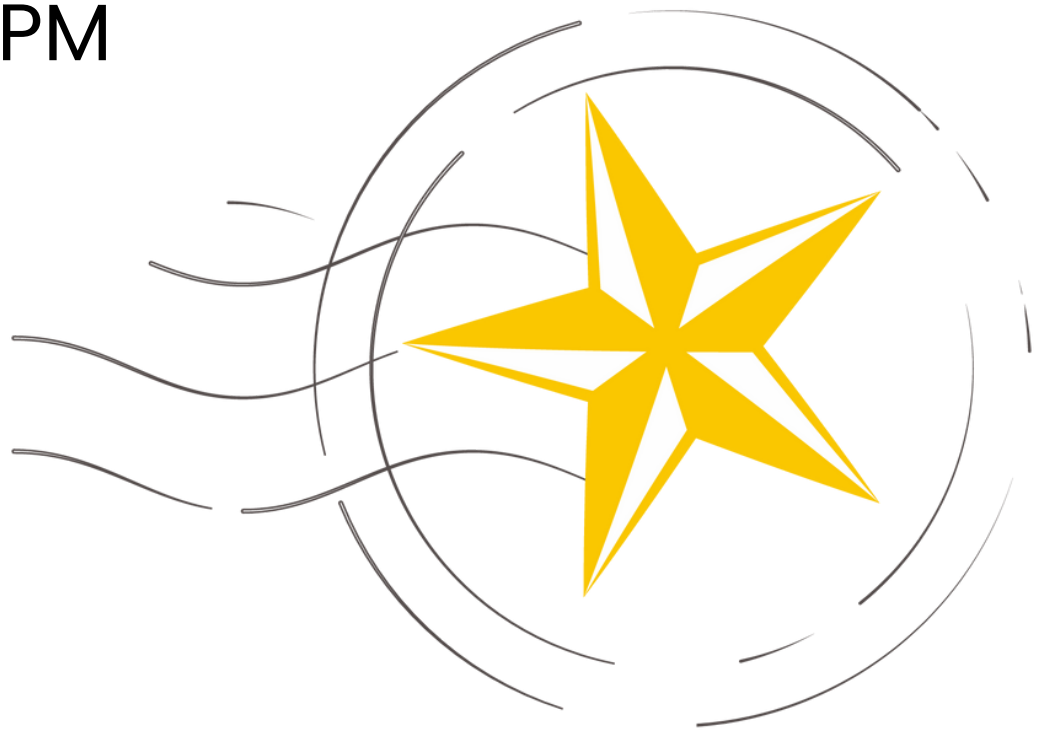
Career Speed Networking

March 24th
3:20-4:20 PM



1. **Nathan Vanderford, PhD, MBA** | Associate Professor – University of Kentucky

Dr. Vanderford is an Associate Professor at the University of Kentucky College of Medicine within the Department of Toxicology and Cancer Biology. His research focuses on cancer disparities, health promotion, and cancer education and training. He holds several administrative positions including being the Assistant Director for Education and Research for the Markey Cancer Center, Director of Administration for the Center for Cancer and Metabolism, and Director of the Appalachian Career Training in Oncology Program. In these administrative positions, he works to facilitate cancer research and education initiatives across the university.

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2. **Carmel N. Tovar, BS** | 3rd year Osteopathic Medical Student – University of the Incarnate Word School of Osteopathic Medicine

Carmel N. Tovar is a third-year Osteopathic Medical Student at the University of the Incarnate Word School of Osteopathic Medicine (UIWSOM) in San Antonio, TX. She graduated from Stephen F. Austin State University with her Bachelor's in Biochemistry, where her passion for research grew with the help of Dr. Odutayo O. Odunuga. After graduation, Carmel did clinical genetic research at UT Southwestern Medical Center before attending medical school. During her first two years of medical school, she participated in research at UIW and UT Health Center San Antonio. During her clinical years, she continued researching and has since branched out into clinical research at Laredo Medical Center with their Internal Medicine Residency Program. Carmel's professional goal is to be a rural hospitalist, where she can serve those in medical deserts. Carmel advises undergraduates: "It is ok to change your plans! Your passions change over time, and it is ok to recognize that change. You want to strive for something you love and not something that others want you to go towards. Change can allow you to honor a new dream you did not know you had."

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3. **Sally Chang, PhD** | Genomics Education Specialist – National Center for Biotechnology Information (NCBI), National Library of Medicine, National Institutes of Health

E. Sally Chang, PhD (she/her) is a Comparative Genomics Subject Matter Expert and Education Lead at NCBI. She began her journey in biology with a particularly inspiring AP Biology class and followed this up with a degree in Biology at Swarthmore College. Her doctoral work at the University of Kansas focused on how the genomes of jellyfish change with new adaptations, such as parasitism! Her post-doctoral research at the National Human Genome Research Institute developed other cnidarians into genetic and genomic models for understanding regeneration and other biomedically relevant traits.

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4. **Renzo Cavero, BS** | NIH Post Bac CRTA Fellow – National Cancer Institute, NIH

Hello! My name is Renzo Cavero. I am Peruvian and I grew up in Miami, Florida. I graduated from Columbia University in New York, majoring in Biochemistry. Currently, I'm at the NIH as a 2nd year CRTA post-bac working in lung cancer research and DNA repair. My goal is to hopefully become a physician-scientist in the future, acquiring in-depth knowledge of cancer biology and its application to human diseases. My advice for undergraduates is to embrace the journey, explore various scientific avenues, and enjoy this time of discovery! There are so many amazing avenues and projects in biochemical and molecular research, and undergrad years are ideal for broadening perspectives and finding one's passion.

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5. **Kevin H. Gardner, PhD** | Director, Structural Biology Initiative – CUNY Advanced Science Research Center

Dr. Kevin H. Gardner is the Founding Director of the Structural Biology Initiative at the CUNY Advanced Science Research Center and an Einstein Professor of Chemistry & Biochemistry at the City College of New York. Previously, he received his Bachelor of Science in Biochemistry from UC Davis before earning his Ph.D. in Molecular Biophysics & Biochemistry from Yale. Gardner then went on to postdoc at the University of Toronto before becoming a professor at UT Southwestern Medical Center for sixteen years, then moving back to New York in 2014. He also served as a Founding Consultant for Peloton Therapeutics, Inc (leading to the Merck anti-cancer drug, belzutifan) and as the Co-Founder & Chief Scientific Officer for Optologix, Inc. He encourages undergraduates to explore different areas of science – fields, types of jobs, and work environments – as each have their own pros and cons that will appeal to individuals differently. He is also a big believer in one following one's interests outside to studies and work to help maintain healthy balance and perspective; he can often be found diving, hiking, or cooking as ways to be a better scientist / mentor / PI / educator / advocate.

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6. **Shy Brown, PhD** | Founder/President – Building Bridges, Inc. & PepsiCo

Dr. Shy Brown is the Founder/President of Building Bridges, Inc., a non-profit organization designed to expose, equip, and empower young Black girls to pursue STEM education through self-awareness strategies. With degrees in Biology and Biological Sciences from Jackson State University (BS) and Tennessee State University (MS; PhD), Dr. Shy is a biochemist and has specialized in areas of research such as exercise science, sports physiology, bioinformatics, immunology, and cancer biology. Dr. Shy was the first Black woman to join the Gatorade Sports Science Institute (GSSI), and during her time with GSSI she made significant research contributions to the Gx Sweat Patch, Smart Gx Bottle, and Gatorlyte. Dr. Shy is devoted to connecting with youth to help them discover their interests through exposure, and her experiences in working with students have shaped her understanding of what it means to be a mentor.

7. **Amy Springer, PhD** | Senior Lecturer – UMass Amherst

Amy Springer obtained her BA in Biochemistry from Mount Holyoke College before pursuing her PhD from Princeton University in Molecular Biology. She completed her postdoctoral training at the California Institute of Technology and the University of Washington. She is in a teaching-intensive position at a large university and has experience with best teaching practices and course-based undergraduate research (CUREs). Currently, her research, which is performed in her course, focuses on studying the function of malate dehydrogenase (MDH) in Trypanosoma brucei. This NAD-dependent dehydrogenase has multiple roles in the cell, including in the citric acid cycle and in maintaining redox balance. The structure of many MDH proteins has been published, as well as details into quaternary formations and regulation. The goals are to distinguish the biochemical properties of these isoforms in vitro and to investigate post-translational modification and regulation of these enzymes. She and her students have collaborators working with other malate dehydrogenases, providing many areas for comparative studies of this important metabolic enzyme.

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8. **Matt Coban, BS** | Research Technologist – Mayo Clinic

I used to be in the Navy as an electronics technician; after that, I attended college and completely changed fields. I'm currently a professional scientist at Mayo Clinic, utilizing structural biology, biochemistry, and computational biology methods to research diseases, profile novel protein targets, and initiate preclinical development of potential therapeutics. I'm also a master's student in Biochemistry and Molecular Biology at Mayo Clinic Graduate School for Biomedical Sciences. Don't be afraid to take a different path than the norm; your unique experiences will give you advantages that you cannot anticipate.

