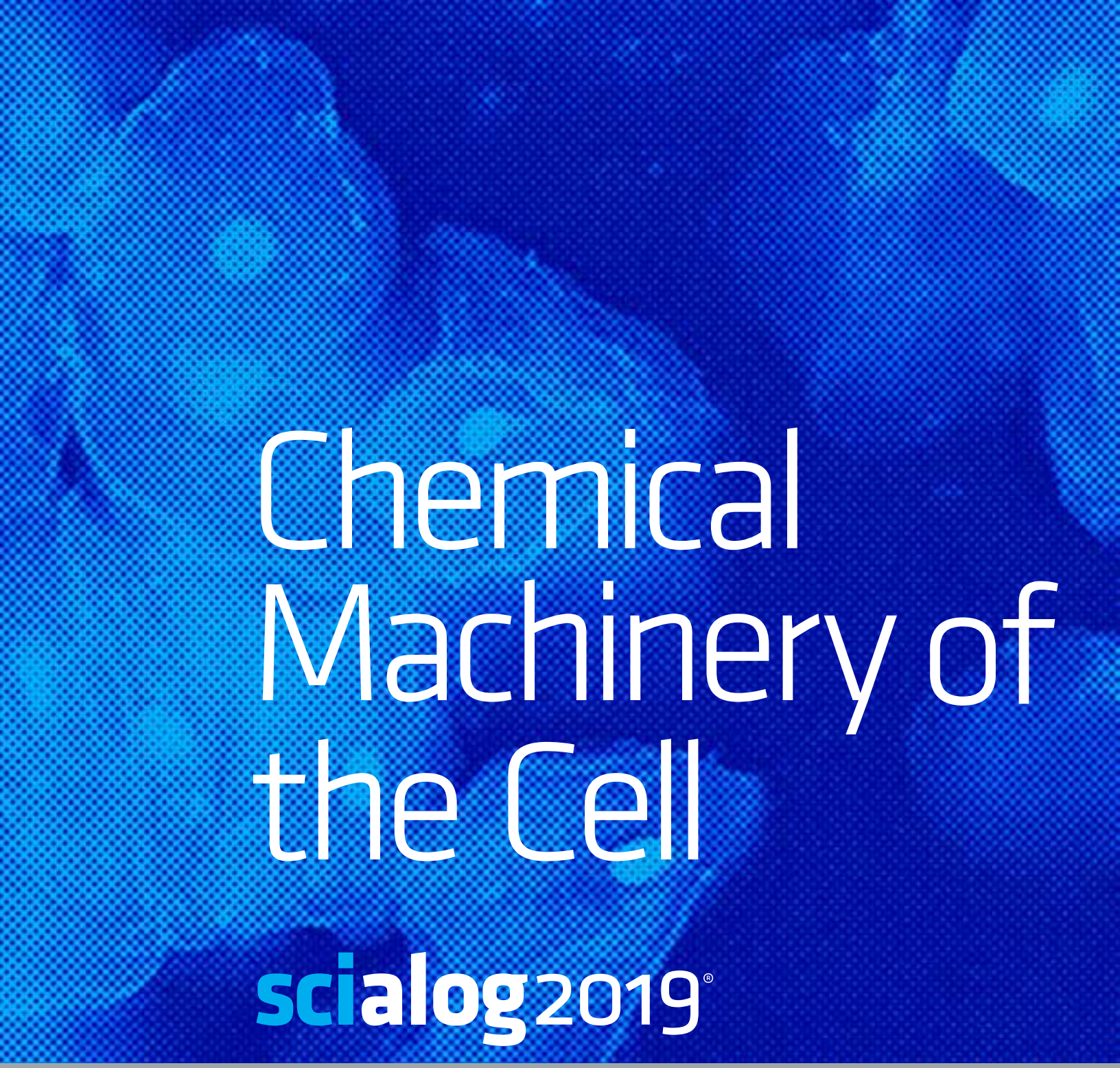


Chemical Machinery of the Cell

scialog2019®

The Second Annual Scialog Conference
October 10-13, 2019 at Westward Look Resort
Tucson, Arizona

GORDON AND BETTY MOORE FOUNDATION

RESEARCH CORPORATION *for* SCIENCE ADVANCEMENT

Objectives

Engage in dialogue with the goal of accelerating high-risk/high-reward research.

Identify and analyze bottlenecks to advancing understanding of the chemical machinery of the cell and develop approaches for breakthroughs.

Build a creative, better-networked community that is more likely to produce breakthroughs.

