## Arnold and Mabel Beckman Foundation 2021 Annual Report

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





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## **Our Mission**

Dr. Arnold O. Beckman and his wife Mabel established the Foundation to support leading edge research in the fields of chemistry and life sciences, broadly interpreted, and particularly to foster the invention of methods, instruments, and materials that open up new avenues of research and application in those disciplines and related sciences.



**On the cover:** 2021 Beckman Scholar Anthea Bell is shown dissecting a Mediterranean field cricket (Gryllus bimaculatus) while working in the Horch lab at Bowdoin College. Her project focused on characterizing the Spaetzle protein family in the cricket and investigating Spaetzle's potential function in central nervous system plasticity. Photo credit: Tabarak Al Musawi

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## The Power of Science

#### A Message from the Executive Director

Dear "Beckman Family" and Friends,

This past year has highlighted the pivotal and crucial roles that research and science communication have in shaping public policy. I hope that all of our program awardees see the impact that their passion for science and research can make in our communities. In particular, one of our Beckman Center for Cryo-Electron Microscopy awardees at the University of Washington has been at the forefront of research into the COVID-19 spike protein and vaccine efficacy studies during this pandemic. Congratulations to Dr. David Veesler and his team for their outstanding work and contributions in this area!

We are excited to share updates on several changes we made at the Foundation over the past year, including:

- Updated application and proposal review processes for our Beckman Young Investigator and Arnold O. Beckman Postdoctoral Fellows to be blinded reviews (for both the applicant name and institution) at the Letter of Intent stage in order to reduce bias in our review processes.
- New Learning Resources section posted on our website to highlight the inventions of Dr. Beckman, with middle-school age appropriate lesson plans to explore the underlying innovations and technologies.
- Following another virtual annual Beckman Symposium, we began planning for the return to in-person meetings with a series of Beckman Regional Symposiums to be held in August 2022 at partner institutions across the country.



Anne Hultgren, PhD

pm \$

In January 2021, we welcomed two new members to our board of directors, Dr. Jane Buchan and Ms. Kristen Monson, who will help to guide our investment committee.

While we celebrate our accomplishments throughout this report, we also grieve the loss of two members of the Beckman Family this past year. In August 2021, Arnold Stone Beckman, the only son of Dr. and Mrs. Beckman, passed away at the age of 84 years old. He is survived by his two children and four grandchildren. In addition, Chef Andy Strader passed away in October 2021. Chef Andy was the head chef at the Beckman Center for 16 years, and his sense of humor and ready smile will be missed at the Center. Our condolences to all families and friends who are mourning a loss from the past year.

While we reflect on this past year, we are also looking forward to 2022 as we continue to adapt to the new normal, learn from all of the challenges we have faced, and embrace all of the positive changes that have resulted from the past two years.

## **Did You Know?**

The Foundation implemented DocuSign, a cloud-based document generator, to collect electronically signed grant award terms. This allows for a quick and efficient contracts process. By utilizing the electronic "envelopes" and secure eSignature features, it also greatly reduces the use of paper, which in turn reduces overall water usage and carbon footprint.

### 2020 & 2021 At-A-Glance

#### Foundation's Environmental Savings with DocuSign



Image from: https://app.docusign.com/reports/overview



## **Awardee Highlights from the Past Year**



#### Beau Alward, PhD 2021 Beckman Young Investigator

Received the R35 Early Stage Investigator MIRA from the NIGMS (National Institute of General Medical Sciences). The grant, worth \$1.9M (including indirect costs) over five years, will support work investigating the hormonal, genetic, and neural basis of social behavior in A. burtoni.



#### Brad Zuchero, PhD 2019 Beckman Young Investigator

Received NINDS-funded R01 Grant. The \$1.8M grant will fund his project for five years. In addition, Zuchero received the Koret Early Career Award.



Sarah King, PhD 2019 Beckman Young Investigator Received DOE Early Career Award. This University-based research grant of \$150K/yr. is distributed over five years and will cover salary and research expenses.



