



Beckman *Symposium*



ARNOLD & MABEL

BECKMAN
FOUNDATION

July 31 - August 2, 2025
Irvine, California

beckman-foundation.org/annual-beckman-symposium

Transportation & Travel Notes

THURSDAY, JULY 31

Shuttle from John Wayne Airport (SNA) to Hyatt Regency Irvine - 7/31

- A shuttle service will be available on **July 31 from 9 AM to 4 PM** for guests arriving at John Wayne Airport (SNA).
- The shuttle will pick up passengers curbside by the John Wayne Statue, located on the Arrival (lower) Level between Riley Terminals A and B baggage claim areas. The shuttle will run approximately every 30 minutes.
- It is approximately a 10-minute drive between SNA and the Hyatt Regency Irvine.
- This is the only transportation provided by the Foundation to the hotel. Please note the day's shuttle schedule, shown at right:

Arrives SNA	Departs SNA
9:00 am	9:05 am
9:00 am	9:30 am
9:30 am	10:00 am
10:00 am	10:30 am
10:30 am	11:00 am
11:00 am	11:30 am
11:30 am	12:00 pm
12:00 pm	12:30 pm
12:30 pm	1:00 pm
1:15 pm	1:30 pm
1:45 pm	2:15 pm
2:15 pm	2:45 pm
2:45 pm	3:15 pm
3:15 pm	3:45 pm
3:45 pm	4:00 pm

For any travel disruptions on 7/31 (e.g., canceled or missed flights):

- First, contact your airline to rebook.
- Please also notify the Foundation of your changes, or contact us if additional help is needed: (949) 531-0400 | symposium@beckman-foundation.org

Hyatt Regency Irvine:

17900 Jamboree Road, Irvine, CA 92614



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Transportation

SATURDAY, AUGUST 2 & SUNDAY, AUGUST 3

Shuttle from Hyatt Regency Irvine to John Wayne Airport (SNA) - 8/2

- A shuttle service will be available on **August 2 from 3 PM to 7 PM** for guests departing from Hyatt Regency Irvine headed for John Wayne Airport (SNA).
- The shuttle will pick up passengers at the hotel lobby/valet area.
- It is approximately a 10-minute drive between the Hyatt Regency Irvine and SNA.
- This is the only transportation provided by the Foundation to the airport. Please note the day's shuttle schedule, shown at right:

Arrives Hyatt Regency	Departs Hyatt Regency
3:00 pm	4:00 pm
5:00 pm	5:15 pm
5:45 pm	6:00 pm
6:30 pm	6:45 pm

Shuttle from Hyatt Regency Irvine to John Wayne Airport (SNA) - 8/3

- Similarly, a shuttle service will be available on **August 3 from 9 AM to 1 PM** for guests departing from Hyatt Regency Irvine headed for John Wayne Airport (SNA).
- The shuttle will pick up passengers at the hotel lobby/valet area.
- It is approximately a 10-minute drive between the Hyatt Regency Irvine and SNA.
- This is the only transportation provided by the Foundation to the airport. Please note the day's shuttle schedule, shown at right:

Arrives Hyatt Regency	Departs Hyatt Regency
9:00 am	9:15 am
9:45 am	10:00 am
10:30 am	10:45 pm
11:15 am	12:00 pm
12:30 pm	12:45 pm

Hyatt Regency Irvine:

17900 Jamboree Road, Irvine, CA 92614



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Travel Notes

FOR POST-EVENT TRAVEL DISRUPTIONS

We understand travel disruptions can be stressful, and we're here to support you. In the event of a flight delay or cancellation, the Foundation will cover associated costs. Please notify us, keep all receipts, and submit a reimbursement request by August 8th.

If you experience a travel disruption:

- Flight Delayed or Canceled:
 1. Contact your airline to rebook.
 2. If unsuccessful, call Egencia at (312) 741-6713 for assistance.
- Hotel Accommodations:
 1. In Irvine: Extend your stay at Hyatt Regency Irvine; charge to the AMBF master bill or self-pay if needed.
 2. Outside Irvine: Book a nearby airport hotel and self-pay.
- Meals:
 1. The Foundation will reimburse food expenses up to \$75/day. Please self-pay.
- Notify Us:
 1. Email any changes or issues to symposium@beckman-foundation.org and cbryant@beckman-foundation.org.

You are fully empowered to take necessary steps to ensure safe rebooking or accommodation. Please reach out with any questions—we're here to help!