Form teams to write proposals to seed novel projects based on highly innovative ideas that emerge at the conference.

Process

Brainstorming is welcome; don't be afraid to say what comes to mind.

Consider the possibility of unorthodox or unusual ideas without immediately dismissing them.

Discuss, build upon and even constructively criticize each other's ideas—in a spirit of cooperativegive and take.

Make comments concise to avoid monopolizing the dialogue.

Diversity, Inclusion and No Harassment

Research Corporation for Science Advancement fosters an environment for listening and considering new ideas from a diverse group, with respect for all participants without regard to gender, race, ethnicity, sexual orientation, age or any other aspect of how we identify ourselves other than as fellow scientists.

RCSA does not tolerate any form of harassment, which could include verbal or physical conduct that has the purpose or effect of substantially interfering with anyone else's participation or performance at this conference, or of creating an intimidating, hostile, or offensive environment; any such harassment may result in dismissal from the conference.

From the President

Welcome to the 2019 *Scialog: Chemical Machinery of the Cell* meeting. This is the second of three Scialog meetings on this theme. The Gordon and Betty Moore Foundation and Research Corporation are cosponsoring this series of Scialogs and we are delighted to continue working together to support this critical area of science.

The goal of this Scialog—Science and Dialog—is to catalyze theorists, computational scientists, and experimentalists across multiple disciplines to collaborate on developing new and innovative projects to accelerate fundamental science to drive major advances in knowledge of the chemistry of the living cell.

Scialog's over-arching purpose is to help solve real-world problems of global significance by catalyzing innovative, basic research leading to fundamental discoveries. Our focus is on scientists in the early years of their independent careers. Through the unique Scialog process, we seek to lay the foundation for an ongoing, highly creative, cross-disciplinary community of scientists that will prove adept at identifying exciting areas for research advances.

To that end, under the guidance of Research Corporation Program Directors **Richard Wiener**, **Silvia Ronco**, and **Andrew Feig**, we hope you will be engaged in passionate discussions with colleagues, some of whom you will meet for the first time at this meeting and others with whom you will reconnect from last year's Scialog. The process may even push you out of your comfort zone with the goal of stimulating new and better ideas. The result, we expect, will be a meeting unlike others that you attend. We are confident that you will find the next few days to be extremely worthwhile.

This is your opportunity to air that wild idea you have been reluctant to share with others, or to discuss a nagging hunch that does not yet have sufficient supporting data, or to take a leap on a high-impact/high-risk project instead of concentrating all your effort on somewhat more "incremental" studies. This is the time to come up with, and be open to, completely new ideas that may truly change the world.

We hope this year's meeting yields a crop of outstanding team proposals, which will make our job of determining who receives funding very challenging. I wish you every success in exploring new and compelling ideas over the next few days.

Have a terrific meeting!

Daniel Linzer
President
Research Corporation for Science Advancement

From the Program Officers

Research Corporation and the Gordon and Betty Moore Foundation are cosponsoring the three-year *Scialog: Chemical Machinery of the Cell* initiative, of which this gathering is the second annual meeting. Research Corporation's highly interactive Scialog meetings have the goal of catalyzing new collaborations based on blue-sky ideas among Scialog Fellows who constitute a highly select group of exemplary early career U.S. and Canadian scientists. The emphasis is on dialogue, networking, and building new collaborations to pursue novel high-risk discovery research. The second meeting is always an exciting opportunity for returning Fellows to once again experience the unique aspects of Scialog and new Fellows to participate for the first time.

Research Corporation and the Gordon and Betty Moore Foundation chose to focus on chemical machinery of the cell because we believe this critical area of science requires major breakthroughs in fundamental understanding of chemical processes in the living cell that will lead to a new era of advancements in cell biology. We believe these breakthroughs can be accelerated by chemists, biologists, engineers, and physicists working collaboratively on novel, high-risk projects, particularly when theorists and experimentalists are combining efforts

We have an outstanding keynote speaker:
Holly Goodson, University of Notre Dame

We also have terrific discussion facilitators. Along with **Holly**, they are **Bonnie Bassler**, Princeton University/HHMI, **Mike Espy**, National Cancer Institute, NIH, **Rigoberto Hernandez**, Johns Hopkins University, **Neil Kelleher**, Northwestern University, **Gang-yu Liu**, University of California, Davis, **Andreas Matouschek**, The University of Texas at Austin, and **Paul Selvin**, University of Illinois at Urbana-Champaign.