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9. **Betsy M. Martinez-Vaz, PhD** | Professor and Director - Hamline University

I grew up in Puerto Rico in a family of teachers, who valued education and academic achievement. Science and research were my passions during my high school days. I was very active in my school's research program and represented Puerto Rico twice in the International Science and Engineering Fair. My interest in research was very strong and motivated me to go to college and complete degrees in chemistry and biology. After spending several summers in research laboratories, I decided to go graduate school to pursue an advanced study in Biochemistry. I received my Ph.D. in Biochemistry, Molecular Biology, and Biophysics from the University of Minnesota in 2001. During my post-doctoral training I had the opportunity to mentor many undergraduate researchers. Through these experiences, I discovered my passion for teaching and decided to become a professor at a primarily undergraduate institution. I have been working as a Biology Professor at Hamline University for the past 16 years. I enjoy my job and am always happy to see students understand difficult scientific concepts and become

enthusiastic about research. I lead a dynamic and successful undergraduate research laboratory that studies the biochemical pathways involved in the microbial degradation of pharmaceuticals and personal care products. My advice to undergraduates is to work on something that interests them, find one or more mentors, and network, network, network.

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10. **Lindsey R. F. Backman, PhD** | Valhalla Whitehead Fellow – Whitehead Institute for Biomedical Research (MIT)

Lindsey Richelle Fernandez Backman is an independent Valhalla Whitehead Fellow at the Whitehead Institute for Biomedical Research. Lindsey earned her BS in Chemistry from the University of Florida in 2015 and her PhD in Chemistry from the Massachusetts Institute of Technology in 2022. Lindsey completed her PhD in Cathy Drennan's lab where she worked on structurally and biochemically characterizing new enzymes abundant in the human gut microbiome. The Backman lab uses a combination of chemical biology, structural, and genetic methods to identify and interrogate strategies that enable anaerobes in the human microbiome to thrive under variable oxidative conditions, including varying oxygen and reactive oxygen species levels. Understanding how oxidative environments impacts bacterial physiology is critical for discovering the best therapeutic targets against pathogens and disease-associated microbes; additionally, this research can provide insight into how to engineer competitive probiotics to cultivate healthy microbiomes.

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11. **Erin Sayer, PhD** | Professor of Practice, Biochemistry Education & Student Success – University of Nebraska – Lincoln

Dr. Erin Sayer is a Professor of Practice in the Department of Biochemistry at the University of Nebraska – Lincoln. In addition to coordinating the advising over 300 majors, she teaches classes related to academic & career development, with over 21 years expertise advising pre-health and graduate-school bound students. She has held executive positions for the Central Association of Advisors for the Health Professions (CAAHP) and the national association (NAAHP). She is currently the NAAHP Committee Coordinator and on the Conference Planning Committee for the 2024 national meeting. Dr. Sayer teaches a class at UNL – BIOC 305: Reflective Approach to Graduate/Professional School Applications that prepares students to apply to graduate and professional schools. Students in BIOC 305 reflect on their journey to health profession careers or graduate school while going through the “steps” to apply. Dr. Sayer will provide insight for ASBMB undergraduates in this speed-networking session highlighting resources for students, tips for applying, and whatever else she can share in 5 minutes!

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12. **Mark R. Witmer, PhD** | Scientific Senior Director – Bristol Myers Squibb

Mark earned a B.S. in Chemistry (1985) from Lebanon Valley College, a small liberal arts college in Central Pennsylvania. From there, he attended Cornell University earning M.S. (1987) and Ph.D. (1990) degrees in Organic Chemistry, minoring in Bioorganic Chemistry, and his thesis project probed a novel enzyme mechanism. After a 2-year post-doctoral position at Pennsylvania State University focusing on protein biochemistry and enzymology, he joined Bristol Myers Squibb in Princeton, NJ in August 1992 as a Research Investigator. Over the past 32 years, Mark's role in the research organization has evolved from full time lab work to full time management. He is a Senior Director of three teams responsible for mammalian cell line culturing and CRISPR technology, protein purification, and biophysical analysis of protein-small molecule interactions, and his teams play an important role in BMS' Small Molecule Drug Discovery. His advice is to seek new opportunities, keep growing and learning, and be a great collaborator.

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13. **Tabetha Johnson, MA** | Director of Outreach, Sustainability Studies Program – La Sierra University

Tabetha Johnson is a Director of Outreach at La Sierra University and a Kinesiology Professor at Crafton Hills College. Tabetha holds a BA in Communications from the University of Redlands, a Master's in Counseling from La Sierra University, and is currently working on her PhD in Leadership: Educational Administration. Currently, Tabetha is integrating her curriculum and program development expertise and multi-media marketing background to help grow La Sierra University's Sustainability Studies Program under multiple 3.5 million dollar Department of Education grants. The focus of these grants is assisting under-resourced students in obtaining degrees and career pathways in STEM. Tabetha's advice to students is to constantly seek information about programs and resources to grow your resume and experience. There are so many underutilized resources in academia, and asking questions of your mentors and advisors is the best way to find out about phenomenal programs to enhance your education, career, and life overall.

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14. **Aileen Ariosa, PhD** | Manager of Assay Research and Development – Cayman Chemical Company

Aileen Ariosa is a biochemist and molecular biologist. She obtained her PhD in Biochemistry and Molecular Biophysics in 2014, working in the laboratory of Dr. Shu-ou Shan at Caltech in Pasadena, CA. During graduate school, she worked on deducing the molecular mechanisms of substrate selection of the Signal Recognition Particle-mediated co-translational targeting of proteins to the ER/plasma membrane. For her postdoctoral training, she joined Dr. Daniel J. Klionsky's laboratory at the Life Sciences Institute at the University of Michigan, Ann Arbor. As a postdoctoral fellow, Aileen worked on understanding the regulation of autophagy using yeast as a model organism. She continued to work in the Klionsky lab as a Research Investigator until

she joined Cayman Chemical in 2021. As the Manager of Assay Research and Development, Aileen leads a group of scientists developing assays for Cayman's Drug Discovery programs. Her group is also responsible for the introduction of such assays into Cayman's expansive catalog, providing tools for scientists worldwide.

Aileen grew up in the Philippines and moved to Los Angeles as a teenager. As a first-generation immigrant and as the first in her immediate family to obtain a bachelor's degree and a doctorate, Aileen is passionate about diversity, equity and inclusion in STEM. Thus, she is always happy to share her experiences with students and eager to serve as a mentor to budding future scientists.

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15. **Stephanie Cabarcas-Petroski, PhD** | Associate Teaching Professor – Pennsylvania State University Beaver

My educational background includes a BS in Biology from High Point University, a MS in Biological Sciences and a PhD in Molecular Biology from St. John's University. I completed a postdoctoral fellowship at the Frederick National Laboratory, for Cancer Research, National Cancer Institute, National Institutes of Health. I am currently the Program Coordinator for Biology and Associate Teaching Professor at Penn State Beaver. My research area includes understanding the deregulation of RNA polymerase III transcription in cancer. I recommend that undergraduate students get involved in research projects as early as possible in their academic careers and seek out mentors, both in and out of their discipline.

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16. **Emily Oliver, BS** | MD/PhD Student – Wake Forest School of Medicine

I'm a sixth-year MD/PhD student at Wake Forest School of Medicine in Winston-Salem, North Carolina where I live with my dog, Otto. I grew up in Colorado before moving to Pennsylvania to study biochemistry and theater at Lafayette College where I researched prions and chaperone proteins in yeast. After college I spent a year applying to MD/PhD programs and backpacking. Now I'm in the final stretch of my PhD, having already completed my pre-clinical medical training. My project is a collaboration between the biochemistry and physiology-pharmacology departments studying the protein binding and structures of endocannabinoid complexes. I'm also working on certificates in structural biophysics, the pain-addiction spectrum, and patient advocacy. If I had to give "blanket advice" to undergraduates, it would be that the science world is too diverse and fun to waste time doing a job that isn't enriching… so don't be afraid of big life changes.

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17. **Orla Hart, PhD** | Clinical Associate Professor – Purdue University

Orla Hart, Clinical Associate Professor at Purdue University, is a biochemistry educator with a focus on innovative teaching and engaging diverse learners. She earned a BSc in Biochemistry

from University College Cork and a PhD in Immunology from Trinity College Dublin, before moving into industry roles in microbiome research with Teagasc in Ireland, and postdoctoral work with Eli Lilly, and eventually to academia at Purdue University. Hart has significantly influenced biochemistry education through course redesigns, instructional videos that have garnered tens of thousands of views, and active involvement in student mentoring. She also explores pedagogical innovation and student professional development, including helping students craft their experiences into compelling stories. Hart's work extends beyond the classroom to leadership roles in curriculum development and diversity initiatives, demonstrating a profound commitment to enhancing biochemistry education and student success. Her advice to students is usually: you miss 100% of the shots you don't take!

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18. **Alexa M. Salsbury, PhD** | Data Scientist & Outreach Lead – NIH/NLM/NCBI

Her research career started at Eastern Michigan University where she studied the integration sites of retroviruses and received a BS in Biochemistry. She then did her PhD work at Virginia Tech, studying non-canonical nucleic acid structures with MD simulations. Here, her research path shifted from the bench to computation. At NCBI, she coordinates the codeathon program, teaches for the Education team, and assists with conferences. Her expertise includes computational chemistry, structural biology, and biophysics. With experience coordinating codeathons, workshops, seminars, poster sessions, and national student programs, she has extensive experience in community-driven science and a commitment to advancing collaborative and inclusive computational education in the life sciences.