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Event Agenda

THURSDAY, JULY 31

10am	Registration Table Opens - <i>Regency Foyer</i>
10am-3pm	Hospitality Suite Accessible - <i>Shady Canyon</i>
12pm-2pm	Boxed Lunch Available - <i>Registration Area</i>
3pm-4:15pm	BYI + AOB Postdoc Networking - <i>Saddleback + Saddleback Terrace</i> Instrumentation Roundtable - <i>Think Tank</i> Beckman Jeopardy for BSP - <i>Regency ABC</i>
4:30pm-5:30pm	Happy Hour (optional) - <i>Patio</i>
5:30pm-7pm	Dinner - <i>Pavilion</i>
7pm-9pm	Post-dinner Lawn Games - <i>Lawn</i>

Day One

**SUPPORTING YOUNG SCIENTISTS TODAY
FOR TOMORROW'S BREAKTHROUGH DISCOVERIES**

Event Agenda

FRIDAY, AUGUST 1

8am-9am	Breakfast Buffet - <i>Pavilion</i>
9:15am-10:15am	Keynote Speaker - <i>Regency ABC</i>
10:15am-10:45am	Coffee Break - <i>Regency Foyer</i>
10:45am-12pm	Breakout Session I • Best Practices in Mentoring (BYI) - <i>Theater</i> • Applying to Academia + Industry (AOB Postdoc) - <i>Saddleback ABC</i> • Career Trajectory (BSP) - <i>Regency ABC</i>
12pm-1:15pm	Lunch - <i>Pavilion</i>
1:15pm-3:15pm	Plenary I - <i>Regency ABC</i>
3:15pm-3:30pm	Afternoon Break - <i>Regency Foyer</i>
3:30pm-4:30pm	Breakout Session II • Lab Operations 101: From Setup to Success (BYI + AOB Postdoc) - <i>Theater</i> • Creating a CV and Securing Letters of Recommendation (BSP) - <i>Regency ABC</i>
4:45pm-6:45pm	Poster Session I + Reception - <i>Regency DE</i>
7pm-8pm	Dinner - <i>Pavilion</i>
8pm-8:30pm	Group Photos
8pm-10pm	Post-dinner Lawn Games - <i>Lawn</i>

Day Two

**SUPPORTING YOUNG SCIENTISTS TODAY
FOR TOMORROW'S BREAKTHROUGH DISCOVERIES**

Event Agenda

SATURDAY, AUGUST 2

7:45am-8:45am	Breakfast Buffet - <i>Pavilion</i>
9am-10am	General Session - <i>Regency ABC</i>
10:15am-12:15pm	Poster Session II - <i>Regency DE</i>
12:15pm-1:15pm	Lunch - <i>Pavilion</i>
1:30pm-3:30pm	Plenary Session II - <i>Regency ABC</i>
3:30pm-3:45pm	Appreciation Awards and Closing Remarks - <i>Regency ABC</i>

Day Three

**SUPPORTING YOUNG SCIENTISTS TODAY
FOR TOMORROW'S BREAKTHROUGH DISCOVERIES**

Instrumentation Roundtable

ANNE HULTGREN, PHD

EXECUTIVE DIRECTOR & CEO
SESSION LEAD



This session for instrumentation grantees features a roundtable discussion on strategies and challenges related to data collection, storage, and analysis.

Beckman Jeopardy

**WITH BSP WELCOME INTRODUCTION
BY CAROLYN ANDERSON, PHD**

BRIAN GOESS, PHD & ANDREA TARTARO, PHD



12 categories. 60 clues. Three Daily Doubles and a high-stakes *Final Jeopardy!* round. For over 10 years, Beckman Scholars have battled it out to determine which region of the country - East, Central, or West - has what it takes to become the reigning Beckman Jeopardy! champions. This year, the West team tries to defend its title while past champions East and Central look to unseat them. Join dozens of your fellow Scholars in this fast-paced competition that tests your knowledge of chemistry, the Beckman legacy, and more. Prizes are awarded to the winning team, because bragging rights aren't permitted in carry-on luggage.

Keynote Speaker

“STRUCTURAL NANOMEDICINE: BLUEPRINTS FOR BETTER DRUGS”

CHAD MIRKIN, PHD



About the Talk: Spherical nucleic acids (SNAs) are unique nanostructures composed of spherical nanoparticle cores densely packed with highly oriented oligonucleotides on their surfaces. Unlike other forms of nucleic acids, SNAs have no natural counterparts and exhibit distinct interactions with biological systems. These structural properties facilitate efficient cellular uptake, positioning SNAs as powerful tools for diagnostics, gene regulation and editing, and vaccine development. In fact, they form the basis of seven lead compounds currently being explored in clinical trials for treating diseases such as glioblastoma, Merkel cell carcinoma, squamous cell carcinoma, psoriasis, and various neurological disorders.

The modularity of SNA architecture has advanced the field of structural nanomedicine, where nanomedicines are defined not only by the identity of their active components but also by their structural arrangement and chemical connectivity. This approach has proven effective in the design and synthesis of highly potent SNA vaccines for multiple cancers and infectious disease. Importantly, in these studies, SNAs demonstrated minimal cytotoxicity, making them attractive candidates for medicinal applications. These advances reflect over three decades of progress in nanomedicine, highlighting the transformative impact SNAs have had on our understanding, tracking, and treatment of diseases, as well as their significance for science and society.