We are delighted to have representatives from multiple organizations at Scialog. Besides ourselves, we have **Andrew Feig** and **Silvia Ronco**, Research Corporation, **Alexandra Basford**, Allen Institute, **Ed McCleskey**, Chan Zuckerberg Initiative, **James Mitchell**, Shurl and Kay Curci Foundation, and **Jeffrey Silverstein**, US Department of Agriculture.

Please take the opportunity to interact with these outstanding facilitators and guests to learn more about their interests and provide them the chance to learn more about you and your research.

An important feature of these meetings is the opportunity for Scialog Fellows to form teams and write proposals to pursue particularly creative ideas that emerge through the dialog. We hope this competition is exciting, but regardless of which proposals are funded, the purpose is to catalyze a deeper and more meaningful exchange of ideas than ordinarily occurs at scientific conferences. Our intent is for this process to facilitate participants gaining new insights and connections that significantly advance efforts to fundamental understanding of the chemical machinery of the cell.

Richard Wiener
Senior Program Director
Research Corporation for Science Advancement

Gary Greenburg
Program Officer
Gordon and Betty Moore Foundation

Conference Agenda
Westward Look Resort
October 10-13, 2019

Thursday, October 10

2:00 pm	**Registration Opens**	Lobby
2:00 - 5:00 pm	**Snacks & Informal Discussions**	Palm Room & Terrace
5:00 - 6:30 pm	**Poster Session & Reception**	Sonoran Ballroom
6:00 - 6:30 pm	**Meeting for Discussion Facilitators**	Ocotillo & Cholla
6:30 - 7:45 pm	**Dinner**	Ocotillo & Cholla
	Welcome Dan Linzer, *President, RCSA*	
	Conference Overview, Desired Outcomes & Guidelines for Collaborative Proposals Richard Wiener, *RCSA*	
7:45 - 8:30 pm	**Keynote Presentation** What Aspects of Biology are *Predictable?* Holly Goodson, *University of Notre Dame*	Ocotillo & Cholla
8:30 - 11:00 pm	**CMC Starlight Café** Beverages, snacks, conversations, etc.	Palm Room & Terrace

Friday, October 11

7:00 - 8:00 am	**Breakfast**	Palm Room & Terrace
8:00 - 9:00 am	**Introductions**	Ocotillo & Cholla
9:00 - 9:15 am	**Breakout Sessions Overview**	Ocotillo & Cholla
9:15 - 10:30 am	**Breakout Session I**	Ocotillo & Cholla*
10:30 - 10:50 am	**Report Out**	Ocotillo & Cholla
10:50 - 11:15 am	**Conference Photo & Break**	Ocotillo & Cholla
11:15 - 11:45 am	**Mini Breakout Session I**	Ocotillo & Cholla*
	Facilitators Debrief	
11:45 am - 1:00 pm	**Lunch**	Palm Room & Terrace
1:00 - 1:45 pm	**2018 Team Presentations**	Ocotillo & Cholla
1:45 - 3:00 pm	**Breakout Session II**	Ocotillo & Cholla*
3:00 - 3:20 pm	**Report Out**	Ocotillo & Cholla
3:20 - 3:50 pm	**Mini Breakout Session II**	Ocotillo & Cholla*
3:50 - 5:15 pm	**Afternoon Break & Informal Discussions**	
5:15 - 6:45 pm	**Poster Session & Reception**	Sonoran Ballroom
6:45 - 8:00 pm	**Dinner**	Ocotillo & Cholla
	2018 Team Presentations	
8:00 - 11:00 pm	**CMC Starlight Café** Beverages, snacks, conversations, etc.	Palm Room & Terrace