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19. **Enrique M. De La Cruz, PhD** | Professor – Yale University

Enrique De La Cruz's research focuses on the actin cytoskeleton, motor proteins that rearrange RNA, and enzymes that regulate bone calcification. He is a first-generation Cuban American, raised in Newark, NJ, and in 2020 honored as Cell Press' 100 inspiring Hispanic/Latinx scientists in America. He is an Associate Editor for the Journal of Biological Chemistry (JBC) and serves on the Editorial Board of Biophysical Reviews, having previously served on the Editorial Board of Biophysical Journal and JBC. De La Cruz is a Fellow of the American Society for Biochemistry and Molecular Biology (ASBMB), a member of the Connecticut Academy of Science and Engineering, and a recipient of the Emily Gray Award in Education from the Biophysical Society (BPS). He served on the BPS Council and organized annual meetings for ASBMB and BPS. De La Cruz is actively involved in activities focused on enhancing minority participation, career development, and retention in science.

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20. **Peter Meikle, PhD** | Head of Systems Biology Domain – Baker Heart and Diabetes Institute

Professor Peter Meikle is Head of the Systems Biology Domain, Co-Lead of the Obesity and Lipids Program and Head of the Metabolomics Laboratory at the Baker Heart and Diabetes Institute. He is a Director of the Australian Cardiovascular Alliance and in 2022 appointed as the inaugural Head of the Baker Department of Cardiovascular Research, Translation and Implementation at La Trobe University. His research focuses on the dysregulation of lipid metabolism associated with metabolic diseases including obesity, diabetes, cardiovascular and Alzheimer's disease, and its relationship to the pathogenesis of these disease states. This work is leading to new approaches to early diagnosis and risk assessment, and to the development of new lipid modulating therapies for chronic disease.

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21. **Naama Kanarek, PhD** | Assistant Professor – Boston Children's' Hospital & Harvard Medical School

I have completed my B.S., M.Sc. and Ph.D. in Jerusalem, Israel and a postdoctoral fellowship with Dr. David Sabatini at the Whitehead Institute, MIT. Today, I am an Assistant Professor at Harvard Medical School, after I established my lab in the Pathology Department at Boston Children's Hospital in June 2019. I love what I do and where I do it and I feel very lucky of the fact that my position enables me to perform impactful work in an excellent scientific environment. On a personal level, during my postdoctoral work I was a single mother of my then 3-year-old son. I decided to face the dual task of postdoctoral training and single parenthood because I wanted to pursue the professional opportunity to train in the Sabatini lab, and indeed I never regretted that. As a PI I put strong emphasis on mentorship and emotional support of my people.

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22. **Kathy L. Newell, MD** | Neuropathologist – Indiana University School of Medicine, Department of Pathology

My parents encouraged my interest in becoming a physician. I was accepted into medical school. As a third-year medical student, I had an opportunity to participate in a research program at the National Institutes of Health (NIH) along with other students from around the U.S. That unique experience allowed me to study with and learn from scientists at the NIH. By the time I returned to finish medical school, I knew I wanted a research-oriented career. Ultimately, my chosen pathway was to become a neuropathologist and study central nervous system diseases that affect the human brain and spinal cord. As a neuropathologist, my primary research focus is neurodegenerative diseases, both hereditary and sporadic, that include Alzheimer Disease, Frontotemporal Dementia, and Amyotrophic Lateral Sclerosis. I strongly encourage students to find opportunities to study and learn about these diseases which are waiting for new insights and discoveries.

23. **Isaac Weislow, BS, BSA** | Master's Student – University of Texas at El Paso

I am a master's student in the Chemistry and Biochemistry Department at The University of Texas at El Paso. I started as a pre-medical student at The University of Texas at Austin, pursuing a B.S. in Biochemistry. I later added a B.S.A. in Chemistry. In doing so, I came to find a profound appreciation of chemistry and biochemistry, which lead me to my current path. Since then, I haven't looked back. The best piece of advice I can give is to get comfortable being uncomfortable. It can be hard- not doing well in a class or on an exam, experiments fail, pressure mounts when deadlines loom, but you can't let it get to you. Take hard classes, find opportunities to do things that captivate you. In exploring becoming comfortable with discomfort, you might find some of the "detours" in life that can lead you to something truly fulfilling.

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24. **Aswathy Rai, PhD** | Assistant Teaching Professor – Mississippi State University

Dr. Aswathy N. Rai is an Assistant Teaching Professor and Undergraduate Coordinator in the Department of Biochemistry, Molecular Biology, Entomology, and Plant Pathology in the College of Agriculture and Life Sciences at Mississippi State University with a 100% teaching appointment. She teaches upper-level courses in Biochemistry and Molecular Biology, serving a diverse student body from agricultural, natural, and life sciences. Dr. Rai is the program coordinator for the American Society for Biochemistry and Molecular Biology (ASBMB) accredited Biochemistry program. During her time at MSU, Dr. Rai has developed study abroad experiences, distance, and face-to-face courses to expand the curriculum and provide enriching learning opportunities for MSU students. She serves as the faculty advisor the Minority Association of Pre-Medical Students (MAPS), and the ASBMB student chapter at MSU.

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25. **Jiajia Ji, PhD** | Scientist, Assay R&D – Cayman Chemical Co.

I obtained my Bachelor of Science degree in Biotechnology in China in 2013 and came to the U.S. pursuing a Ph.D. degree in Biological Sciences. During my time in graduate school, I had a focus on the role of cardiolipin in mitochondrial function, energy metabolism, and diseases. After a short post-doctoral training of nine months, I joined Cayman Chemical Co. in 2021. I have been working as a Scientist in the Assay Research & Development team in the Division of Biochemistry since then. I develop biochemical and cell-based assay kits that are sold in Cayman's catalog and occasionally work on service projects for clients.

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26. **Grant Schauer, PhD** | Assistant Professor – Colorado State University

Challenges to DNA replication, called replication stress, pose major risks to genome fidelity. Our lab studies the molecular mechanisms of various replication-coupled machines that help

achieve accurate and efficient chromosome duplication in the face of such stress. Current research topics include the replication checkpoint apparatus, replication-coupled translesion synthesis, and conflicts between replication forks with transcription bubbles and other R-loop proteins. We study these molecular mechanisms in detail with single-molecule fluorescence techniques, traditional biochemistry, genetics, and cell biology.

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27. **Ben Free, PhD** | Assistant Director for Science Operations – NINDS

After receiving a Ph.D. from The Ohio State University in Pharmacology, Dr. Free came to the NIH as a postdoctoral fellow in the Molecular Neuropharmacology Section, National Institute of Neurological Disorders and Stroke (NINDS) and was subsequently appointed as a research fellow and staff scientist. As such, he oversaw a research program focusing on the identification and optimization of dopamine receptor chemical probes and therapeutics. He was then recruited as the Assistant Director for Science Operations for the intramural program where he oversees policy, planning, and operations of NINDS and shared/collaborative core facilities. In this role, he supports operational and strategic planning, emergency management and facilities activities, and lab planning. Dr Free interfaces often with post-baccalaureate fellows, graduate students, postdoctoral fellows and staff scientists at all stages of their careers and enjoys discussing the intramural research program of the NIH.

28**. Evette Radisky, PhD** | Professor and Associate Dean – Mayo Clinic

Dr. Radisky completed her B.S. and Ph.D. in chemistry (emphasis in biological chemistry) at the University of Utah, studying enzymes involved in cholesterol biosynthesis. She conducted postdoctoral training in molecular and cell biology at the University of California, Berkeley, studying proteolytic enzymes. In 2005, Dr. Radisky joined the Mayo Clinic in Jacksonville, Florida, where she leads a federally funded research laboratory focused on identifying and therapeutically targeting proteases involved in cancer. Dr. Radisky is a Professor of Cancer Biology and Pharmacology at the Mayo Clinic College of Medicine and Science and a Professor of Biology at the University of North Florida. She has mentored over 70 trainees, including high school, undergraduate, graduate, postdoctoral, and junior faculty mentees. Dr. Radisky serves as Associate Dean of the Mayo Clinic Graduate School of Biomedical Sciences (MCGSBS), providing oversight to >50 PhD students and >100 faculty members on the Mayo Clinic Florida campus.

SAMPLE QUESTIONS TO ASK EXPLORING CAREERS SPEAKERS

- What are your favorite and least favorite aspects of your job?
- I am interested in entering a career similar to yours. Do you have any suggestions on how I might improve my chances of employment?
- What specific skills and qualifications are needed to have a successful career in your field?
- Are there any specific courses or requirements that I should complete in order to prepare for a job in your field?
- Do I need advanced training (M.S., Ph.D., etc.) in order to be successful in your field?
- For new college graduates, what types of opportunities are typically available in your field?
- Are there any opportunities for internships in your field?
- What are the projections for future growth in your field?
- May I have your business card or contact information?
- May I contact you later if I have more questions?