About the Speaker: Chad A. Mirkin, PhD is the Director of the International Institute for Nanotechnology and the Rathmann Professor of Chemistry and Medicine at Northwestern University. He is known for his invention and development of spherical nucleic acids and Dip-Pen Nanolithography and related cantilever-free nanopatterning and materials discovery methodologies. He has authored >880 papers and >1,200 patents worldwide (>430 issued) and founded ten companies. Prof. Mirkin has been recognized with over 250 national and international awards including the Wilhelm Exner Medal, the Dan David Prize, the National Academy of Sciences Sackler Prize in Convergence Research, the Kavli Prize, and the King Faisal Prize from the Kingdom of Saudi Arabia. He served for eight years on the President's Council of Advisors on Science & Technology, and he is one of very few scientists to be elected to all three US National Academies. Mirkin has served on the Editorial Advisory Boards of over 30 scholarly journals.

Session Moderator: Andrew Lyon, PhD



Best Practices in Mentoring

“DEVELOPING A PERSONAL PHILOSOPHY
AND PLAN FOR IMPACTFUL MENTORING”

BERONDA MONTGOMERY, PHD



About the Talk: Mentoring is often positioned as the transfer of information from an experienced, senior individual (or mentor) to a junior, inexperienced individual (or mentee). Implicit in this description are the ideas that at the core of mentoring is a process of teaching – to guide, instruct and train – and that mentoring may largely be a one-way flow of information. Increasingly, however, mentoring is being understood as a process best facilitated through a bilateral exchange and flow of knowledge and learning between individuals in a mentoring exchange. In this evolving conceptualization and practice of mentoring, both mentor and mentee are positioned as learners and teachers. In this presentation, I explore effective means of cultivating mentoring as a place of collaborative learning and reciprocal cultivation, that promotes the growth and success of all involved in the mentoring process.

About the Speaker: Beronda L. Montgomery, PhD is writer, science communicator, and researcher. She has spent 20 years in academia, most recently as Vice President for Academic Affairs/Dean and Professor of Biology at Grinnell College. Prior to that she was an endowed Professor of Biochemistry and senior administrator, including Assistant Provost of Faculty Development and Associate Vice President of Research and Innovation, at Michigan State University (2004-2022). As a researcher, Dr. Montgomery studies how individuals perceive, respond to, and are impacted by environments in which they exist. Her laboratory-based research efforts are focused on the responses of photosynthetic organisms to external light and nutrient cues. Additionally, Dr. Montgomery pursues this theme in the context of effective mentoring and academic leadership. Dr. Montgomery is Fellow in multiple organizations including American Academy of Microbiology (2018), AAAS (2020), American Society of Plant Biologists (2021) and ASBMB (2022).

Session Moderator: David Forbes, PhD



Best Practices in Mentoring

“MENTEES - A PRIVILEGE, NOT A RIGHT”

DOUGLAS ROBINSON, PHD



About the Talk: In this presentation, we will discuss the importance of mentoring and how responsible communication ensures a positive environment, pursuit of quality, responsible science, and promotes a culture of truth seeking. At the same time, having mentees is a privilege, not a right. Both mentors and mentees invest time in each other such that we all have responsibility for each other's success. Therefore, we will discuss what mentees and mentors must bring to the table to define and achieve their shared goals, including accomplishing the science while ensuring that all are able to pursue their career aspirations.

About the Speaker: Douglas Robinson is a Professor of Cell Biology at Johns Hopkins School of Medicine. In his research, he investigates how cells control their shapes for normal human health. His lab uses a model organism *Dictyostelium* to discover fundamental concepts and then applies these insights to human diseases, including cancer and lung disease. To date, he has had 108 trainees come through his lab, and the 108 includes 78% women and 31% Underrepresented in Science. Doug's lab has also built an outreach initiative for high school students from low-income and educationally under-resourced backgrounds. Now, Doug and his colleagues have expanded the effort by creating a pathway program called the Johns Hopkins Initiative for Careers in Science and Medicine (CSM), which includes programs for 5th grade, high school, undergraduate, and postbaccalaureate scholars. The CSM has now served over 700 scholars and has had scholars matriculate into undergraduate and graduate programs all over the country.

Session Moderator: David Forbes, PhD

Best Practices in Mentoring

“COLLECTIVELY REIMAGING ACADEMIC TRAINING”

FATIMA SANCHEZNIETO, PHD



About the Talk: Amid the pressures of our current academic system, we are seldom invited and given the time to reflect on, re-envision, and re-imagine what academic research education and training might look like in the future. In this short talk, Dr. Sancheznieto will review some key data on graduate and postdoctoral training, mentoring, and the academic enterprise, and will invite the audience to recognize where our collective power and potential are for driving change within our spaces.

About the Speaker: Fátima Sancheznieto, PhD is a researcher at the Institute for Clinical and Translational Research (ICTR) at UW - Madison. She is a Co-Investigator of the NRMN Coordination Center grant as well as the lead evaluator of the Howard Hughes Medical Institute (HHMI) portfolio at the Center for the Improvement of Mentored Experiences in Research (CIMER). In her experience as an evaluator and researcher, Fátima is interested in the development, implementation, and testing of career and professional development initiatives for early career researchers (ECRs) from the graduate student to junior faculty level. As a trans, neurodivergent, and latina scientist, she works toward the empowerment of ECRs in their training environments and mentoring relationships. She also sits on the Mentorship, Wellbeing, and Career Development roundtable at the National Academies of Science, Engineering, and Mathematics.

