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

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.

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.”

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.
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.

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.

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.

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.

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.

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.

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!
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, minor 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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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
2024 ASBMB Undergraduate Poster Competition

Undergraduate travel award recipients
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 Kewsani  
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
2024 ASBMB Undergraduate Poster Competition

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
Anita Nguyen
Kevin Nguyen
Paul Nguyen
Aden Patel
Rani Patel
Tarianna Patel
Suhas Patil
Richard Pham
Deborah Reece
Noor Abdelfatah Shalan
Ansley Simmons
Jack Spedale
Cheyenne Strickland
Anna Taylor
Justin Taylor
Brendon Turner
Gwyneth Vogler
Franshea Williams
Jaden Williams
Noah Woodfin
2024 ASBMB Undergraduate Poster Competition

Faculty travel award recipients
## 2024 ASBMB Faculty Travel Award Recipients

<table>
<thead>
<tr>
<th>Name</th>
<th>Institution</th>
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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  
Allegeny College

99B 1643 Monitoring β2m Aggregation Kinetics in vitro  
A. Nelson, J. Richardson  
Atlanta 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.  
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 elf3 on the ribosome and across the proteome  
S. Noorwez, A. Aziz, C. Echeverria Aitken  
Vassar College

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<td>104A 1782</td>
<td>Characterization of Conjugative Proteins from Salmonella Typhimurium pCU1</td>
<td>J. Norman, K. McLaughlin</td>
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<td>104B 2043</td>
<td>The Role of Palmitoylation in DNA Damage Repair in Ovarian Cancer</td>
<td>J. Novak, S. Pickett, S. Kidambi, E. Chilton, A. Burquest, D. Bolland</td>
<td>University of Minnesota – Morris</td>
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<td>105A 1936</td>
<td>Glucocorticoid Receptor Mediated DNA Repair Mechanisms in Human Corneal Epithelial Cells</td>
<td>E. O'Neill, M. Kadmiel, S. Masse</td>
<td>Allegheny College</td>
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<td>105B 2142</td>
<td>Exploring whether Succinate is a Novel Allosteric or Orthosteric Activator of Malate Dehydrogenase</td>
<td>S. Olszanowski, J. Bell, E. Bell</td>
<td>University of San Diego</td>
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<td>106A 1492</td>
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<td>J. Omiya, D. Nguyen, S. Mitchell</td>
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<td>Modeling Calcium Binding to Yersinia pestis Type III Secretion Needle</td>
<td>K. Olszewski, P. Prasanna, C. Movva, J. Torruellas Garcia, E. Schmitt</td>
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<td>106C 1955</td>
<td>Expression of hERG, a voltage-gated K+ channel alpha-subunit, is affected by combinatorial phosphorylation in the HEK-293 model system</td>
<td>A. Padilla Aguilar, L. Darling</td>
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<td>107A 1609</td>
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<td>The neural pathway for internal bias and sensory information interaction in decision making</td>
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<td>Understanding the Secretion of a Toxic Protein</td>
<td>K. Phelps, D. Grilley</td>
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<td>108B 1371</td>
<td>Wwml is a possible substrate of Rsp5 E3 ubiquitin ligase</td>
<td>A. Pandey, R. Nyunoya, S. Walsh</td>
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<td>109A 1880</td>
<td>Traditional herbal product, Shankhapushpi, as a neuroprotective agent</td>
<td>C. Paliakkara, M. Moreira, S. Chakraborty, T. Chakraborty</td>
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<td>109B 1352</td>
<td>The Proteostasis Regulator PC7 promotes the forward trafficking of NMDA receptors containing the pathogenic GluN1_S688Y variant</td>
<td>A. Palumbo, T. Benske, Y. Wang, T. Mu</td>
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<td>110A 1955</td>
<td>Expression of hERG, a voltage-gated K+ channel alpha-subunit, is affected by combinatorial phosphorylation in the HEK-293 model system</td>
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<td>111B 1378</td>
<td>A general method for the development of quantitative biosensors enables the measurement of free Neddi M. K. Park, Z. Davis, T. Oren, T. Hartley, A. Umphlett, J. Monahan, K. Light, K. Hunter, Y. Choi</td>
<td>Black Hills State University</td>
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<td>Progress Toward the Development of a Nanobody Binder of a Pathogenic Moonlighting Protein</td>
<td>I. Patel, J. Patel, R. Beyers, I. Patel, C. Streu</td>
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<td>112B 1491</td>
<td>Identification of the binding residues on CYP3A4 to Naringin using Protein Modelling and Docking</td>
<td>V. Patel, S. Ananthula, P. Shah, E. Schmitt Lavin, A. Sikora</td>
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<td>113A 1866</td>
<td>Structural Characterization of TonB3 (BT1668) from Bacteroides thetaiotaomicron</td>
<td>P. Patel, R. Pollet</td>
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<td>113B 1809</td>
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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


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


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. Echeverria 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


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. Rohinman, D. Eyler, J. Jones, K. Koutmou Albion College


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 P. Schram, A. ONeil Wesleyan University


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 I. Y. Simsek, L. Allison, V. Roggero College of William and Mary

134A 1228 Optimizing UNH Inhibitors via Phenyl Pyrrolidinol and Pyridyl Pyrrolidin 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 TCI/Rh0j and Coronins M. Smith, A. Grigoryants, B. Lund, B. Larocque, M. Hamann Bemidji State University
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


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

The first number is the poster board number. The second number is the DiscoverBMB abstract number.
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 Schizopyllum 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 2171 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. Videa, 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. Yu, 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. 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


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

The first number is the poster board number. The second number is the DiscoverBMB abstract number.
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

IA 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


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


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. Ghevde, J. Kaur, S. Manikoth, 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


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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
2024 ASBMB Undergraduate Poster Competition

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.
Acknowledgements
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Kathleen Cornely, Chair  
*Providence College*

Joe Chihade  
*Carleton College*

Laura de Lorenzo Barrios  
*University of New Mexico*

Jeremy Johnson  
*Butler University*

Odutayo Odunuga  
*Stephen F. Austin State University*

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*The State University of New York*

And to our lead judges and roving judges

Michael Pikaart – lead judge  
*Hope College*  
Kimberly Dickson – roving judge  
*Lawrence University*

Paul Craig – lead judge  
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Joseph Provost – roving judge

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Regina Stevens-Truss – roving judge

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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.