## Roxanne Beltran, PhD & Robert Gilliard, Jr., PhD

#### 2021 Beckman Young Investigators

Recipients of the 2021 Packard Fellowships in Science and Engineering recently announced by The David and Lucile Packard Foundation. They will each receive \$875,000 over five years to pursue their research.



#### Dipti Nayak, PhD 2020 Beckman Young Investigator

Received 2021 Shurl and Kay Curci Foundation Grant. The award of \$128,847/yr. is distributed over two years. Nayak received 2021 Simons Early Career Investigator in Marine Microbial Ecology & Evolution Award, a \$222,000 grant over three years.



## Awardee Highlights—cont'd.



Sita Chandrasekaran 2017 Beckman Scholar

Received the 2021 Paul and Daisy Soros Fellowship for New Americans. The \$90,000 Fellowship will support Sita's work towards a PhD in bioengineering at the University of California, Berkeley and the University of California, San Francisco.



Geeta Narlikar, PhD & Wilfred A. van der Donk, PhD 2006 & 1999 Beckman Young Investigators Elected as 2021 Members of NAS.



Megan Jackson, PhD 2020 AOB Postdoctoral Fellow Received an Early Career Invited Lecture Award from the University of British Columbia.



Leslie Schoop, PhD & Ashleigh Theberge, PhD & Steven Townsend, PhD 2019 & 2018 Beckman Young Investigators & BSP Mentor Named 2021 Sloan Research Fellows by the Alfred P. Sloan Foundation.



Jasmine Esparza 2019 Beckman Scholar Awarded NIH T32 Molecular & Cellular Biology Training Grant.



James Gaynor, PhD 2020 AOB Postdoctoral Fellow Selected for 2021 ACS Physical Chemistry Young Investigator Award.



Above: 2019 Arnold and Mabel Beckman Foundation's Board of Directors.

## I. Foundation Leadership

*"Hire the best people and then get out of their way." - Dr. Beckman* 

We're grateful to the team of individuals who dedicate themselves to the success of the Arnold and Mabel Beckman Foundation, including:



#### **Board of Directors**

Dr. Jane Buchan, PhD Mrs. Jacqueline Dorrance-Tomlinson (Secretary) Mr. Jon Fosheim Dr. Jeffrey Johnston, PhD (Vice-Chair) Dr. Lawrence Kline, MD Dr. Andrew Lyon, PhD Ms. Kristen Monson Mr. Steven Pizula Mrs. Lynn Rahn (Treasurer) Mr. Peter Simon Mr. Gary Wescombe (Chair) Dr. Deborah Wuttke, PhD

# LEADERSHIP

#### **Foundation Staff**

Ms. Catrina Bryant, BA Ms. Jackie Chamberlin, CPA, MBA, MBT Ms. Esther Devanney, BS Mrs. Tiana Godges, BA Dr. Anne Hultgren, PhD Ms. Elizabeth Koppe, BA Mrs. Nicole Patras, BA Ms. Kaerie Ray, MBA

#### **Scientific Advisory Council**

Dr. Annaliese Franz, PhD Dr. Kent Hill, PhD Dr. Philip LeDuc, PhD Dr. Anne McNeil, PhD Dr. Karl Mueller, PhD (co-Chair) Dr. Kim Orth, PhD Dr. Jason Shear, PhD (co-Chair)

The Foundation's Program Executive Committees are instrumental in leading the proposal review committees, developing final award recommendations, and conducting annual assessments of the program requirements. Our special thanks to the 2021 Executive Committee members:

#### **BYI Executive Committee**

Prof. Susana Cohen-Cory, PhD Prof. Shiv Halasyamani, PhD Prof. Ke Hu, PhD Prof. Vassiliy Lubchenko, PhD

#### AOB Postdoctoral Fellows Executive Committee

Prof. Carolyn Anderson, PhD Prof. David Forbes, PhD Prof. Philip LeDuc, PhD Prof. Jill Millstone, PhD

#### **BSP Executive Committee**

Prof. Tom Gilmore, PhD Prof. Laura Hunsicker-Wang, PhD Prof. Carol Parish, PhD Prof. Margaret Saha, PhD

#### OC Beckman Legacy Executive Committee

Dr. Noreen Galvin, PhD Prof. Brian Goess, PhD Dr. Peter Nemes, PhD Dr. Christina Stallings, PhD



Above: Lead halide pervoskite in the lab of 2017 BYI Erik Grumstrup, PhD.