Session Moderator: David Forbes, PhD



Applying to Academia + Industry

“APPLYING TO ACADEMIA”

HERDELINE ANN M. ARDOÑA, PHD



About the Talk: This presentation covers a brief introduction to the job application process for faculty positions. The components of an academic job application and the timeline of the process will be discussed, as well as the differences between institutions and STEM-related fields. Some insights about practices that lead to successful offers in academia will also be shared.

About the Speaker: Herdeline Ann M. Ardoña is originally from Valenzuela City, Philippines. She received her B.S. in Chemistry (summa cum laude) from the University of the Philippines Diliman in 2011. In 2017, she completed her Ph.D. in Chemistry at Johns Hopkins, with fellowship support from Schlumberger Foundation and Howard Hughes Medical Institute. She then moved to Harvard University as an ACS Irving S. Sigal Postdoctoral Fellow in the Disease Biophysics Group at the Wyss Institute for Biologically Inspired Engineering and John A. Paulson School of Engineering and Applied Sciences. Currently, she is an Assistant Professor at the UCI Department of Chemical and Biomolecular Engineering, with joint appointments at the Department of Chemistry and Department of Biomedical Engineering. She is also a core member of the UCI Stem Cell Research Center and an affiliate of the UCI Cardiovascular Innovation and Research Center. She is a recipient of an NSF CAREER and Society of Hellman Fellowship.

Session Moderator: Natalia Shustova, PhD



Applying to Academia + Industry

“APPLYING TO ACADEMIA/INDUSTRY”

ARIEL FURST, PHD



About the Speaker: Ariel L. Furst is the Cook Career Development Professor of Chemical Engineering at MIT. Her lab combines biological, chemical, and materials engineering to solve challenges in human health and environmental sustainability. They develop technologies for implementation in low-resource settings to ensure equitable access to technology. She completed her Ph.D. in the lab of Prof. Jacqueline K. Barton at the California Institute of Technology developing new cancer diagnostic strategies based on DNA charge transport. She was an A. O. Beckman Postdoctoral Fellow in the lab of Prof. Matthew Francis at UC, Berkeley developing sensors to monitor environmental pollutants. She is the recipient of the NIH New Innovator Award, the NSF CAREER Award, and the Dreyfus Teacher-Scholar Award. She is passionate about STEM outreach and increasing participation of underrepresented groups in engineering.

Session Moderator: Natalia Shustova, PhD



Applying to Academia + Industry

“NAVIGATING THE INDUSTRY JOB MARKET: STRATEGIES FOR SUCCESS IN APPLICATIONS AND INTERVIEWS”

STEVEN CHAPMAN, PHD



About the Talk: As a previous AOB postdoctoral fellow who applied for both academic and industry positions, I hope to provide some insights on your upcoming career decisions and applications. During my presentation, I'll be focusing on navigating the job search in industry and suggesting tips to create a strong application tailored toward industry positions. The application processes between academic and industry positions are notably different, so I will share some key considerations for writing a research summary that will stand out for the industry job search.

About the Speaker: Steven completed his B.S. in chemistry at the University of Kentucky in 2016 working with Prof. Susan Odom. He joined the University of Wisconsin–Madison and completed his Ph.D. working with Prof. Tehshik Yoon in 2021. His graduate research focused on the development of enantioselective cycloadditions of vinyl pyridines and investigating mechanistic features of excited-state photocatalytic reactions. Steven moved to Northwestern University in 2022 to work with Prof. Julia Kalow as an Arnold O. Beckman Postdoctoral Fellow, where he was engaged in the study and characterization of dynamic polymer networks to understand the impacts of chemical changes to bulk viscoelastic properties. Steven joined AbbVie in 2024 as part of the antibody drug conjugate development team supporting pre-clinical programs. In his free time, Steven enjoys CrossFit, running, pickleball, tennis, and searching for excellent coffee.

Session Moderator: Natalia Shustova, PhD



Career Trajectory Panel

“PHD ACQUISITION: CONSIDERATIONS AND METHODS”

SAM DAVIDSON, PHD



About the Talk: After obtaining a bachelor's degree in a STEM-related field, one must carefully weigh future career options. A researcher's goals and interests will determine whether to pursue a PhD. Once that decision has been made, a closely related procedure should determine where to apply. Nothing is more key to success than one's research environment, and the process of choosing a group to join takes place across many stages: before applying, during interviews, and through rotations (or by switching groups during the first year or two of grad school). A high-quality advisor and lab group will provide all remaining support and advice needed to succeed.

About the Speaker: Dr. Sam Davidson is a biotechnology researcher who defended their PhD thesis in October of 2024. Their doctoral research focused on engineering DNA nanotechnology; specifically, they built molecular computing systems using DNA as a signal and as a material. Sam grew up in the northern suburbs of Chicago, IL, where they developed a strong interest in bioengineering in high school. As an undergraduate at Northwestern, they developed a new platform for cell-free protein expression derived from the fast-growing bacterium *Vibrio natriegens*. In 2020, Sam took a brief sabbatical from their doctoral work to pursue a research internship with Capsida Biotherapeutics, a gene therapy startup targeting the central nervous system. Sam aims to advance biotechnology by combining approaches from typically isolated subfields and by building connections between academia and industry.