OTHER AREAS TO CONSIDER FORMING QUESTIONS BASED ON

- Work-life balance
- Time needed to get to a certain position
- Alternative pathways to the career
- If anything in their background sticks out to you, feel free to ask a question on it

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Undergraduate travel award recipients

2024 ASBMB Undergraduate Travel Award Recipients
2024 ASBMB Annual Meeting
San Antonio, Texas

Regional Meeting Travel Awards

Phoebe Calkins
Towson University

Eber A. Guzman-Cruz
Towson University

Glory Omodia
Towson University

Student Chapter Travel Awards

Jenna Schoonmaker
Purdue University

Connor Holm
University of South Alabama

Kyle Murphy
St. Mary's College of Maryland

Sahil Malhi
University of California – Merced

Lam Chau
Case Western Reserve University

Morgan Priem
University of Wisconsin La Crosse

Stephanie Cuaycong
New Jersey City University

Tai Lon Tan
Wesleyan University

Hana Lee
Case Western Reserve University

Kaitlin Cartwright
University of Nebraska – Lincoln

Samantha Kuszynski
University of Michigan at Dearborn

Travis Branscum
University of Michigan at Dearborn

Anita Nguyen
University of South Alabama

Caroline Quinn
College of Holy Cross

Lillian Feeney
College of Holy Cross

Matthias Ngo
Stockton University

Isabelle Patel
Albion College

Sydney Davis
Mississippi State University

Paul Nguyen
University of South Alabama

Anjali Raju
Case Western Reserve University

Alina Tong
California Lutheran University

Tristan Weers
Iowa State University

Austin Long
Eastern Illinois University

Peggy Chen
Rochester Institute of Technology

Phyllis Schram
Wesleyan University

Ana Sutulov Marin
The University of New Mexico

Navraj Singh
Rochester Institute of Technology

Min Kyung Park
Black Hills State University

Julia Edgar
University of New Hampshire

Anthony Potchernikov
Yale University

Suhjin Lee
Saint Louis University

Kelechi Onwuzurike
UCLA

Jordan Nichole Carreras
Nova Southeastern University

Jean Messon-Bird
University of Puerto Rico – Rio Piedras

Sydney Dvorak
Drake University

Chaz Kayser
Oregon State University

Francisco Hernandez
Oregon State University

Diana Turrieta
Northeastern University

Gabriella Menezes da Silva
University of Nebraska – Lincoln

Robert Bauer
University of Nebraska – Lincoln

Nicole Lagman
Lawrence University

Citlaly Hernandez
Montclair State University

Jillian Zerkowski
Northeastern University

Kate Snook
Butler University

Justin Singer
Duquesne University

Zoe Moosbrugger
Ursinus College

Kai Smith
University of Kansas

Hailee Aro
Hamline University

Nicole Wang
University of Delaware

Kyra Russman-Araya
Skidmore College

Elizabeth Mielke
Colorado State University

Leah Keswani
Saint Louis University

Michael Demarais
Hartwick College

Gaia Taig
University of Massachusetts

Bryce Dye
Trinity University

Reed Rothe
University of Texas at Austin

Kiana Haynes
Tennessee Tech University

Catarina Rahal
Tufts University

Kaylee Nguyen
Mount Holyoke College

Ana Dogan
University of Florida

Christopher Blanda
University of Delaware

Jack Nelson
Carleton College

Sufana Noorwez
Vassar College

Margaret Rudbach
Vassar College

Dajaha Kenney
Towson University

Ayo Ajiborode
Goucher College

Katie Munro
Carleton College

Natalia Quizena
Hope College

Sophie Anderson
Vassar College

Katelyn Phelps
University of Wisconsin La Crosse

Elizabeth Crandall
Lawrence University

Isabelle Juhler
Grand View University

Emily Bosche
Hendrix College

Brooklyn Mills
Grand View University

Lauren Dotson
Trinity University

Jada Cain
Lane College

Jacqueline Miller
University of Wisconsin – Madison

Margaret Hoare
University of Rochester

Dylan Cootway
University of Wisconsin – Madison

Molly Streich
New Mexico State University

Abbey Hanes
State University of New York at Geneseo

Jordyn Wilson
Kalamazoo College

Chelsea Ty
Tufts University

Diana Sanchez
Albion College

Nhan Huynh
Wabash College

Nolie Giles
University of San Diego

Shree Narasimhan
University of San Diego

John Mullins
Stephen F. Austin State University

Yigit Simsek
College of William and Mary

Roberto Garza
University of Texas at El Paso

Soumili Dey
Northeastern University

Michael Gambardella
Southern Connecticut State University

Bridget Mwaniki
Rhodes College

Nana Acheampong
Mount St. Mary's University

Christina Valtierra
University of Texas at El Paso

Isabella Holt
University of Tampa

Karsten Theilen
Iowa State University

Jillian Berko
Mount St. Mary's University

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Outstanding Chapter Award

2024 Outstanding Chapter Award recipient

Each year, the ASBMB student chapters program recognizes one chapter that demonstrates outstanding leadership and commitment to science education and promoting science literacy.

The 2024 Outstanding Chapter Award is awarded to:

University of South Alabama
Mobile, AL
Faculty adviser: Phoibe Renema

Student members:

Genevieve Batman
Bailey Baxter
Rebecca Berry
Marlee Bradford
Alexis Bui
Griffin Buroughs
Sanjana Chada
Zachary Chancey
Ananya Chari
Delaney Daly
Jennie Dang
Alexander Davis
Gabrielle Dion
Alan Escobar
Matthew Gahn
Kyle A. Gaviria
Katie Giles
Jeremy Herren
Connor Holm
Karissa Larson
Maggie Lawson
Caleb Lopansri
Laura Luz
Mary Helene Marmande
Jonathan Mason
Dev V. Mehta
Ethan Meyers
Omar Molokhia
Presley B. Mullinax
Katelyn Newkirk
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2024 ASBMB Undergraduate Poster Competition

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Hofstra University

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76B **1716** Importance for Polyamines for Metabolic Activity in Leishmania Parasites **J. Lacar, S. Roberts** Pacific University

77A **1600** Time-resolved distribution of ANG and RNH1 in HeLa cells **N. Lagman, D. Martin** Lawrence University

77B **1837** ID please! Determining protein interactors of an uncharacterised yeast lipase using BioID **A. Lalani, A. Henderson, M. Schuldiner, V. Zaremberg** University of Calgary

78A **1459** Cemdomespib Therapy Improves Neuromuscular Function and Axon Morphology in a Mouse Model of Human Charcot Marie Tooth 1X Disease **R. Lang, R. Dobrowsky, S. Patel, R. Chawla** University of Kansas

78B **1933** Small molecule analysis of UHRF2 using fluorescence polarization **M. Lansdale, P. Hatfield, B. Albaugh** Eastern Michigan University

79A **2101** Progress on Thioester Electrophiles as a New Class of SHAPE Probes **G. Leach, S. Ambre, D. Schlink, M. Filbin** Metropolitan State University of Denver

79B **1838** Optimizing PET Plastic Biodegradation **L. Kramer, I. Juhler, B. Hall** Grand View University

80A **1173** Effect of Charged Residues on The Glycosylation by the Core-1 Transferase **H. Lee, H. Aharoni, C. Ballard, M. Paserba, T. Gerken** Case Western Reserve University

80B **1317** Characterization of cytoplasmic, mitochondrial, and peroxisomal malate dehydrogenase via missense single nucleotide mutations and homologous recombination mutations in the budding yeast Saccharomyces cerevisiae **H. Loehr, B. Topping, M. Wolyniak** Hampden-Sydney College

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81A **1046** Identification of the GPI Anchor Sidechain Modifying Enzymes in Toxoplasma gondii and Their Role in Virulence **S. Malhi, J. Alvarez, E. Gas-Pascal, F. Ngale, G. Ceron, J. Posada, J. Sanchez-Arcila, C. West, K. Jensen** University of California – Merced

81B **1733** Genetically Encoded Biosensor to Detect Histone Ubiquitination in Live Cells **C. Lundstrom, C. dos Santos Passos, R. Cohen, T. Yao** Colorado State University – Fort Collins

82A **1502** Investigations of Vibrio cholerae ferrous iron transport protein B (FeoB) nucleotide specificity **K. Magante, M. Lee, A. Smith** University of Maryland, Baltimore County

83B **1344** Role of GXXXG Dimerization Motif and Lipid-Protein Interactions in the Functional Modulation of Glutamate Carboxypeptidase II **A. Long, J. Philip, T. Jayaseka, M. Beck, G. Periyannan** Eastern Illinois University

84A **1862** Shining light on lipid metabolism: using live fluorescence imaging and novel lipid probes to characterize a putative lipase in yeast **C. Mallard, A. Henderson, M. Schuldiner, V. Zaremberg** University of Calgary

84B **1801** Characterization of Hsc70 Interactions in the Modulation of LPS/TLR4 Production of TNFα **K. Malone, G. Pereira, J. Dhakal, R. Bordelon, J. Rakus** University of Louisiana at Monroe

85A **2014** A Comprehensive Analysis of Key Metabolic Regulators of Malate Dehydrogenase Influencing Mitochondrial Metabolism **T. Mandanis, A. Kayll, C. Berndsen, J. Provost** University of San Diego

85B **2026** Targeting transcription factors dominantly misregulated by developmental linker histone mutant **A. Jumamyradova, D. Fetch, K. Green, A. Soshnev** The University of Texas at San Antonio

86A **2088** Beyond Uniformity: Probing ERK Activation Variability in Response to PDGF in NIH-3T3 Cells **B. Marshall, K. Slye, T. Romania, J. Keyes** Pennsylvania State University – Penn State Erie – Behrend College

86B **1636** Characterization of the mechanism through which small metabolic molecules affect B. subtilis biofilm pathways **H. Mauriello, T. Jihaan, S. Wacker** Manhattan College

87A **1539** Spectroscopic and Chromatographic Studies of Pottery Sherds from Guatemala **M. McFarland, K. Onchoke** Stephen F. Austin State University

87B **2121** Investigating the formation of protein complexes within the BREX bacterial defense system **S. McGuire, B. Kaiser, B. Stoddard, L. Doyle, J. Peralta** Seattle University