## II. Beckman Young Investigator Program

The Beckman Young Investigator (BYI) Program provides four years of research support amounting to \$600,000 to promising young faculty members in the early stages of their academic careers in the chemical and life sciences, broadly defined, who have not yet received a major award from another organization.

Projects must be truly innovative, highrisk, and show promise for contributing to significant advances in chemistry and the life sciences, with preference to those that foster the invention of methods, instruments and materials that will open new avenues of research in science.

#### 2021 BYI National Recognition:

DOE Career Award Sarah King Packard Fellowship Roxanne Beltran, Robert Gilliard NIH New Innovator

#### 2021 BYI Program Stats:

300+ Applicants11 Researchers Selected for Awards, Representing 10 Institutions

## **2021 Beckman Young Investigator Awardees**

Beau Alward, PhD University of Houston \*2017 AOB Postdoctoral Fellow

Margaret Byron, PhD Pennsylvania State University



**Roxanne Beltran, PhD** University of California, Santa Cruz *"A novel acoustic recorder for eavesdropping on the ocean soundscape"* 

Katherine Davis, PhD Emory University \*2015 AOB Postdoctoral Fellow

Brett McGuire, PhD Massachusetts Institute of Technology



**Robert Gilliard, Jr., PhD** University of Virginia "Coordination Chemistry Approaches to the Design of Thermochromic and Thermoluminescent Materials"

**Balyn Zaro, PhD** University of California, San Francisco Nicolas Pégard, PhD

University of North Carolina, Chapel Hill



Tania Lupoli, PhD New York University \*2004 Beckman Scholar "Tuning glycosyltransferases to design synthetic bacterial cell surfaces"

Alison Wendlandt, PhD Massachusetts Institute of Technology



Yingjie Zhang, PhD University of Illinois, Urbana Champaign "3D Atomic Scale Spectromicroscopy of Liquid-Solid Interfaces"





**Above**: AOB Postdoctoral Fellow James Gaynor's research in the Attosecond Atomic and Molecular Dynamics Laboratory at UC Berkeley uses a neon-filled hollow-core fiber compressor (pictured) to generate laser pulses covering 500-1000 nm with sub-5 femtosecond pulse durations. Image credit: Dr. James D. Gaynor and Dr. Ashley P. Fidler

## **III. Arnold O. Beckman Postdoctoral Fellows**

The Arnold O. Beckman Postdoctoral Fellows Award Program supports first and second year postdoctoral fellows at research institutions who are judged to have the highest potential for success in a career in chemistry, and who will become the next generation of leaders and innovators in science, engineering, and technology.

The program awards \$180,000 over two years for salary, fringe benefits, and research expenditures; instrumentation fellowships will receive additional one-time \$100,000 for material/development costs.

#### 2021 Postdoc Program Stats:

70 Applicants

13 Researchers Selected for Awards

**10** Institutions Represented

**\$1.5 Million** in Funding for '19 -'21 Awardees



## 2021 Arnold O. Beckman Postdoctoral Fellows

Alexa Kuenstler, PhD University of Colorado, Boulder

**Chung-Jui Yu, PhD** University of California, San Diego

**Colin Gould, PhD** Princeton University



Lilia Xie, PhD University of California, Berkeley "Two-Dimensional Magnets from Lanthenide Intercalation Compounds"

Elizabeth McLoughlin, PhD Princeton University



Julie Rorrer, PhD Massachusetts Institute of Technology "Elucidating the Mechanism, Kinetics, and Site Requirements for the Selective Hydrogenolysis of Polyethylene over Ru-Based Catalysts" Kurtis Carsch, PhD University of California, Berkeley

