

BECKMAN YOUNG INVESTIGATOR PROGRAM

[Research Support for Promising Young Faculty]

January 24, 2018

Room 238, Strom Thurmond Institute



INTRODUCTION TO ORD AND CFR

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OVERVIEW OF THE BECKMAN FOUNDATION



The Arnold and Mabel Beckman Foundation was established in 1977 by the late Arnold and Mabel Beckman. Arnold Beckman founded Beckman Instruments in 1935 with the production of a pH meter he invented.



The Arnold and Mabel Beckman Foundation has more than \$562 million in assets and awards approximately \$27 million in grants annually.



The Beckman Foundation provides grants to researchers in chemistry and life sciences to promote scientific discoveries and particularly to foster the invention of methods, instruments, and materials that will open up new avenues of research.



The Foundation has four major grantmaking programs: Beckman Scholars, Beckman Young Investigator Award, Beckman Postdoctoral Fellows, and the Beckman-Argyros Vision Research Award.

BECKMAN YOUNG INVESTIGATOR PROGRAM

-  The **Beckman Young Investigator Program (BYI)** provides research support to the most promising young faculty members in the early stages of their academic careers in the chemical and life sciences, particularly to foster the invention of methods, instruments and materials that will open up new avenues of research in science.
-  Projects proposed for the BYI program should be **innovative, high-risk**, and show **promise** for contributing to significant advances in chemistry and the life sciences.
-  Proposed research that **cuts across traditional boundaries of scientific disciplines** is encouraged.
-  Proposals that **already have substantial funding** (more than \$225K in direct funding during any BYI program year) **will not be considered for the BYI award**.
-  Projects are normally funded for a **period of four years in the range of \$600K**. The Foundation does not provide for indirect costs.
-  The application window for the Beckman Young Investigator program is **typically June-September**.

BECKMAN YOUNG INVESTIGATOR PROGRAM: ELIGIBILITY

- Faculty within the first three years of a tenure-track position are eligible for this program. **For the 2019 program, tenure track start date must be after 8/14/2015.**
- **Candidates must be citizens or permanent residents of the United States at the time of application.** Persons who have applied for permanent residency but have not received their government documentation by the time of the application are not eligible.
- No individual may apply for a Beckman Young Investigator award **more than two times.**
- Investigators **can have no more than \$225K in direct, annualized external funding grants during any BYI program year** (August-July) at time of application.
- Start-up funds, department-wide instrumentation grants and “Transition” grants (such as NIH K99/R00) are not counted toward this total.

RECENT BECKMAN YOUNG INVESTIGATOR WINNERS

2017

Victor Acosta | University of New Mexico

Department: Physics

Research Title: Magnetic resonance spectroscopy on a diamond chip

Jeremy Baskin | Cornell University

Department: Chemistry and Chemical Biology

Research Title: Synthetic lipid biology: Membrane engineering via controlled phospholipid synthesis *in vivo*

Pamela Chang | Cornell University

Department: Microbiology and Immunology

Research Title: Chemical technologies for elucidating and controlling inflammation

Jose Rodriguez | University of California Los Angeles

Department: Chemistry and Biochemistry

Research Title: Frontier approaches in electron cryo-diffraction to reveal atomic views of complex macromolecular assemblies

Dan Fu | University of Washington

Department: Chemistry

Research Title: Quantitative single cell phenotypic imaging of multicellular systems

Erik Grumstrup | Montana State University

Department: Chemistry and Biochemistry

Research Title: Superresolution optical strategies for revealing ultrafast carrier-phonon dynamics in nanoscale materials

Ali Faih Sarioglu | Georgia Tech

Department: Electrical and Computer Engineering

Research Title: All-electronic lab-on-a-chip platforms for high-throughput multi-modal cell phenotyping

Bo Want | Stanford University

Department: Bioengineering and Developmental Biology

Research Title: Unfolding germline development in the human parasite *schistosoma* using nanoscale tools