Session Moderator: Joseph Jez, PhD

Career Trajectory Panel

“BSP CAREER TALKS”

ANDREA BOOTSMA, PHD



About the Talk: As the field of Artificial Intelligence continues to make breakthroughs there is growing interest as to how these new techniques can be applied in the area of drug discovery. There is also a need for people who can communicate across disciplines and have deep understanding of the scientific challenges and data types. I will share my journey moving from academic research in computational organic chemistry to leading a team of computer aided drug discovery scientists using AI to tackle challenging problems alongside medicinal chemists, structural biologist and software engineers.

About the Speaker: Andrea leads the computer-aided drug design team at Genesis. Prior to Genesis, Andrea was a Senior Principal Scientist at Pfizer where she worked on the Inflammation & Immunology Medicine Design team and contributed to the identification of two clinical candidates and supporting a wide variety of early discovery programs. Andrea obtained her PhD in Computational Chemistry from the University of Georgia where she studied noncovalent interactions using OFT as a member of the Wheeler Research Group.

Session Moderator: Joseph Jez, PhD

Career Trajectory Panel

“FROM ACADEMIA TO NON-PROFIT:
TRANSFERABLE SKILLS AND EXPERIENCES”

CARLA MADELAIRE, PHD



About the Talk: Transitioning from academia to the non-profit sector offers the opportunity to apply scientific expertise to real-world challenges. In this presentation, I will share my journey from a background in wildlife ecophysiology to my current role as a conservation scientist at the San Diego Zoo Wildlife Alliance. I contribute to advancing wildlife conservation by leveraging transferable skills I gained through academic research and international experiences across South America, Africa, and North America. By highlighting the interdisciplinary nature of my career, I will provide insights into how having diverse experiences can prepare you to not be limited by academic research and pursue any working sector you might wish. This talk will also explore the importance of adaptability, collaboration, and innovation in bridging academic knowledge with impactful, mission-driven outcomes.

About the Speaker: Dr. Carla Madelaire is a biologist and physiologist specialized in wildlife ecophysiology. As a conservation scientist at a non-profit organization - the San Diego Zoo Wildlife Alliance, she plays a pivotal role in advancing wildlife conservation through innovative research utilizing cells and biobanking initiatives. Originally from Brazil, Dr. Madelaire has lived and worked across South America, Africa, and North America, contributing to diverse projects that span a wide array of techniques and levels of biological organization.

Session Moderator: Joseph Jez, PhD

Plenary Session 1

BIO/CHEM TALKS

BALYN ZARO, PHD

“The Remarkable Cell Surface of Macrophages”



BEAU ALWARD, PHD

“Developing a cichlid fish as a genetically tractable model of social behavior”



JAEHYEOK JIN, PHD

“Bottoms Up! Pouring Molecular Insights into Multiscale Modeling”



RY PAPADOPOULOS

“The Characterization of Disordered Graphitic Carbon Electrodes”



NICOLAS PÉGARD, PHD

“Behind the Seen: When microscopes capture data, not images.”



Plenary Session 1

BIO/CHEM TALKS

JILL W. ALTY, PHD

“Synthetic Mucins as Microbial Curators”



MARGARET BYRON, PHD

“Fluid dynamics of flexibility: robots, lasers, jellies”



BRETT A. MCGUIRE, PHD

“New Frontiers in Cosmic Carbon”



Session Moderator: Anne McNeil, PhD



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Lab Operations 101: From Setup to Success

“PRACTICAL CONSIDERATIONS FOR NEW INVESTIGATORS”

JESSICA W. TSAI, MD/PHD



About the Talk: New laboratory investigators face the daunting task of setting up a new lab space. Scientists receive very little training in how to negotiate lab space and equipment, how to make a floor plan, and how to create sustainable lab practices for inventory and ordering. In this talk, we will discuss practical considerations for new investigators. First, I will address preparation before starting your lab including negotiating space, requesting startup, and identifying supplies/equipment needed. Next, I will review how to set up the physical space of the lab. And lastly, I will provide additional guidance on negotiating pricing with vendors and setting up systems to facilitate easy of inventory and ordering. Ultimately, identifying exactly what you need to achieve your research vision is key.

About the Speaker: Jessica Tsai is an Assistant Professor of Pediatrics at Children's Hospital Los Angeles (CHLA) and Keck School of Medicine of USC. She is a physician-scientist, and a Pediatric Oncologist Attending Physician. She completed her undergraduate degree in Biological Sciences at Stanford University with Honors in Neurobiology, and her MD/PhD (Neurosciences) in the Medical Scientist Training Program (MSTP) at Stanford. Dr. Tsai completed residency in Pediatrics at the Boston Combined Residency Program at Boston Children's Hospital and Boston Medical Center and her clinical fellowship in Pediatric Hematology-Oncology at Dana-Farber Cancer Institute. She completed her post-doctoral work at Dana-Farber as well. The Tsai Lab at CHLA seeks to identify the genomic and epigenetic drivers of pediatric brain tumors, using functional genomics, high throughput assays, and -omic approaches. Her lab's ultimate goal is to find novel dependencies and better therapies for children with brain tumors.