**Lesli Mark, PhD** University of Wisconsin, Madison

Thomas Osborn Popp, PhD Rutgers, University of New Jersey

**Robert Alperstein, PhD** University of California, San Francisco

**Robert Warburton, PhD** Yale University



Joshua Laffoon, PhD University of Michigan "Accessing a Long-Lifetime 3 V Redox Flow Battery through Mechanistically Guided Rational Design of Redox Active Species"





**Above:** 2021 Beckman Scholar Christina McBride helped to develop and run a "BioArt" reciprocal outreach program as part of her research. Some soil bacteria have the special ability to make colorful antibiotic molecules, which Lou Charkoudian's lab at Haverford College used to create biological art and demystify science for a wide audience of learners (some of whom helped create the art in this collage!). Photo Credit: Christina McBride

## **IV. Beckman Scholars Program**

The Beckman Scholars Program provides in-depth, sustained research an experience for exceptional undergraduate students in chemistry, biological sciences, or interdisciplinary combinations thereof. The program's award of \$26,000 for a student and mentor team over 15 months of continuous research. in conjunction with the Annual Beckman Symposium, offers an academically stimulating educational and unique experience.

The award spans three years and four to six student/mentor pairs are named per institution; applications by invitation only.

#### **BSP National Recognition in 2021:**

2021 Goldwater Scholars: Anton Barybin, Lauren Davis, Emma Kocik, Fenton Lawler, Anna McTigue, Nicholas Pancheri, Ryan Rahman, Jonah Stiel, Julia Vidlak, Lucy Yang

**2021 Astronaut Scholars:** Lauren Davis, Hope Kirby, Ryan Rahman, Jonah Stiel

#### 2021 BSP Program Stats:

**12** Institutions Selected for 2021 Awards

58 Scholar/Mentor Teams began their Research Projects

\$1.5+ Million in Funding for '19-'21 Awardees

## 2021 Beckman Scholars

**Benjamin S. Ahn** University of Southern California

Jacob Al-Husseini Pomona College



**Berenice Almaguer** California State University, San Marcos *"Examining the Relationship Between Epidermal Gamma Delta T Cells and Neuropeptide Y"* 

Jackie Arnold West Virginia University

Veda Balaji Georgia State University

Ella Basler Santa Clara University

Anthea L. Bell Bowdoin College

**Riya Bhanushali** Georgia Institute of Technology

**Connor H. Bowerman** Texas A&M University



Naya Burrow College of William & Mary "Preparation of Multivalent Bioconjugates Employing Unnatural Amino Acids" Kalyn Cayne Pennsylvania State University

Austin Chiles Whitman College

Mia Chung Tufts University

Harry Dang University of Richmond

Claire Dopp University of Kansas

#### 2021 Awardee Institutions

California State University, San Marcos Chapman University College of William & Mary Furman University Georgia State University Haverford College Hope College North Carolina State University Texas A&M University University of Southern California Virginia Polytechnic Institute Wellesley College



## 2021 Beckman Scholars—continued

**Ian Fleming** University of Colorado, Boulder

Zoe Gardner Smith College

Cesiah C. Gomez Wellesley College



**Frank Hu** Carnegie Mellon University *"Building a Machine Learned Density Functional Tight Binding Model for Catalyst Optimization"* 

Arabella Hunter Clemson University

Abigail Jones West Virginia University

Rachel E. Jones University of Utah

Lydia Kenney Georgia Institute of Technology

Laney Kimble North Carolina State University

Emma Kocik Chapman University

Seth Kodikara North Carolina State University

Sophia Korotev University of Chicago Corine M. LaFrenier Hope College



**Sabria M. Lataillade** Georgia State University *"Uncovering Biomarkers that Underlie Disease Aggressiveness in Quadruple-negative Breast Cancer"* 