RECENT BECKMAN YOUNG INVESTIGATOR WINNERS

2016

Yiyang Gong | Duke University

Department: Biomedical Engineering

Research Title: Optical brain machine interface for neural circuit dissection

Markita Landry | University of California Berkeley

Department: Chemical and Biomolecular Engineering

Research Title: Linking chemistry to behavior: Long-term optical monitoring of neurotransmission

Zachary Pincus | Washington University St. Louis

Department: Developmental Biology and Genetics

Research Title: The origins of individuality: Developmental determinants of health and lifespan

Gabriela Schlau-Cohen | MIT

Department: Chemistry

Research Title: Uncovering action at the nanoscale

Sabrina Spencer | University of Colorado at Boulder

Department: Chemistry and Biochemistry

Research Title: Single-cell approaches for *a priori* identification of drug-resistant cancer cells

Scott Warren | University of North Carolina Chapel Hill

Department: Chemistry

Research Title: Broadband biosensing from the visible to infrared with 2D plasmonic metamaterials

Jing-Ke Weng | Whitehead Institute for Biomedical Research

Department: Biology

Research Title: Exploring and exploiting firefly and coelenterate luciferin biosynthesis

Ke Xu | University of California Berkeley

Department: Chemistry

Research Title: Probing intracellular physiochemical processes at the nanometer scale, one molecule at a time

COMMON CHARACTERISTICS OF BYI WINNERS (2016 & 2017)

- Average h-index: 16 (range 10-24)
- Average number of citations: 1,517 (range 466-3110)
- Other awards received *before* Beckman Young Investigator Award:
 - Burroughs Wellcome Fund Career Award
 - NARSAD Young Investigator Award
 - Smith Family Award for Excellence in Biomedical Research
 - Searle Scholar Award
 - Kimmel Scholar Award
 - Alfred P. Sloan Fellowship
 - Pew Scholar in Biomedical Sciences Award

WHAT WE'VE LEARNED FROM THE FOUNDATION

- Of the LOIs submitted, 100 are typically invited to submit a full application. **The Foundation plans to fund 10 awards this year.**
- From the 100 applicants who are invited to submit full proposals, **14 are invited to come out to the Foundation (California) for an interview and presentation.** The Foundation is looking to fund investigators who are articulate, passionate, and can clearly demonstrate how a BYI award would help them advance the sciences and conduct innovative research.
- The “pending funding” restriction is critical and **if it becomes clear to the foundation that the PI may come close to the \$225K cut-off, they will be eliminated at the LOI stage.** Dr. Beckman wanted to fund young scientists who may not be able to get other external funding at this early stage of their careers, and the Foundation upholds this.
- **BYI is not NIH.** If this is something that you apply to the NIH for, it is very likely that it will get kicked out at the LOI stage. **Beckman is looking for cutting-edge, risky research that wouldn't be funded by a federal agency.**
- There are **no topical or disciplinary preferences** for the Foundation in the life sciences or chemistry - they have purposely left the field very open to attract applications from PIs with a wide variety of research interests and expertise.

FORWARD THINKING: POSITIONING YOUR WORK FOR A BYI AWARD

1. Keep a file of reviewer comments that state or suggest that your work is too risky, “blue sky,” etc.
2. Subtly solicit such comments from program officers via email so you have a paper trail upon which you can draw in future submissions.
3. Allow yourself to dream big! Keep a journal.
4. Make a habit of following up on out-of-the-box ideas and generating concept papers.
5. Monitor federal agencies’ awards for projects aimed at the development of methods, instruments, or materials in your field of interest to get an idea of what Beckman will NOT fund.
6. Browse the abstracts of past Beckman winners at <http://www.beckman-foundation.org/programs/beckman-young-investigators-award-recipients> to get an idea of what Beckman WILL fund.

CLEMSON'S INTERNAL PROCESS



A Limited Submission call for the Beckman Young Investigator Program will be announced by the VPR's Office in **mid- to late-February 2018**.



Submissions will be due by **mid-March 2018**.



We anticipate the BYI portal being open **June-September 2018**.

QUESTIONS?

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