88A **1896** Optimization of Metal Coordination in Cell-Penetrating Metallopeptides **E. McNamara, I. Mawn, I. Diaz, S. Smith** Bucknell University

88B **1569** Elucidating the role of disease-associated mitochondrial factor Mdm38/LETM1 **G. Menezes da Silva, I. Bohovych, R. Mahdi, O. Khalimonchuk** University of Nebraska – Lincoln

89A **2009** Utilizing Alterations in Metabolism to Preferentially Target Pancreatic Cancer **H. Mertz, S. Atz, B. Althiser, E/ Wade, L. Wade, L. Larson, S. Cortright, L. Heller, K. Owens** Bemidji State University

89B **1516** Computational Prediction and Biochemical Validation of CVD-associated SNPs Altering NKX2-5 DNA-binding **J. Messon-Bird, E. Peña-Martínez, D. Pomales, J. Medina-Feliciano, J. Rodriguez-Martinez** University of Puerto Rico – Rio Piedras

90A **1701** Single-cell RNA Sequencing of Culex tarsalis Ovaries **E. Mielke, C. Campbell, H. Ogg** Colorado State University

90B **1364** Effects of Mutations on Bovine GammaB Crystallin Intermolecular Interactions **A. Miller, G. Guerrier, L. Cirrincione, M. Wynn, G. Thurston, L. Michel** Rochester Institute of Technology

91A **1892** Combined deletion of adipose tissue-specific Stearoyl-CoA desaturase 1 and 2 protects mice against diet induced obesity **J. Miller, M. Kalyesubula, D. Cootway. H. Huff, L. Lefers, V. Pegkou Christofi, E. Anderson, J. Ntambi** University of Wisconsin – Madison

91B **1849** Enzyme engineering for improved biofuel production from plant sources **B. Mills, B. Hall** Grand View University

92A **1250** Biochemical Investigation on the Structural Consequences of Tandem Mutations Induced by the UV and Cadmium Exposure during DNA Replication **G. Miranda, S. Sherrer** St. Mary's College of Maryland

92B **1532** Using an Expanded Genetic Code to Enrich Spatial Clarity for Protein Chromosomal Occupancy **P. Moleri, B. Wilkins** Manhattan College

93A **2066** The role of cysteines in the structural stability and function of human ribonuclease/angiogenin inhibitor **A. Montalvo-Mosso, X. Chen, A. Bemben, R. Bhatacharjee** Lawrence University

93B **1900** Interdisciplinary Investigation of the Unknown Function of Proteins 2O14 and 3HO4 Using in-vitro and in-silico Techniques **Z. Moosbrugger, K. Schantz, R. Roberts, S. Wilner** Ursinus College

94A **1517** Examining the effect of L-rhamnose metabolism on the transcriptome of Escherichia coli **I. Moppel, A. Francis, J. Kuchtey, L. Ryno** Oberlin College

94B **1443** The Effect of p53 Mutations on Binding to the Mdm2 Promoter **C. Morin-Gaona, L. Nogaj** Mount Saint Mary's University, Los Angeles

95A **2050** Serum albumin binds stoichiometrically to the insulin-resistance protein Fetuin-A with high affinity. **J. Mullins, O. Odunuga** Stephen F. Austin State University

95B **1804** Extending the scope of a coupled assay to measure alanyl-tRNA synthetase activity **K. Munro, L. Solache Salgado, L. Qi, A. Williams, J. Chihade** Carleton College

96A **1036** A Biochemical Investigation on the Structural Integrity of Bovine Serum Albumin During Exposure to Plastic Particles **K. Murphy, S. Sherrer** St. Mary's College of Maryland

97B **1119** Characterizing the Membrane-Inserted Conformation of a Bacterial Toxin Delivery Protein **H. Murphy, C. Hagan, G. Beal, E. Bouzan** College of the Holy Cross

98A **2128** Tamoxifen-Inducible Cre Mouse Model of Pediatric Glioma **B. Mwaniki, N. Connolly, J. Peng** Rhodes College

98B **2038** Regulation of Cytosolic Malate Dehydrogenase Through Phosphorylation: Potential Post Translational Modification Regulating MDH Catalytic Rate and Function **S. Narasimhan, A. Kayll, A. Sardelli, C. Berndsen, J. Provost** University of San Diego

99A **1756** Molecular Mechanism of Macrophage Plasticity Mediated by Dexamethasone and Aldosterone **B. Neiderlander, M. Kadmiel** Allegheny College

99B **1643** Monitoring β2m Aggregation Kinetics in vitro **A. Nelson, J. Richardson** Austin College

100A **1276** Development of Methods to Test and Characterize Proteases in Human Saliva **M. Ngo, C. Lin, K. Keenan** Stockton University

100B **1744** Bacterial expression of helminth aminoacyl-tRNA synthetases. **J. Nelson, S. Abraha, N. Mueller, J. Chihade** Carleton College

101A **2173** Characterizing Houston's Viral Strains Carried by Mosquitos via Metagenomics **A. Ngo, M. Najarro, W. Maldonado, A. Barandiaran, N. Faridi** University of St. Thomas

101B **1254** Stress Response of Salmonella through sRNA-Mediated Regulation **A. Nguyen, S. Naaz, N. Sakib, N. Godang, G. Borchert** University of South Alabama

102A **1486** Development of Activity-Based Protein Profiling Assays for the Human Rhomboid Proteases **D. Nguyen, R. Stasser de Gonzalez, P. Kamitsuka, C. Davies, N. Franowicz, W. Parsons** Oberlin College

102B **1268** The influence of surface residues on the structure and activity of a salt-dependent halophile enzyme **T. Nguyen, K. Poon, M. Haigbea, D. Wall, K. Mills** College of the Holy Cross

103A **1738** Molecular characterization of Clostridium difficile KH-domain proteins **K. Nguyen, C. Gravel, N. C. Sansom Botstein, N. Won Lett, K. Berry** Mount Holyoke College

103B **1769** Investigating the role of eIF3 on the ribosome and across the proteome **S. Noorwez, A. Aziz, C. Echeverría Aitken** Vassar College

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104A **1782** Characterization of Conjugative Proteins from Salmonella Typhimurium pCU1 **J. Norman, K. McLaughlin** Vassar College

104B **2043** The Role of Palmitoylation in DNA Damage Repair in Ovarian Cancer **J. Novak, S. Pickett, S. Kidambi, E. Chilton, A. Burquest, D. Bolland** University of Minnesota – Morris

105A **1936** Glucocorticoid Receptor Mediated DNA Repair Mechanisms in Human Corneal Epithelial Cells **E. O'Neill, M. Kadmiel, S. Masse** Allegheny College

105B **2142** Exploring whether Succinate is a Novel Allosteric or Orthosteric Activator of Malate Dehydrogenase **S. Olszanowski, J. Bell, E. Bell** University of San Diego

106A **1492** Investigating the Role of IMPDH in mRNA Regulation **J. Omiya, D. Nguyen, S. Mitchell** Loyola Marymount University

106B **1818** Modeling Calcium Binding to Yersinia pestis Type III Secretion Needle **K. Olszewski, P. Prasanna, C. Movva, J. Torruellas Garcia, E. Schmitt Lavin, A. Sikora** Nova Southeastern University

107A **1609** Comparing Gene Expression in the Liver of Wild-Type vs. TLR4 -/- Mice **G. Omodia, J. Hunat, E. Harberts** Towson University

107B **1464** Developing a Novel Multiplexed Screening Assay for Low-Complexity Domains **K. Onwuzurike, P. Peyda, D. Black** UCLA

108A **1830** The neural pathway for internal bias and sensory information interaction in decision making **A. Owusu-Ofori, S. Korde, E. Jung Hwang** Lake Forest College

108B **1371** Wwm1 is a possible substrate of Rsp5 E3 ubiquitin ligase **A. Pandey, R. Nyunoya, S. Walsh** Soka University of America

109A **1880** Traditional herbal product, Shankhapushpi, as a neuroprotective agent **C. Paliakkara, M. Moreira, S. Chakraborty, T. Chakraborty** Adelphi University

109B **1352** The Proteostasis Regulator PC7 promotes the forward trafficking of NMDA receptors containing the pathogenic GluN1_S688Y variant **A. Palumbo, T. Benske, Y. Wang, T. Mu** Case Western Reserve University

110A **1955** Expression of hERG, a voltage-gated K+ channel alpha-subunit, is affected by combinatorial phosphorylation in the HEK-293 model system **A. Padilla Aguilar, L. Darling** Wellesley College

111B **1378** A general method for the development of quantitative biosensors enables the measurement of free Nedd8 **M. K. Park, Z. Davis, T. Oren, T. Hartley, A. Umphlett, J. Monahan, K. Light, K. Hunter, Y. Choi** Black Hills State University

112A **1284** Progress Toward the Development of a Nanobody Binder of a Pathogenic Moonlighting Protein **I. Patel, J. Patel, R. Beyers, I. Patel, C. Streu** Albion College

112B **1491** Identification of the binding residues on CYP3A4 to Naringin using Protein Modelling and Docking **V. Patel, S. Ananthula, P. Shah, E. Schmitt Lavin, A. Sikora** Nova Southeastern University

113A **1866** Structural Characterization of TonB3 (BT1668) from Bacteroides thetaiotaomicron **P. Patel, R. Pollet** Vassar College