Fenton Lawler Calvin University

Sawyer J. Lazar University of Southern California

Jasper Lim-Goyette Colgate University

Tara N. Lowensohn Tufts University

Georgia Mantel Miami University

Christina M. McBride Haverford College

Andrew C. McHorse Furman University



## 2021 Beckman Scholars—continued

**Cassell N. McMillian** Virginia Polytechnic Institute

**Kayla Molison** University of Colorado, Boulder

**Peyton Moore** Pennsylvania State University

Emily R. Moran James Madison University

Daniela M. Moreira Haverford College

Sarah Noga University of Kansas

Emily Y. Pan Bowdoin College

Justin Quan University of California, Los Angeles

John Riley University of Chicago



**Devin Simbol** San Francisco State University "Exploring Prostate Cancer Selective Cytotoxic Secondary Metabolites Produced by the Marine Sediment-derived Streptomyces sp. CP59-55"

Miriam C. Stein Texas A&M University

Aidan Sturgill Miami University



Erica Svendahl Santa Clara University *"Plant Proteomics"* 

Lucy Utz James Madison University

Samantha Vi-Tang University of California, Los Angeles

Madison Wagner California State University, San Marcos

Anna L. Watson Carnegie Mellon University

**Ashley Welch** San Francisco State University

**Rebecca Wu** University of Virginia

Katarina Yacuk University of Connecticut

Lucy Yang University of California, Irvine





**Above**: In situ cryo-electron tomography reveals the molecular architecture of the Chlamydomonas Golgi apparatus with native morphology. Data courtesy of Dr. Benjamin Engel, Helmholz Munich. Image courtesy of ThermoFisher Scientific.

### V. Instrumentation Grants

Investing in innovative instrumentation carries forward Dr. Beckman's legacy in developing research instruments and underscores the Foundation's mission of supporting research breakthroughs in chemistry and the life sciences.

In 2016, the Foundation funded five grants of \$2.5M each that could be used for purchase costs of new Cryo-EM instrumentation, support for a junior faculty hire in structural biology, and additional operational expenses.

In November 2019, The Beckman Foundation launched the instrumentation for Light-Sheet grant Advanced Microscopy and Data Science to provide support of up to \$1.2 million per site for the acquisition of instrumentation, cost of proposed research programs, and establishing robust teams for data science collaboration

The latest program was announced in January 2021 for novel sample preparation technologies using guided Focused Ion Beam (FIB) milling of cellular samples, such that the cellular interiors would be accessible to high-resolution cryoelectron tomography (Cryo-ET) imaging. This breakthrough technology enables high-resolution 3-D structure determination for organelles and proteins in their natural environments.

#### 2017: Cryo-EM Centers

5 awards, \$2.5M each

## 2019: Light-Sheet Microscopy and Data Science

8 awards, \$1.5M each

# 2021: FIB-Milling Sample Prep for Cellular Cryo-ET

7 awards, \$1.2M each



## 2021 FIB-Milling for Cryo-ET Awardees



James Berger, PhD Johns Hopkins University



**Yi-Wei Chang, PhD** University of Pennsylvania



**Songi Han, PhD** University of California, Santa Barbara



**Chris Hill, PhD** University of Utah



**Steven Ludke, PhD** Baylor College of Medicine



**Melanie Ohi, PhD** University of Michigan



**Daniel Southworth, PhD** University of California, San Francisco





Above: Color-band light spectrum of black tea captured with a bent diffraction grating. Image credit: Elizabeth Koppe

## VI. OC Beckman Legacy Awardees

The Arnold and Mabel Beckman Foundation is proud to announce the completion of the second year of the Orange County Beckman Legacy Award.

High school seniors worked with a science teacher mentor at their school to complete a spectrophotometer build, inspired by the revolutionary tools of Dr. Arnold O. Beckman, conduct lab work, create their own unique experiment, and answer reflection questions. Submitted projects were evaluated by the Foundation using a panel of outside experts.

#### 2021 Program Highlights:

- The 2021 program was completed remotely, during distance learning.
- Applications for review were blinded.
- Awardees received from \$8,000 to \$16,000 college scholarships.