Saturday, October 12

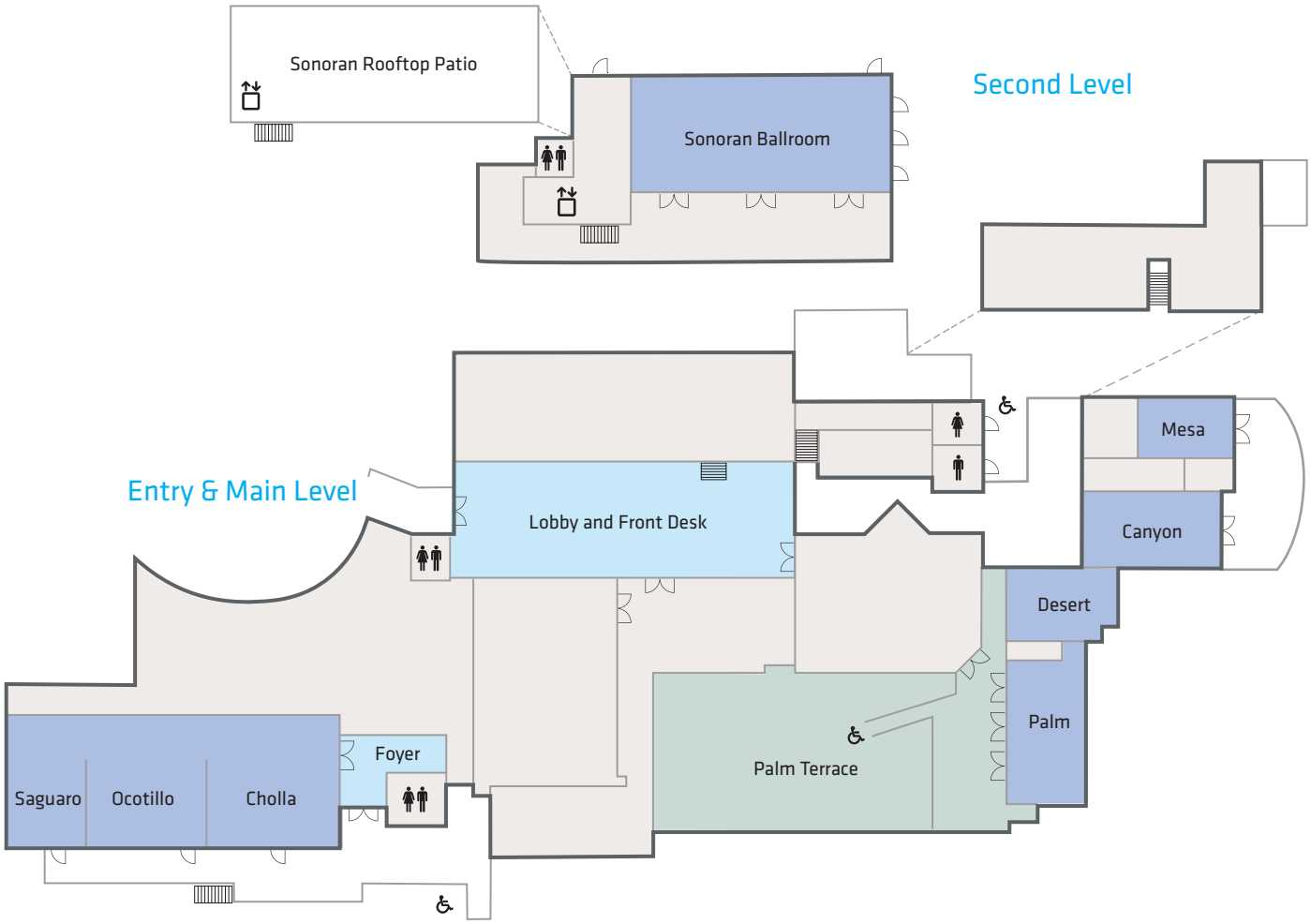
6:30 - 7:15 am	**Optional Guided Nature & Garden Walk**	WL Trails–Meet in Lobby
7:00 - 8:00 am	**Breakfast**	Palm Room & Terrace
8:00 - 9:15 am	**Breakout Session III**	Ocotillo & Cholla*
9:15 - 9:35 am	**Report Out**	Ocotillo & Cholla
9:35 - 10:05 am	**Mini Breakout Session III**	Ocotillo & Cholla*
10:05 - 10:30 am	**Morning Break**	
10:30 - 11:45 am	**Breakout Session IV**	Ocotillo & Cholla*
11:45 - 12:05 pm	**Report Out**	Ocotillo & Cholla
12:05 - 12:35 pm	**Mini Breakout Session IV**	Ocotillo & Cholla*
	Facilitators Debrief	
12:35 - 1:45 pm	**Lunch**	Palm Room & Terrace
1:45 - 6:00 pm	**Team Formation, Informal Discussion & Proposal Writing** Proposals due 6:30 am Sunday morning	
6:00 - 6:30 pm	**Reception**	Ocotillo & Cholla Terrace
6:30 - 7:30 pm	**Dinner**	Ocotillo & Cholla
7:30 - 11:00 pm	**CMC Starlight Café** Beverages, snacks, Conversations, etc.	Palm Room & Terrace

Sunday, October 13

6:30 - 7:30 am	**Breakfast**	Palm Room & Terrace
7:30 - 11:00 am	**Presentations of Proposal Ideas**	Ocotillo & Cholla
	Assessment Survey & Wrap-up	
11:00 am - 12:00 pm	**Lunch** Available to go	Ocotillo & Cholla Foyer

*Breakout Sessions will be held in Ocotillo & Cholla, Desert, Canyon, Mesa, and Saguaro meeting rooms. Fellows will first meet in Ocotillo & Cholla and then disperse to their discussion groups.