113B **1959** Testing the behavior of a WYL domain protein as a transcriptional regulator for the BREX phage restriction system **J. Peralta, B. Kaiser, B. Stoddard, L. Doyle, S. McGuire** Seattle University

114A **1809** Understanding the Secretion of a Toxic Protein **K. Phelps, D. Grilley** University of Wisconsin La Crosse

114B **1677** Implementing a Support Vector Machine-based Computational Method to Prioritize Cardiovascular Disease-Risk Variants **D. Pomales-Matos, E. Peña-Martínez, A. Rivera-Madera, J. Messon-Bird, J. Medina-Feliciano, L. Sanabria-Alberto, A. Barreiro-Rosario, J. Rivera-Del Valle, J. Rodriguez-Martinez** University of Puerto Rico – Rio Piedras

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115A **1424** Distinct functional constraints driving conservation of the cofilin N-terminal regulatory tail **A. Potchernikov, J. Sexton, J. Bibeau, H. J. Lou, G. Casanova, W. Cao, T. Boggon, E. De La Cruz, B. Turk** Yale University

115B **1576** Discovery of Toxic Genes in Mycobacterium Smegmatis of Phage Lebron Through Molecular Cloning and Phenotypic Assays **D. Prakash, K. Jang, A. Diaz** La Sierra University

116A **1065** Determining the Effects of Poly-A Tracts and Monovalent Cations on Nucleosome Equilibrium and Dynamics **M. Priem, D. Grilley** University of Wisconsin La Crosse

116B **2175** Phosphorylation State of the Intermediate Protein Partner RsbV1 Impacts Growth and Progeny Production of Chlamydia trachomatis **D. Prieto, A. Cutter, S. Hefty** University of Kansas

117A **1289** Exploring the Inflammatory Effects of Glioma-derived Stem Cell Matrix on Astrocyte Phenotypes **T. Raman, R. Cornelison, N. Nyabadza** University of Massachusetts – Amherst

117B **1265** Mutants on Mars: Directed Evolution of Halophile Enzyme Activity **C. Quinn, E. Proffitt, K. Mills** College of Holy Cross

118A **1806** The Effects of VACM-1/CUL5 on Aquaporin 1 Expression in Endothelial Cells In-Vitro **N. Quizena, M. Moffitt, P. Friend, L. Lee** Hope College

118B **1908** Using CRISPR to Inactivate Candidate DNA Repair Genes in Bdelloid Rotifers **S. Quon, A. Schurko** Hendrix College

119A **1305** Understanding the mechanism of LCMT-1 methylation of PP2A **A. Raju, A. Day, W. Huang, D. Taylor** Case Western Reserve University

119B **2011** The structural and functional effects of phosphorylation on human mitochondrial malate dehydrogenase **A. Pulido, H. Tarbox, A. Kayll, C. Berndsen, J. Provost** University of San Diego

120A **1695** Investigating Antimicrobial Properties of Microbes Collected from Anchialine Pools **C. Ramelb, O. George** University of Hawaii – West Oahu

120B **1604** Investigating synergy between DesHDAP2, a novel histone-derived peptide, and different antibiotics **J. Reyes Fernández, B. Perry, L. Darling, D. Elmore** Wellesley College

121A **2006** Determining the Effects of Motif A Phosphorylation on SIRT1 Activity **S. Richter, B. Trout, A. Mohamed, A. Chen, N. Wang** San Jose State University

121B **1712** Unveiling Key Sites and Functional Impact of Putative Phosphorylation on Human Cytosolic Malate Dehydrogenase **S. Riley, A. Sardelli, A. Kayll, C. Thompson, C. Berndsen, J. Provost** University of San Diego

122A **2154** THE ROLE OF CACNA1C IN THE REGULATION OF HYPERTENSION IN RESPONSE TO AMLODIPINE **R. R. M. Rivera, A. Storm, G. Rodriguez, S. Holechek** Arizona State University - Tempe

122B **1638** Bioinformatic Prioritization of Cardiovascular Disease-Linked Variants Modulating TBX5 Binding **J. Rivera-Del Valle, E. Peña-Martínez, D. Pomales-Matos, A. Rivera-Madera, J. Medina-Feliciano, J. Rodríguez-Ríos, J. Rodríguez-Martínez** University of Puerto Rico – Rio Piedras

123A **1179** Impact of SARS-COV NSP1 on RNA Transcription and Metabolism **M. Romero, A. Nag** USC Upstate

123B **1726** Elucidating the relationship between cytoplasmic ribosomes and mitochondria utilizing gene expression and proportionality **R. Rothe, A. Surya, Y. Liu, E. S. Cenik** University of Texas at Austin

124A **1778** Leveraging a recombinantly-reconstituted eIF3 complex to dissect the contributions of its subunits to RNA binding **M. Rudbach, P. Kai Velez, N. Ide, R. Gonzalez, C. Echeverría Aitken** Vassar College

125B **1312** Characterization of post-translational modifications of the mitochondrial transcription machinery **E. Rudisel, K. Platz, K. Paluch, R. Erdmann, T. Laurin, K. Dittenhafer-Reed** Hope College

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126A **1688** Expression, Purification, and Characterization Attempts of Glucan Phosphatase LSF1 **K. Russman-Araya, M. Alcantara, M. Raththagala** Skidmore College

126B **1236** Role of Platelets in the Development of Delayed Neurological Deficits after Subarachnoid Hemorrhage in Mice **B. Samal, A. Dienel, S. Hong, D. McBride** Rice University

127A **1790** Distribution and Phylogenetic Analysis of the Fluoride Riboswitch in Archaea **C. A. San, S. Carr** Hartwick College

127B **1606** Purification of double-stranded RNA binding motifs for crystallographic studies **M. Samm, M. Macbeth** Butler University

128A **1489** Congenital Heart Disease-associated Mutations Alter TBX5-DNA Binding Affinity **L. Sanabria-Alberto, E. Peña-Martínez, D. Pomales-Matos, A. Rivera-Madera, J. Rivera-Del Valle, J. Rodríguez-Ríos, J. Rodríguez-Martínez** University of Puerto Rico – Rio Piedras

128B **1143** Revamping the Research Experience: Improving a CURE through Student Feedback and Leadership **L. Sandoval-Mejia, J. Martinez, C. Castaneda, M. Crawford, H. Regalado, J. Beckham** The University of Texas at Austin

129A **1985** Development of an assay to assess the impact of viral RNA epigenomic modifications on transcription speed and fidelity **D. Sanchez, C. Rohlman, D. Eyler, J. Jones, K. Koutmou** Albion College

129B **1964** Investigating the RNA-binding mechanism of bacterial KH-domain proteins **N. C. Sansom Botstein, K. Nguyen, N. Won Lett, S. Jo, C. Gravel, M. Narayan, C. Sharma, K. Berry** Mount Holyoke College

130A **1876** The Novel DNA Methyltransferase Inhibitor CM-272 Inhibits Bacterial Growth via a DNA Methylation-Independent Mechanism **D. Schoeps, T. Stolberg, K. Militello** State University of New York at Geneseo

130B **1004** Extraction and Quantification of Matrix-Bound Nanovesicles from Extracellular Matrix-Derived Biomaterials **J. Schoonmaker, B. Prashanthika, A. Wei, R. Ritchie, M. Hiles** Purdue University

131A **1351** The N53D Deamidation Mimic Causes Misfolding and Aggregation of Superoxide Dismutase 1 **P. Schram, A. ONeil** Wesleyan University

131B **1508** Parasitoid Wasp Venom Pyruvate Kinase: Expression, Purification, and Kinetic Characterization **C. Schulman, L. Long, M. Santisteban, N. Mortimer, R. Sterne-Marr** Siena College

132A **1231** Using Machine Learning to Predict Antimicrobial Resistance in Water-Derived E. coli **L. Schutter, C. Ihle, Z. Elmore, Z. McHenry, B. Turner, N. Huisman, B. Krueger, M. Pikaart, A. Best** Hope College

132B **1995** Characterization of Diadenosine Polyphosphatases of the Nudix Hydrolase Superfamily in M. tuberculosis and M. leprae **A. Seyler, E. Reilly, P. Zhu, S. O'Handley** Rochester Institute of Technology

133A **1803** Investigating the Role of Caveolin in Human FSH Receptor Activity **H. Shames, B. Cohen** Union College

133B **2064** RTHa Mutations Alter Thyroid Hormone Receptor Interactions with Nuclear Corepressor 1 **Y. Simsek, L. Allison, V. Roggero** College of William and Mary

134A **1228** Optimizing UNH Inhibitors via Phenyl Pyrrolidinol and Pyridyl Pyrrolidinol Derivatives: A Novel Approach to Mitigate Trichomoniasis **G. Singh, M. VanAlstineParris** Adelphi University

134B **1362** Investigating the effects of antibiotics on the production of extracellular vesicles in E. coli **N. Singh, G. Gonzalez, P. Torabian, T. Gaborski, L. Michel** Rochester Institute of Technology

135A **1588** Structure, Conformational Dynamics, and Biochemical Characterization of Starch Excess4 from Zea mays **S. Sinnott, M. Alcantara, K. Weis, C. Vander Kooi, M. Raththagala** Skidmore College

135B **1925** The role of the histone variant protein H2A.Z in H3K27me3 homeostasis in Arabidopsis thaliana **S. Sliger, J. Long, J. Ogas** Purdue University