Session Moderator: Rae Robertson-Anderson, PhD



Lab Operations 101: From Setup to Success

“BUILDING AND MANAGING A PRODUCTIVE TEAM”

R. LUKE WISEMAN, PHD



About the Talk: Running a research laboratory is chaotic. You will be required to serve diverse and rapidly changing roles including mentor, teacher, grant writer, administrator, counselor, etc. There is no single right way deal with the constantly changing challenges of running a lab, but you can prepare yourself by understanding the diverse considerations involved in establishing your team and program. Here, I will discuss aspects of building effective teams and laboratory management that I have found to be important for success early in my career. In addition, I will discuss other aspects of lab management to help provide tools for managing the chaotic, but rewarding, life as a PI.

About the Speaker: R. Luke Wiseman is a professor in the Department of Molecular and Cellular Biology at Scripps Research. Dr. Wiseman received his undergraduate degree in chemistry from the University of Virginia and his doctorate in the lab of Jeff Kelly studying the chemical and biological basis of aggregation for the toxic amyloidogenic protein transthyretin. Dr. Wiseman then pursued postdoctoral research in the lab of David Ron at the NYU Medical School where he focused on defining the molecular mechanisms by which cells adapt to cellular stress. He was hired on faculty at Scripps Research in 2009 where his research program focuses on defining the pathologic and therapeutic implications of stress responsive signaling in etiologically-diverse diseases. Dr. Wiseman has received numerous awards for his research and mentorship, including the 2019 Scripps Outstanding Mentor Award, with trainees from his lab going on to top positions in industry and academia.

Session Moderator: Rae Robertson-Anderson, PhD



Lab Operations 101: From Setup to Success

“ADVANCING INCLUSIVE EXCELLENCE IN
HIGHER EDUCATION”

CLAUDIA A. BENAVENTE, PHD



About the Talk: This presentation explores strategies for fostering inclusive excellence in higher education, emphasizing the importance of diversity, equity, and inclusion (DEI) as foundational principles for academic success and innovation. Attendees will learn about actionable approaches to dismantling systemic barriers, creating equitable opportunities, and cultivating a supportive environment for students from diverse backgrounds. Highlighting evidence-based practices, this talk will showcase successful initiatives that promote access, belonging, and representation in the lab. By advancing inclusive excellence, we can empower individuals, strengthen institutional resilience, and enrich the educational experience for all.

About the Speaker: Dr. Claudia Benavente is a cancer biologist with expertise in genomics, epigenomics, and animal models of carcinogenesis. Her work has reshaped our understanding of tumor progression by highlighting the role of epigenetic deregulation in cancer. Her lab identified UHRF1 as a key chromatin remodeling protein in RB1-null cancers, leading efforts to translate these findings into novel therapeutic strategies. Dr. Benavente is also deeply committed to mentoring and education. As Deputy Associate Director for Cancer Research Training and Education Coordination at UCI, she leads initiatives to advance inclusive excellence in cancer research. She actively collaborates with community organizations to promote cancer awareness, particularly among underserved populations. Through her dedication to fostering the next generation of scientists and her commitment to addressing health inequities, Dr. Benavente continues to make an impact on cancer research and education.

Session Moderator: Rae Robertson-Anderson, PhD



Creating a Scientific CV + Securing Letters of Recommendation

"MASTERING YOUR CV AND THE "ASK" FOR
A LETTER OF RECOMMENDATIONS"

NICHOLAS BALL, PHD



About the Talk: How do I make a CV that stands out? How do I make sure I get the strongest letter of recommendation? This presentation will answer both of these questions and will serve as a roadmap to get getting the position you desire.

About the Speaker: Prof. Nicholas Ball grew up in Chattanooga, TN. He received his B.A. in Chemistry at Macalester College in 2005. He completed their Ph.D. in 2011 under Prof. Melanie Sanford at the University of Michigan, working with C–F and C–CF₃ bond formation from high-oxidation state palladium. In 2010, he headed to the California Institute of Technology to pursue his postdoctoral studies with Prof. David Tirrell as an NIH Postdoctoral Fellow. Prof. Ball started as an Assistant Professor at Amherst College in 2013. In 2015, Prof. Ball joined the faculty at Pomona College and is now an Associate Professor of Chemistry with tenure. His current research focuses on developing methods to make and use sulfur-based molecules that can be used for drug targets, chemical probes in biology, and material science. His lab's work involves making molecules, machine learning, and computational chemistry. His work features industrial & international collaborations and work with professors at other predominantly undergraduate institutions.

Session Moderator: Arun Sethuraman, PhD



Creating a Scientific CV + Securing Letters of Recommendation

“REC LETTER RECOMMENDATIONS”

CHRISTINA COOLEY, PHD



About the Talk: Letters of recommendation are an important component of any graduate school or professional school application. This talk aims to give an overview of key considerations and tips in the selection and management of letter writers, including who and how to ask, information recommenders need, components of strong letters and etiquette through the process, all with the goal of helping you receive the strongest possible support for your next step applications.