Westward Look Resort



Keynote Speaker

What Aspects of Biology are *Predictable*?

Holly Goodson
University of Notre Dame

Abstract: Is biology predictable? Now is the time to revisit this old and contentious problem because of recent advances in fields including complex systems, synthetic biology, and the molecular diversity of life. Questions about the predictability of living systems can and should be asked at all biological scales. However, since cells exist at the interface between chemistry and biology, one potentially tractable way to phrase this problem is this: How do physics and chemistry (including geochemistry) lead to predictable cell-level characteristics, such as physical structures, metabolic pathways, and/or information processing networks? In considering these questions, it is important to recognize that when physics and chemistry have been invoked to explain biology, the effect has often been phrased in terms of constraints—that physics and chemistry limit biological systems. However, physics and chemistry can also be profoundly *creative*: the impact of self-organizing processes is seen at scales from the molecular to the ecological. Addressing the problem of predictability in biology should reveal as-yet unrecognized fundamental principles of biology and help inform other fields of science such as nanotechnology. And, since physics and chemistry are universal, they should provide insight into life on as it appears elsewhere in the universe.

Bio: Professor, Department of Chemistry and Biochemistry, Concurrent Professor, Department of Biological Sciences, University of Notre Dame

Holly Goodson's research is directed towards the broad problem of biological self-organization, with a focus on the microtubule cytoskeleton. She is also interested in evolution of proteins and biochemical processes, with an emphasis on the application of this evolutionary perspective to study of biochemical and cell biological problems. Ongoing collaborative work includes efforts to create whole-cell biosensors for applications in technology-limited environments.

Dr. Goodson received her A.B. degree in Molecular Biology from Princeton University (1988) and her PhD in Biochemistry from Stanford (1995), working with Jim Spudich. Her post-doctoral research was performed with Thomas Kreis at the University of Geneva in Switzerland. Dr. Goodson's national service includes being elected to the Council of the American Society for Cell Biology (2008-2010) and serving as the Chair for the ASCB Public Policy Committee (2020-2023). She is also one of the founding co-organizers of the Chicago Cytoskeleton meetings (since 2001). At Notre Dame, Dr. Goodson is the founding co-director of the Integrated Biomedical Sciences PhD program. She enjoys teaching biology to students in engineering and quantitative sciences and has received awards including the Notre Dame Thomas P. Madden award for outstanding classroom teaching in a freshman course.

Scialog CMC Team Awards 2018

Finding Mitochondrial Memory
Abhishek Chatterjee, Chemistry, Boston College
Gulcin Pekkurnaz, Neurobiology, University of California, San Diego
Juan Perilla, Chemistry, University of Delaware

What Does "Self" Look Like?
Kamil Godula, Chemistry, University of California, San Diego
Jennifer Heemstra, Chemistry, Emory University
Abhishek Singharoy, Molecular Sciences, Arizona State University

A Plant-Based Cell Platform to Target Human Proteostasis Diseases
Kathryn Haas, Chemistry, St. Mary's College
Alice Soragni, Biochemistry, University of California, Los Angeles
Jing-Ke Weng, Biology, Massachusetts Institute of Technology

Breaking the Central Dogma: Reverse Translation of the Proteome
Christian Kaiser, Biology, Johns Hopkins University
David Limmer, Chemistry, University of California, Berkeley
Rebecca Voorhees, Biology, California Institute of Technology

Optical Mind Reading
Markita del Carpio Landry, Chemical and biomolecular engineering, University of California, Berkeley
Gulcin Pekkurnaz, Neurobiology, University of California, San Diego
Jennifer Prescher, Chemistry, University of California, Irvine

Synthetic Organelle Biology: Engineering Photosynthetic Animal Cells
Markita del Carpio Landry, Chemical and biomolecular engineering, University of California, Berkeley
Jing-Ke Weng, Biology, Massachusetts Institute of Technology
Joshua Widhalm, Horticulture, Purdue University

Identifying And Detecting Diseases Prior To Physical Presentation Of Symptoms
Laura Sanchez, Pharmaceutical Sciences, University of Illinois, Chicago
Judith Su, Optical Sciences and Biomedical Engineering, University of Arizona