136A **2053** Split Luciferase Assays Detect Novel Interactions Between the Rho GTPase TCL/RhoJ and Coronins. **M. Smith, A. Grigoryants, B. Lund, B. Larocque, M. Hamann** Bemidji State University

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136B **1634** Distinct structural regions controlling the quaternary structure of a thermophilic esterase **K. Snook, R. J. Johnson** Butler University

137A **1855** The Significance of Glucose Concentration on Bacterial Biofilm Formation **R. Solis, B. Sengupta** Stephen F. Austin State University

137B **1899** Transcriptional Analysis of microRNAs within CD34+ Hematopoietic Stem Cells. **J. Splichal, J. Mitchell** Northern State University

138A **1320** Discovery and Validation of ROSE-like RNA Thermometers in the 5'-UTRs of ABC Transporter Genes **A. Tong, E. Tong, M. Hannani, D. Santiago, L. F. M. Passalacqua, M. Abdelsayed** California Lutheran University

139A **1455** Distribution of TRPV4 Channels in Mouse Lung Microvasculature Under Acidic pH and High Temperature. **C. Strickland, M. Taylor, P. Sen, A. Templin** University of South Alabama

139B **1358** Scaling relationships in animal nervous systems **A. Sutulov Marin, J. Arroyo, J. Hernandez, G. West, C. Kempes** The University of New Mexico

140A **1761** UTexas Aptamer Database: The Cataloguing and Sustained Preservation of Aptamer Sequence Information for Research Advancement **S. Swamy, G. Stovall, A. Askari** The University of Texas at Austin

140B **1746** The Effects of Vitamin A Intake and FLT3/JAK2 Inhibition on FLT3-Mutated Acute Myeloid Leukemia Cells as Potential Novel Treatment Options **L. Swanson, J. Sharp, M. Kadmiel, D. Duriancik** Allegheny College

141A **1454** Structural Elucidation of the ASCC2 CUE Domain Binding Interface with K63-Linked Polyubiquitin through Hydrogen-Deuterium Exchange NMR Analysis **S. Syed, P. Lombardi** Mount St. Mary's University

141B **1723** Differences in barriers to immortalization in normal breast epithelial cells from donors with and without mutations in breast cancer susceptibility genes. **G. Taig, J. Phadkar, M. Nair, A. Roberts, G. Crisi, A. Sallagonda, G. Makari-Judso, S. Schneider, J. Jerry** University of Massachusetts

142A **1172** Elucidation of Saccharomyces cerevisiae Msh2-Msh6 and Holliday Junction Binding Interactions via UV Photocrosslinking **T. L. Tan, Z. Lombardo, I. Mukerji** Wesleyan University

142B **1139** Exploring antibiotic resistance in the high school lab with hands-on experiments and molecular visualization software **S. Tanguma, H. Jaegy, Q. Nguyen, S. Mayberry, J. Min Chon, B. Williams, L. Govea, G. Stovall, J. Beckham** The University of Texas at Austin

143A **2109** The Prevalence of Angiostrongylus cantonensis in Molluscs found on the University of Hawai'i - West O'ahu campus, a Preliminary Study **J. Tata, N. Araiza Ramos, O. George, M. Ross** University of Hawaii – West Oahu

143B **1546** Use of 2D-NMR to Determine Specific Contributions of Ubiquitin Binding Sites to Polyubiquitin Chain Recognition Within ASCC2 Subunit of DNA Alkylation Damage Complex ALKBH3-ASCC **V. Tavernier, P. Lombardi** Mount St. Mary's University

144A **1822** Deciphering the Proteomic Landscape: Understanding the Tumor Microenvironment in Diffuse Midline Glioma **T. Teboh, K. Bennett, S. Douglas-Green, P. Hammond, J. Straehla** Wellesley College

144B **2052** A Lab Exercise in Degradation of Polysaccharides to Illustrate Enzyme Specificity and Relevance to Biofuel Production **J. Terdik, M. Junker** Kutztown University of Pennsylvania

145A **2167** Selecting Mre11 Mutations Through Kinetic Analysis for Use in FRET Assays **K. Theilen, S. Nelson, J. Coats** Iowa State University

145B **2001** The yeast [2Fe-2S] mitochondrial protein Aim32 supports cytochrome c oxidase biogenesis **C. Thorpe, K. Bhatt, S. Kode, J. Wohlschlegel, D. Dabir** Loyola Marymount University

146A **1128** Catalytic Roles of Key Amino Acids in the Toxin Cleavage Mechanism of a Bacterial Inhibition Protein **A. K. Tiu, G. Conroy, C. Hagan** College of the Holy Cross

146B **1037** Development of a screening system to identify novel cell-free DNA biomarkers of toxicity in human embryonic stem cells **V. Srirama, B. Silver, E. Tokar, K. Gerrish** Saint Louis University

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147A **1754** Hybrids of translocating antimicrobial peptides exhibit enhanced activity and permeabilize membranes **G. Trevellin, M. Shui, J. Y. Kwag, V. Alvarez, H. Klim, L. Darling, D. Elmore** Wellesley College

147B **1509** Antagonist-Induced Post-Translational Modifications Result in ANTXR2/CMG2 Degradation and Angiogenesis Inhibition **J. Truman, F. Jiang, E. Hardy, J. Fowler, K. Christensen** Brigham Young University – Provo

148A **1296** Investigating the calcium binding mechanism of Schizophyllum commune Type Ia metacaspases using circular dichroism spectroscopy **M. Truesdell, K. Fox** Union College

148B **1832** Dynamics of Malate Dehydrogenase Mutation and Enzyme Activity **W. C. Tung, D. Maskovsky** State University of New York at Geneseo

149A **1537** Mechanisms of BAZ2B Chromatin Remodeling at G Quadruplex DNA **D. Turrieta, L. Julio, T. Day** Northeastern University

149B **1972** Neutral endocannabinoid-1 receptor antagonist AM6527 suppresses alcohol binge-like consumption in female models **C. Ty, A. Makriyannis, J. Raghav, K. Miczek** Tufts University

150A **1971** Lanthanide Utilization by Paracoccus denitrificans **V. Valdez, B. Villalva, C. Lee-Lopez, E. Yukl** New Mexico State University

150B **1721** Determining the Effects of Pre-messenger RNA Splicing in Retinitis Pigmentosa **B. Uwaezuoke, C. McCammack, M. Vargas, J. King, C. Maeder** Trinity University

151A **2147** Expression of Recombinant Vaccinia Virus Protein D10 for Structural Studies **C. Valtierra, R. Aragonez, C. Xiao, Z. Yang** University of Texas at El Paso

151B **1745** Investigating the activity and mechanism of action of DesHDAP2 truncations **A. Vasilijevic, L. Darling, D. Elmore** Wellesley College

152A **1363** Detecting Bacterial Extracellular Vesicles in Human Plasma for Sepsis Diagnosis **M. Videva, N. Burgado, N. Robinson, L. Michel, T. Gaborski** Rochester Institute of Technology

152B **2240** Screening for Increased Cyanobacterial Growth in a Mutant Library **J. Vlad, H. Atamian** Chapman University

153A **1142** Identifying Potential Novel Inhibitors Against Klebsiella pneumoniae carbapenemase-2 (KPC-2) Enzymes Present in Carbapenem-Resistant Bacteria Via Computational Ligand Docking Methods **M. Vu, L. Sandoval-Mejia, J. Beckham** The University of Texas at Austin

153B **1631** The Ability of Metabolic Enzymes to Utilize Nicotinamide Adenine Dinucleotide Covalently Attached to RNA 5'-ends **Z. Wardle, S. Enders, M. Shittu, D. Frick** University of Wisconsin – Milwaukee

154A **1377** Colocalization and dynamics of reflectin biomolecular condensates **R. Watanabe, S. Walsh, R. Levenson** Soka University of America

154B **2210** To Die or Not to Die: Controlling Death in Breast and Ovarian Cancer Cells with a Novel Pathway Regulating Anticancer Drug **E. Wei, D. Shapiro, J. Zhu, E. Nelson, S. Gosh, D. Duraki** University of Illinois at Urbana-Champaign

155A **1554** Purification and Crystallization of Thermostable Acetyl Esterase Mutants **I. White, M. Macbeth, I. Kluszynski** Butler University

155B **2017** A Revised Mechanism of Hydroxyurea Induced Replication Stress **J. Whitted, M. Mihelich, A. Shaw, G. Schauer** Colorado State University – Fort Collins

156A **1518** Development of a diverse activity-based probe library for studying serine proteases **C. Wilber, R. Stasser de Gonzalez, D. Nguyen, J. Aghanya, H. Seo, W. Parsons** Oberlin College

156B **1923** Anti-Cancer Activity of Acridine Derivatives in Lung and Prostate Cancer Cells **D. Williams, J. Kocerha, K. Aiken, A. M. Seymour, G. Blount, D. Douglas** Georgia Southern University

162B **1957** Determining Antibacterial Activity of Maleimide-Tryptamine Hybrids **J. Wilson, D. Williams, R. Stevens-Truss** Kalamazoo College

162A **2036** The Impact of Heat Stress on R-loop-associated Genomic Stress and Gene Expression Dysregulation in Alzheimer's Disease **B. Yoder, H. Hall** Purdue University

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161B **1342** Investigating the Functional Significance of Inteins in Halobacterium salinarum **M. Yurchick, E. Proffitt, B. Barbesino, K. Mills** College of Holy Cross

161A **1628** Energy-Efficient Color Manipulation **J. Zerkowski, R. Malampy, D. Wilson** Northeastern University