# 2021 Legacy Program Stats: 19 Applicants 6 Students Selected for Awards 6 High Schools Represented

\$72,000 in Funding for '21 Awardees

## 2021 Orange County Beckman Legacy Awardees



Lawrence Chen, First Place Northwood High School, currently attending University of California, Berkeley

"Comparing folate concentration of legumes"



**Grace Jones, Second Place** Woodbridge High School, currently attending Vanderbilt University

*"Effect of concentrations of sodium nitrite and sodium benzoate on beta-fructofuranosidase"* 



Mahdi Ayman, Third Place Woodbridge High School, currently attending University of California, Santa Barbara

*"Assessing the relationship between fat and protein in milk"* 





**Shuangyue (Angela) Li, First Place** Northwood High School, currently attending University of California, Berkeley

*"Comparing almond concentration across almond-milks"* 



Ashley Kao, Second Place University High School, currently attending University of California, Berkeley

"Concentration of additional fruit juices in brands marketing a single fruit juice"



**Tara Nguyen, Third Place** University High School, currently attending University of California, Davis

*"Effects of brown sugar and white sugar in drinks with high sugar content"* 



**Above**: Crystal Cove Conservancy's curriculum engages students in investigating the seen and unseen effects of plastic pollution on the coast. Together with their classmates, students work to develop solutions that reduce its impact. Image: Crystal Cove Conservancy.

## **VII. Local Community Support**

The Foundation is proud to support innovative STEM and STEAM activities in the local community we call home, including:

**Beckman Arts & Science Family Day** Festival-style science entertainment at Segerstrom Center for the Arts

**Chapman University Foundation** Support for the Keck Center for Science and Technology

**Crystal Cove Conservancy** Development of K-2 field trip curriculum

#### **Irvine Public Schools Foundation**

CubeSat high school program launching satellites into space

**Kids@Science** Local Orange County STEM teacher training initiative and science kits

MIND Research Institute Curriculum development for ST Math Core

**OC Science and Engineering Fair** Special awards and support





Left column (top down): The OC Science and Engineering Fair educates, guides, and motivates students to engage in projectbased learning in all fields of science, technology, engineering and mathematics. Image: OC Science and Engineering Fair. Kids@Science supports local Orange County teachers by providing them with professional development in STEM, opportunities to network with science advocates, and hands-on science kits for their classrooms. Image: Kids@Science. Right column (top down): Students gain familiarity with Crystal Cove State Park, exploring natural spaces through video and virtual field trips, and working alongside scientists and researchers to collect data from sandy beaches within the park. Image: Crystal Cove Conservancy. MIND Research Institute is on a mission "to help kids truly love math" with its ST Math fun and intuitive instruction program. Image: MIND Research Institute.







Above: A look at the virtual lobby that greeted Symposium guests as they entered the online event.

## VIII. Annual Beckman Symposium

The annual Beckman Symposium brings together the nearly 300 grantees from our programs and Foundation leadership, including members of the Board of Directors, Scientific Advisory Council, Executive Committees, and Beckman Institutes.

The 3-day event\* features researchers from varied backgrounds, career stages, disciplines and institutions sharing their latest research findings in the form of oral and poster presentations, networking during group meals, and participating in career guidance workshops led by invited experts. After the scientific sessions conclude, the participants typically relax with colleagues and enjoy a competitive trivia game.

#### 2021 Beckman Symposium

\*To protect the health and safety of all guests during COVID-19, the 2021 Beckman Symposium was held as a virtual event that featured:

- 11 Live Sessions
- 24 On-demand Presentations
  - **119 Research Posters** 
    - 9 Zoom Activities







#### Professional life at a primarily undergraduate institution (PUI): my journey and early lessons learned





*First row (from top): Kelley Healey, PhD presented during Career Trajectory Talks.* 

Second row: Attendees participated in Zoom breakout sessions (I). Sharon L. Neal, PhD kicked-off a celebration of 30 years of Beckman Young Investigators (r).