Understanding Biological Systems Using Resonator-Mediated Single-Molecule Raman Detection and Spectroscopy
Judith Su, Optical Sciences and Biomedical Engineering, University of Arizona
Lu Wei, Chemistry, California Institute of Technology

2019 Proposal Guidelines & Collaborative Awards

Scialog: Chemical Machinery of the Cell

1. Awards are intended to provide seed funding for teams of two to three Scialog Fellows formed at this conference for **novel, out-of-the-box, cutting-edge** and **potentially high-impact projects**.
2. Two-page proposals should describe the proposed project and the role of each team member. No budget is necessary. A third page may be used for references.
3. Awards will be in the amount of $50K per team member direct funding and a small amount of institutional overhead for one year.
4. No Scialog Fellow can be a member of more than two teams. If a Scialog Fellow is a member of two teams, other members of the two teams must be different. No team can submit more than one proposal.
5. No Scialog Fellow who previously has won a Scialog Collaborative Award can be a member of more than one team. The other team members must be different from the members of the previously awarded team.
6. Teams cannot include members who have previously collaborated with one another.
7. Teams are encouraged (but not required) to
   a) Include at least one theorist or computational scientist and one experimentalist.
   b) Include members from different disciplines.
8. Proposals must be submitted electronically by Sunday morning at 6:30 am. Instructions for electronic submission will be provided at the meeting.
9. Awards will be announced in 2019 and start approximately at the beginning of 2020.

Scialog Fellows

Anindita (Oni) Basu onibasu@uchicago.edu
University of Chicago, Medicine
Genomics and cell-cell interaction at single cell resolution

Julien Berro julien.berro@yale.edu
Yale University, Molecular Biophysics and Biochemistry
We try to understand how biochemistry and mechanics crosstalk in cells, with a focus on actin and endocytosis

Daniela Buccella dbuccella@nyu.edu
New York University, Chemistry
Metal homeostasis in health and disease. Developing new chemical sensors and imaging strategies to track metals at the (sub) cellular level

Jeff Chan jeffchan@illinois.edu
University of Illinois at Urbana-Champaign, Chemistry
Enabling biological discovery through chemical tool development

Abhishek Chatterjee abhishek.chatterjee@bc.edu
Boston College, Chemistry
Taking an interdisciplinary approach, we engineer biology for creating new research tools as well as potential biotherapeutics

Caitlin Davis c.davis@yale.edu
Yale University, Chemistry
How do protein and RNA dynamics control life? I mix IR and fluorescence spectroscopy with microscopy to quantify biophysics inside cells

Davide Donadio ddonadio@ucdavis.edu
University of California, Davis, Chemistry
Molecular modeling of non-equilibrium processes: transport and assembly

Ronit Freeman ronifree@email.unc.edu
University of North Carolina Chapel Hill, Applied Physical Sciences
We engineer biological molecules to make materials that reconfigure their shape and properties to uniquely interface with proteins and cells

Stephen Fried sdfried@jhu.edu
Johns Hopkins University, Chemistry
How do cells assemble complex molecular structures?

Kamil Godula kgodula@ucsd.edu
University of California, San Diego, Chemistry and Biochemistry
Engineering cell surface glycans to control cellular functions

Puja Goyal pgoyal@binghamton.edu
State University of New York at Binghamton, Radiotherapy Development Branch
Photocontrol of biological processes; Excited state dynamics; Proton-coupled electron transfer; Hybrid quantum mechanics/molecular mechanics

Alexander (Alex) Green alexgreen@asu.edu
Arizona State University, School of Molecular Sciences
Intracellular RNA-based sensing and computing devices

Kathryn Haas khaas@saintmarys.edu
Saint Mary's College, Chemistry and Physics
Using spectroscopy to learn how metal ions change the structures of floppy proteins and how proteins control metal redox chemistry

Jennifer (Jen) Heemstra jen.heemstra@emory.edu
Emory University, Chemistry
Biomolecules do amazing things! Harnessing molecular recognition and assembly for applications in sensing, imaging, and epitranscriptomics.