SMART Teams

1A **2278** The Retinoblastoma Protein: a (pRb)omising solution for inhibiting tumorigenic growth **J. Greig, B. Woo, S. Benibo, L. Shen, A. Mulugeta, E. Kao, S. Sakuraba, M. Moreno** Ashbury College

12B **2279** Tick-Talk: α-Gal Gives You an Allergic Shock **J. Greig, K. Bai, B. Dolan, L. Dolan, E. Peacock, W. Trainor, H. Vermeij, M. Zhang, E. Lui** Ashbury College

13A **2280** Time To Be Knowledgeable In TTBK1 **J. Greig, D. Hao, E. Liang, L. Liu, A. Shi, A. Wang, W. Zheng, E. Lui** Ashbury College

25B **2296** Modeling the hydrophobic interactions of the CD19 and scFv binder FMC63 interface **J. Replogle, K. Suder, S. Carazo, M. Curran, Z. Kamran** Summit Country Day School

26A **2320** Broken PKC – Understanding Cancer **A. Fassler, N. Gonugunta, W. Jepsen, K. Rens, C. Winder, K. Winder** School District of Marshfield

39B **2339** The Role of an Intermediate Conformation of SHP2 in the MEK Pathway of KRAS-Driven Cancers **D. Shannon, G. Poetker, D. Kaplan, W. Gruber, E. Pease, B. McCloud, J. Allen, C. Connolly, J. Diao** Archbishop Moeller High School

40A **2381** The role of RPS25 in C9orf72-related amyotrophic lateral sclerosis **T. Link, A. Roundhill, A. Chadha, L. Chen, A. Kchao, S. Kurtze** Walton High School

53B **2382** Role of the NLRP3 inflammasome in fibrosis **T. Link, D. Raguram, J. Ding, N. Kumar, S. Kusanagi, N. Roundhill, A. Wolfe-Tham** Walton High School

54A **2383** Structural analysis of the IRE1α-Sec61-Sec63 complex and its effects on IRE1α activity during ER stress **T. Link, V. Murugesan, A. Bennett, J. Bishara, V. Maselle, D. Mehru, E. Varghese** Walton High School

68B **2385** The role of the ALK1 protein in vascular disease and potential targetability in crohn's disease **T. Link, A. Ray, J. He, T. Ghewde, J. Kaur, S. Manikkoth, J. Patel** Walton High School

69A **2386** The role of Hsp90 and its accompanying co-chaperones in the folding of proteins and progression of neurodegenerative diseases **T. Link, S. Meka, S. Agasthi, N. Enneti, M. Gunduboina, J. Old, S. Singh** Walton High School

82B **2401** The role of the A53T mutation in the aggregation mechanism and prion-like propagation of human alpha-synuclein in Parkinson's **Y. Kohut, K. Mygushchenko, L. Kwan, M. Zhao** Chicago Public Schools

83A **2404** The Relationship Between Acetylcholinesterase and Acetylcholine and its Contribution to Alzheimer's Disease **F. Grover, H. Alam, N. Coffey, K. Robledo** Chicago Public Schools

96B **2411** Relationship between Opioid Receptors and Naloxone **N. Gonzalez, A. Galindo Reynoso, D. Kassou, D. Gonzalez Rosales** Lincoln Park High School

97A **2436** Molecular Interactions of SERT and Escitalopram in Serotonin Modulation **K. Alex, Y. Zhao, X. Ding, L. Fayzullaeva, A. Ge, M. O'Donnell, C. Shen** Science Department, Governor's Academy

110B **2437** Neuroplasticity in Alzheimer's Treatment: The Impact of Psychedelic-Induced TrkB Activation **K. Alex, E. Cabalona, M. Amchislavskiy, P. Neff, C. Silver, D. Williamson, C. Wang** Science Department, Governor's Academy

111A **2439** The Good, the Bad, and the Ugly of Chemokines: Inhibiting CXCR4 to Stop Metastasis of Human Cancers **S. Strandberg, C. Desjarlais, I. Hilander, K. Mark, A. O'Brien, H. Pollock, E. Wurtzbacher** Divine Savior Holy Angels High School

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124B **2456** For a Few Dollars More: Treatment of Metastatic Head and Neck Cancers with Dimerized CXCL12 **S. Strandberg, D. Basurto-Sil, A. Diaz, E. Jankowski, A. Leh, J. Marsho, S. Strandberg** Divine Savior Holy Angels High School

125A **2475** Quantifying the Repression and Induction of LacI/GalR Chimeric Proteins **C. Elniff, C. Gray, S. Bock, P. Pandi, T. Kaur** Olathe North High School

138B SMART Teams -- Introducing students to the community of science. **H. Ryan, M. Hoelzer, M. Arnholt, T. Herman** 3D Molecular Designs

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2024 ASBMB Undergraduate Poster Competition

American Society for Biochemistry and Molecular Biology
Discover BMB | 2024
SAN ANTONIO | MARCH 23–26

Featured undergraduate events

We encourage you to review the full program in your app to add any sessions you are interested in. This is a short selection of programming that may be of interest to undergraduate students. Please check the DiscoverBMB 2024 app for the most accurate event postings and for other events that may interest you.

Saturday, March 23

10:30–11 a.m. **Undergraduate student orientation**
Get the most out of your DiscoverBMB experience, learn fun things to do at the meeting, get to know other undergraduates and start building your professional network. Attendance is on a first-come, first-serve basis.
Hemisfair ballroom C1

11 a.m.–3:30 p.m. **Undergraduate Poster Competition**
Advance selection is required for competitors. Others are welcome to attend. The competition itself begins at 12:00pm.
Stars at night ballroom 2-4

6:30–8 p.m. **Welcome Reception**
The MAC Welcome Reception marks the commencement and celebration of #DiscoverBMB - all attendees are encouraged to join in the festivities.
Exhibit Hall 4A

Sunday, March 24

1:50–3:20 p.m. **ASBMB William C. Rose Award for Exemplary Contributions to Education lecture and session**
Announcing the winners of the undergraduate poster competition and inductees of the ASBMB Honor Society.
Hemisfair ballroom C2-3

3:20–4:20 p.m. **Undergraduate student careers workshop: Speed networking**
Meet professionals from a wide range of career paths with a background in science. Attendance is on a first-come, first-serve basis.
Hemisfair ballroom C1

Monday, March 25

8–9 a.m. **Graduate student and postdoc career program: Marketing your skills for industry**
In this session, biotech and pharma recruiters will discuss strategies for job seekers to market themselves for transitioning to industry.
Hemisfair ballroom C1

2:30–2:50 p.m. **How to prepare for your dream graduate school**
This talk will take place in the Career Hub in the Exhibit Hall and will discuss preparation for graduate school from someone who has a perspective on the graduate admissions process.
Career Hub, Exhibit Hall 4A

3–3:20 p.m. **How to maximize your gap year(s) before medical school or graduate school**
This talk will take place in the Career Hub in the Exhibit Hall and discuss the gap year experience from a medical student who did a gap year before beginning medical school.
Career Hub, Exhibit Hall 4A

Tuesday, March 26

8–9:00 a.m. **Graduate student and postdoc career program: Academic career, is it for me?**
Embark on an insightful journey into academia with our panel discussion, focusing on diverse aspects of pursuing a career in faculty positions. Our panelists, representing various stages in their academic journeys, will share personal experiences and insights.
Hemisfair ballroom C1

7:30–10 p.m. **Closing reception at the LDR/Grotto**
Elevate your #DiscoverBMB experience by joining us for an extraordinary evening at the San Antonio Convention Center's Grotto — right on the enchanting river walk. Advance registration is required.
Grotto

Other exciting events to look forward to can be found on our website, such as these career-development events. Be sure to use the DiscoverBMB app (download at the Google Play or Apple app store) for other opportunities and accurate times and locations.

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Acknowledgements

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Butler University

Odutayo Odunuga
Stephen F. Austin State University

Phillip A. Ortiz
The State University of New York

And to our lead judges and roving judges

Michael Pikaart – lead judge
Hope College

Paul Craig – lead judge
Rochester Institute of Technology

Walter Novak – lead judge
Wabash College

Marilee Benore – lead judge
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Orla Hart – roving judge
Purdue University

Regina Stevens-Truss – roving judge
Kalamazoo College

Thank you as well to the wwPDB Foundation for sponsoring a prize in the category of Proteins – Synthesis, Structure, Modifications and Interactions – Y

The ASBMB would finally like to thank the 2024 Undergraduate Poster Competition graduate and professional school exhibitors.

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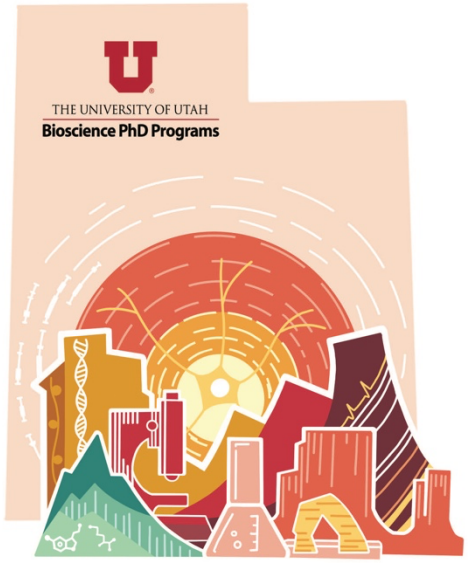

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