*Third row: Steven D. Townsend, PhD offered tips on "How to Perfect a Scientific Abstract."* 

Fourth row: Annaliese Franz, PhD delivered part two of "How to Get the Right Postdoc Position" and emphasized the positive impact of a good mentor.

#### How to Perfect a Scientific Abstract





Presenter



Annaliese Franz, PhD Professor, Department of Chemistry, University of California, Davis Faculty Director, Undergraduate Research Center A Good Mentor Can Ignite Your Career Potential

"A good mentor can dramatically change the trajectory of your career and your life, so it's worthwhile to be patient when searching for just the right person. Be open to building relationships with different kinds of people and learning everything you can from them."

https://sites.utexas.edu/itsyourcareer/mentor-ignite-career/



Above: Groundbreaking ceremony for the Beckman Institute at University of Illinois, Urbana-Champaign.

## **IX. Beckman Institutes and Centers**

In 1978, Dr. and Mrs. Beckman began their philanthropic giving by founding five basic science research institutes and centers at leading universities that had been influential in their own lives. Each of the research Institutes and Centers have a mission to promote novel interdisciplinary science programs, and provide access to leading instrumentation facilities. In addition to the research Institutes, Dr. and Mrs. Beckman also established the Beckman Center of the National Academies as the west coast headquarters for National Academy activities and scientific conferences.

The Beckman Foundation continues the commitment to these Institutes and Centers through an annual Director's Fund grant, which may be used at the sole discretion of the Directors.



Dr. Jeffrey Moore, Director Beckman Institute at University of Illinois, Urbana-Champaign, 2017-2022



Beckman Research Institute at Caltech

Director: Dr. Marianne Bronner Pasadena, CA



Beckman Institute for Advanced Science and Technology at the University of Illinois, Urbana-Champaign

Director: Dr. Jeffrey Moore Urbana, IL



#### Beckman Research Institute at City of Hope

Director: Dr. Steven Rosen Duarte, CA



Beckman Laser Institute & Medical Clinic at University of California, Irvine

Director: Dr. Matthew Brenner Irvine, CA



Beckman Center for Molecular & Genetic Medicine at Stanford University

Director: Dr. Lucy Shapiro Stanford, CA



Above: 2018 Beckman Symposium Presentation by 2017 BYI Jeremy Baskin.

## X. Beckman Speaker & Conference Support

The Arnold and Mabel Beckman Foundation Speaker and Conference Support Program is open to all current Foundation grant awardees, specifically from the BSP, AOB Postdoc, BYI, or Beckman-Argyros Vision Research programs. Current Beckman awardees organizing or hosting a seminar of conference at their institution can invite a member of the Beckman Family to be a speaker and submit an application to this program for funding up to \$3,000 per request, in support of, but not limited to: travel, room rental Speaker fees. reception costs, food, beverages, printed materials, etc.

The Foundation chooses a limited number of Speaker and Conference events based on their relevance to the mission of the program and Foundation as a whole, campus, scientific and community impact, and the scope of appeal of the event.

In 2021, Speaker and Conference support was provided to:

Mr. Austin Chiles Whitman College



**Above**: 2016 BYI Jing-Ke Weng investigates harnessing the light production pathway of fireflies for other imaging and power applications.

## **XI. Financial Report**

The Foundation's endowment net assets increased by \$128 million in 2021, largely as a result of the gains in the investment market. With this large increase, the Foundation reviewed its overall portfolio allocation plan and specifically the private equity Pacing Model and increased its commitments in this sector to meet allocation policy. The Foundation also increased its budgeted grant spending for FY22 by \$6 million, primarily on additional program awardees and instrumentation awards in both the Advanced Light-Sheet Microscopy and FIB-Milling for Cellular CryoET Programs, and increased projected spending for future years.

Fiscal Year Financial Highlights: (Sept. '20-Aug. '21)

# Total expenses and disbursements: \$36,606,000

After our expenses, investment income, and accruals, the **increase in net assets was \$128,005,000**.