About the Speaker: Christina Cooley grew up in Conway, AR, where she studied chemistry and music at Hendrix College. Formative undergraduate research experiences in organic chemistry and neurobiology propelled her to a Ph.D. in organic chemistry at Stanford University with Prof. Paul Wender, followed by postdoctoral training in chemical biology at Scripps Research in San Diego with Professors Jeff Kelly and Luke Wiseman. Christina joined the Trinity University chemistry faculty in 2015, where she leads an interdisciplinary undergraduate research program that applies the power of synthetic organic chemistry to impact related fields including polymer chemistry, medicinal chemistry and biology. Current major project areas include the development of fluorogenic radical polymerization reactions as platforms for biodetection, and prodrug strategies for disease-targeted therapeutic delivery. Beyond research, she is passionate about mentoring the next generation of scientists and serving the Trinity and broader scientific community.

Session Moderator: Arun Sethuraman, PhD



Poster Sessions

PRESENTERS LISTED BY NUMBER (ALPHA BY LAST NAME) UNDER PRESENTATION DAY*

***SEE POSTER PROGRAM FOR TITLES & ABSTRACTS**

Friday Session (Odd Numbers Present)

1 Iyanuoluwa Adedokun
3 Beau Alward, PhD
5 Michael Barresi, PhD
7 Roxanne Beltran, PhD
9 Ella Bleak
11 Sarah Brown
13 Margaret Byron, PhD
15 Nolan Caile
17 Alexandria Calderon
19 Hayden Carder, PhD
21 Adrion Celey
23 Avisa Charmchi
25 Ezra Clark, PhD
27 Emily Dalley
29 Abhirup Das
31 Milan Delor, PhD
33 Dylan Domaille, PhD
35 Bryce Dye
37 Abby Eckert
39 Mohamd Elwahsh
41 Madison Foreman, PhD
43 Justine Garcia
45 Stella Garson
47 Robert Gilliard Jr., PhD
49 Nicole Gordon
51 Gabriel Grimes
53 Suman Gunasekaran, PhD
55 Matt Hannigan, PhD
57 Marcos Hendler
59 Rafal Holubowicz, PhD

Saturday Session (Even Numbers Present)

2 Jill Alty, PhD
4 Mikael Backlund, PhD
6 Eve Beeler
8 Harry Bergman, PhD
10 Charles Bou-Nader, PhD
12 Chelsea Bujak
14 Pam Cai, PhD
16 Zachary Calamari, PhD
18 Elton Cao
20 Chloe Castanon
22 Yi-Wei Chang, PhD
24 Kevin Clark, PhD
26 Jakob Dahl, PhD
28 Ahona Dam
30 Caitlin Davis, PhD
32 Grace Dodd
34 Alenka Doyle
36 Madison Eckard
38 Elizabeth Elliott
40 Benjamin Erdozain
42 Elana Frazier
44 Rebecca Gardner
46 James Gaynor, PhD
48 Mac Gilliland, PhD
50 Matthew Griffin, PhD
52 Sarah Groh
54 Dorit Hanein, PhD
56 Kylie Hartana
58 David Hershey, PhD
60 Jiaer Huang



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Poster Sessions

CONTINUED

***SEE POSTER PROGRAM FOR TITLES & ABSTRACTS**

Friday Session (Odd Numbers Present)

61 Ahmed Imami
63 Barbara Jusiak, PhD
65 Isaac Kailat
67 Sherry Khalil
69 Diana Koehler
71 Steve Kregel, PhD
73 Shasanka Lamichhane
75 Aedon Langkau
77 James Law, PhD
79 Tammy Le
81 Leanne Le
83 Chu Luo
85 Aine MacDermott
87 Micaila Marcelle
89 Isabella Martinez
91 Aaliyah Martinez-Ulloa
93 Katarina Matic
95 Jeff McNeill, PhD
97 Irving Miguel
99 Ruby Mitchell
101 Tania Morimoto, PhD
103 Tafara Nenguke
105 Renee Nicholson
107 Melanie Ohi, PhD
109 Adrian Ortiz Arevalo
111 Karina Padilla
113 Jarin Parton
115 Sam Peng, PhD
117 Daryl Preece, PhD
119 Caitlin Randolph, PhD

Saturday Session (Even Numbers Present)

62 Jaehyeok Jin, PhD
64 Allison Kaatz
66 Laure Kayser, PhD
68 Christina Kim, PhD
70 Pallav Kosuri, PhD
72 Grant Lai
74 Amber Landecho
76 Dan Laorenza, PhD
78 Sydney Lawson
80 Grace Le
82 Steven Ludtke, PhD
84 Tania Lupoli, PhD
86 Carla Madelaire, PhD
88 Aashay Mardikar
90 Harry Martinez-Santos
92 Thomas Mathew
94 Brett McGuire, PhD
96 Madison Mercado
98 Mark Mimeo, PhD
100 Andrew Modzelewski, PhD
102 Tony Mustoe, PhD
104 Kayla Nguyen, PhD
106 Astrid Noriega
108 Ayo Olanrewaju, PhD
110 Christian Oswood, PhD
112 Ry Papadopoulos
114 Nicolas Pégard, PhD
116 Lisa Poulikakos, PhD
118 Conor Pugsley
120 Ananya Ravikumar