Matthias Heyden mheyden1@asu.edu
Arizona State University, School of Molecular Sciences
Multiscale modeling of protein-protein interactions from atomistic simulations to the meso-scale

Christian Kaiser ckaiser@jhu.edu
Johns Hopkins University, Biology
We study how complex proteins fold during synthesis by the ribosome with help from molecular chaperones

Julia Kalow jkalow@northwestern.edu
Northwestern University, Chemistry
Photocontrolled adaptable materials to mimic the extracellular matrix; polymer science and photochemistry

Maria Kamenetska mkamenet@bu.edu
Boston University, Chemistry and Physics
An experimental physical chemist and biophysicist developing new nanoscopies to probe biomolecular interactions on the single molecule level

Alexis Komor akomor@ucsd.edu
University of California, San Diego, Chemistry and Biochemistry
The Komor lab develops and utilizes genome editing tools that introduce single point mutations with high efficiency and selectivity

Scialog Fellows Continued

Dmytro Kosenkov dkosenkov@monmouth.edu
Monmouth University, Chemistry and Physics
Multi-scale modeling of energy transfer and dynamics of biomolecular systems with quantum chemistry and machine learning methods

Brian Liau liau@chemistry.harvard.edu
Harvard University, Chemistry and Chemical Biology
We study the chemistry and biology of chromatin and gene regulation

G.W. Gant Luxton gwgl@umn.edu
University of Minnesota,
Genetics, Cell Biology and Development
The Luxton Lab investigates the molecular mechanisms of biochemical and mechanical nuclear-cytoplasmic communication in health and disease

Alison Ondrus aondrus@caltech.edu
California Institution of Technology, Chemistry
Chemical biology

Gulcin Pekkurnaz gpekkurnaz@ucsd.edu
University of California, San Diego, Neurobiology
Neuronal metabolism and mitochondria

Juan Perilla jperilla@udel.edu
University of Delaware, Chemistry and Biochemistry
Atomistic modeling of cell-scale systems

Taras Pogorelov pogorelo@illinois.edu
University of Illinois at Urbana-Champaign, Chemistry
Biophysics of complex cellular environments that governs signaling, protein activity, and membrane dynamics: advancing modeling and theory

Manu Prakash manup@stanford.edu
Stanford University, Bioengineering
Curiosity driven science, frugal science, physical biology

Jennifer (Jenn) Prescher jpresche@uci.edu
University of California, Irvine, Chemistry
Spying on cellular communication with chemical tools and noninvasive imaging

Maxim (Max) Prigozhin
Maxim_prigozhin@harvard.edu
Harvard University,
Molecular and Cellular Biology and Applied Physics
Method development for multicolor and time-resolved electron microscopy of G protein-coupled receptor (GPCR) signaling

Elizabeth Read elread@uci.edu
University of California, Irvine, Chemistry and Biomolecular Engineering
Dynamics of biochemical networks, epigenetics and cell-fate decisions. Stochastic kinetics, statistical inference and simulation algorithms

Laura Sanchez sanchelm@uic.edu
University of Illinois at Chicago,
Medicinal Chemistry and Pharmacognosy
We are interested in developing mass spectrometry based techniques for measuring metabolites in situ

Abhishek Singharoy asinghar@asu.edu
Arizona State University, School of Molecular Sciences
Simulate anything living or dead in atomic details

Anna Marie Sokac asokac@illinois.edu
University of Illinois at Urbana Champaign,
Cell and Developmental Biology
We study how actin is remodeled by gene expression, signaling and mechanics to robustly convert single-celled embryos into viable offspring

Alice Soragni alices@mednet.ucla.edu
University of California, Los Angeles, Medicine
Protein aggregation in cancer and organoid models

Nicholas Stephanopoulos nstepha1@asu.edu
Arizona State University, School of Molecular Sciences
I work on hybrid protein-DNA nanomaterials for biology, medicine, and fundamental nanoscience

Judith Su judy@optics.arizona.edu
University of Arizona,
Biomedical Engineering and Optical Sciences
Label-free single molecule detection and kinetics using ultra-sensitive optical sensors

Cheemeng Tan cmtan@ucdavis.edu
University of California Davis, Biomedical Engineering
The Tan Lab constructs and studies protein synthesis networks from the bottom-up in droplets, artificial cells, and bacteria

Kandice Tanner Kandice.tanner@nih.gov
National Cancer Institute, National Institutes of Health
Physicist working on the role of the microenvironment on cancer metastasis

Scialog Fellows Continued

Lu Wang lwang@chem.rutgers.edu
Rutgers, The State University of New Jersey, Chemistry and Chemical Biology
Theoretical modeling of the structure, quantum effects and spectroscopy of biomolecules

Rongsheng (Ross) Wang rosswang@temple.edu
Temple University, Chemistry
Development of chemical/protein probes to decipher cell signaling pathways such as post-translational modifications

Wenjing Wang wenjwang@umich.edu
University of Michigan, Ann Arbor, Chemistry and Life Sciences
My lab focuses designing protein based molecular sensors and optogenetic tools to study the molecular signaling events in live cells