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Poster Sessions

CONTINUED

***SEE POSTER PROGRAM FOR TITLES & ABSTRACTS**

Friday Session (Odd Numbers Present)

121 Calli Recck
123 Clorice Reinhardt, PhD
125 Paul Robinson, PhD
127 Anish Roy, PhD
129 Sanya Scharf
131 Jonathan Schultz, PhD
133 Mei Shen, PhD
135 Ava Spiegler
137 Megan Steves, PhD
139 Heidi Tarnaski
141 Michelle Teplensky, PhD
143 Samuel Thompson, PhD
145 Thao Tran Dominy, PhD
147 Emily Wang
149 Kelsie Wentz, PhD
151 Aitana Zamora Varela
153 Yingjie Zhang, PhD
155 Wilson Zheng

Saturday Session (Even Numbers Present)

122 Jishnu Reddy
124 Christa Richardson
126 Cristina Rodriguez, PhD
128 Omkar Satpathy
130 Marcel Schreier, PhD
132 Amelia Seropian
134 Grigorii Skorupskii, PhD
136 Jacob Spies, PhD
138 Farooq Syed, PhD
140 Ruya Tazebay
142 Sophia Theodossiou, PhD
144 Joel Thornton, PhD
146 Lea-Sophie Vetter
148 Gordon Wang, PhD
150 Cris Woroch, PhD
152 Balyn Zaro, PhD
154 Nina Zheng
156 Michael Zott, PhD



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General Session

“MAKE YOUR RESEARCH RESONATE:
INSIGHTS FOR SCIENCE COMMUNICATION”

CARMEN DRAHL, PHD



About the Talk: Many researchers seek to communicate their science more effectively. While it may seem appealing to simply create an Instagram account and start posting, a strategic approach grounded in the social sciences is more likely to have discernible effects. This presentation will explain some insights that researchers can consider when planning to discuss their work with non-specialists. Additionally, while media coverage is never a guarantee, this talk will outline strategies for increasing the likelihood of being approached by journalists as an expert source.

About the Speaker: Carmen Drahl, Ph.D., is an award-winning journalist and editor who oversees magazine-length projects for science and health organizations and media outlets. She most recently worked with the Science Public Engagement Partnership between The Kavli Foundation and the U.S. Department of Energy Office of Science to create a special resource summarizing five years of insights on communicating basic research. Through her freelance business, she has edited reporters on five continents and honed messages for subject matter experts. Her own journalism appears at NPR, Forbes, and elsewhere.

Before becoming an independent journalist, Carmen covered organic and medicinal chemistry for Chemical & Engineering News. She earned her Ph.D. in bioorganic chemistry with Erik Sorensen at Princeton University. She lives in Washington, D.C. with her husband and son.

Session Moderator: George O'Doherty, PhD



Plenary Session 2

BIO/CHEM TALKS

ROBERT J. GILLIARD, JR., PHD

“The Fifth Element: Molecular Design of Boron Reagents and Functional Materials”



KELSIE WENTZ, PHD

“Polymers with Functional Si-Si Bonds: Synthetic Strategies for Crosslink Incorporation”



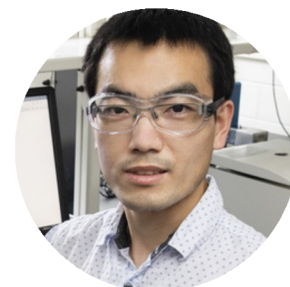
ROXANNE BELTRAN, PHD

“Successful deployment of novel acoustic recorders for eavesdropping on the ocean soundscape”



YINGJIE ZHANG, PHD

“3D Molecular Profiling in the Native Liquid Environment”



Session Moderator: Shiv Halasyamani, PhD

Plenary Session 2

BIO/CHEM TALKS

ASTRID NORIEGA

“Identifying and Characterizing Amyloidogenic Proteins in Bacteria”



JONATHAN SCHULTZ, PHD

“Encoded by Light: Extracting Molecular Insights from Multidimensional Spectroscopy with Machine Learning”



TANIA LUPOLI, PHD

“Activation of Rare Sugars for the Design of Bacterial Surfaces”



JARIN PARTON

“Regulation of Nociceptor Excitability via Cannabidiol”



Session Moderator: Shiv Halasyamani, PhD

Appreciation Awards & Closing Remarks

ANNE HULTGREN, PHD

EXECUTIVE DIRECTOR & CEO
BECKMAN FOUNDATION



Join us as we celebrate the 2025 Beckman Symposium with some closing remarks, and highlight the following professors for their years of dedication to our Program Executive Committees:



MING CHEN HAMMOND, PHD

PROFESSOR, CHEMISTRY
UNIVERSITY OF UTAH



SEAN ELLIOTT, PHD

PROFESSOR, CHEMISTRY, MATERIALS
SCIENCE AND ENGINEERING
BOSTON UNIVERSITY



PENG JIN, PHD

PROFESSOR, HUMAN GENETICS
EMORY UNIVERSITY