Lu Wei lwei@caltech.edu
California Institution of Technology, Chemistry
Developing and applying novel optical imaging methods to dynamical biological systems

Jing-Ke Weng wengj@wi.mit.edu
Whitehead Institute/ Massachusetts Institute of Technology, Biology
My lab is interested in understanding metabolic evolution in plants and developing new biotechnologies to enable future green chemistry

Joshua (Josh) Widhalm jwidhalm@purdue.edu
Purdue University, Plant Biology and Horticulture
The Widhalm lab uses functional genomics with synthetic biology tools to investigate fundamental aspects of plant metabolism

Jaclyn (Jackie) Winter jaclyn.winter@utah.edu
University of Utah, Medicinal Chemistry
Explore the chemical diversity of natural products and engineer enzymatic machinery to produce otherwise inaccessible molecules

Bin Zhang binz@mit.edu
Massachusetts Institute of Technology, Chemistry
Developing computational models to predict 3D genome organization and to understand the molecular mechanisms leading to its establishment

Xin Zhang xuz31@psu.edu
The Pennsylvania State University, Chemistry
Chemical biology of protein aggregates in membraneless organelles

Discussion Facilitators

Bonnie Bassler bbassler@princeton.edu
Princeton University/HHMI
The research in my laboratory focuses on the molecular mechanisms that bacteria use for intercellular communication

Michael (Mike) Espey sp@nih.gov
National Cancer Institute

Holly Goodson hgoodson@nd.edu
University of Notre Dame
Mechanisms of subcellular self-organization, focused on the cytoskeleton. Other interests: evolutionary cell biology, whole-cell biosensors

Rigoberto Hernandez r.hernandez@jhu.edu
Johns Hopkins University, Chemistry
@EveryWhereChem: Theoretical and Comp Chemistry @ JHUChemistry: nonequilibrium reactions, TST, nanoparticles, proteins, diversity and leadership

Neil Kelleher n-kelleher@northwestern.edu
Northwestern University, Proteomics Center of Excellence
TD proteomics to measure intact proteoforms, and their complexes; natural products discovery from soil bacteria and fungi; chromatin biology

Gang-Yu Liu gyliu@ucdavis.edu
University of California, Davis, Chemistry
Using nanotechnology for controlling cellular signaling processes

Andreas Matouschek matouschek@austin.utexas.edu
The University of Texas at Austin
We explore how the proteasome particle controls cellular protein abundance, to discover novel regulatory principles

Paul Selvin selvin@illinois.edu
University of Illinois at Urbana-Champaign
Single-molecule Super-resolution Fluorescence of molecular motors, neurons, and cancer

Guests

Alexandra Basford Alexandra.basford@alleninstitute.org
Allen Institute
The Paul G. Allen Frontiers Group looks for new, breakthrough ideas in bioscience and directs research funding to help advance human health

Ed McCleskey emccleskey@chanzuckerberg.com
Chan Zuckerberg Initiative
Ion channels: the biophysics of calcium permeation in calcium-selective channels and the biology of certain ion channels that trigger pain

James Mitchell James_g_mitchell@yahoo.com
Shurl and Kay Curci Foundation
Interested in the life sciences, especially genetic engineering, cancer research, ML and Biology

Jeffrey Silverstein Jeff.silverstein@usda.gov
US Department of Agriculture
Biological science, especially related to animal health sciences

Angel Martin angel@emersoncollective.com
Emerson Collective, Health
Emerson Health believes we have an exciting opportunity now to make substantial improvements in our understanding and treatment of cancer

Brad Halvorsen bhalvorsen@flinn.org
Flinn Foundation
Biomedical sciences

Sandra Laney slaney@walderfoundation.org
Walder Foundation
Early stages of developing Walder Foundation's Science Innovation Program; interested in cross-sector fertilization and collaboration

Kimberly Metzler Kimberly.metzler@alleninstitute.org
Allen Institute for Cell Science
Create opportunities to drive data-driven, multi-disciplinary team science to better predict cell behaviors in normal and disease cells

Gordon and Betty Moore Foundation

Gary Greenburg Gary.Greenburg@Moore.org
Funder of basic science research in the physical and life sciences

Research Corporation

Dan Linzer dlinzer@rescorp.org
President

Silvia Ronco sronco@rescorp.org
Senior Program Director

Richard Wiener rwiener@rescorp.org
Senior Program Director

Andrew Feig afeig@rescorp.org
Program Director

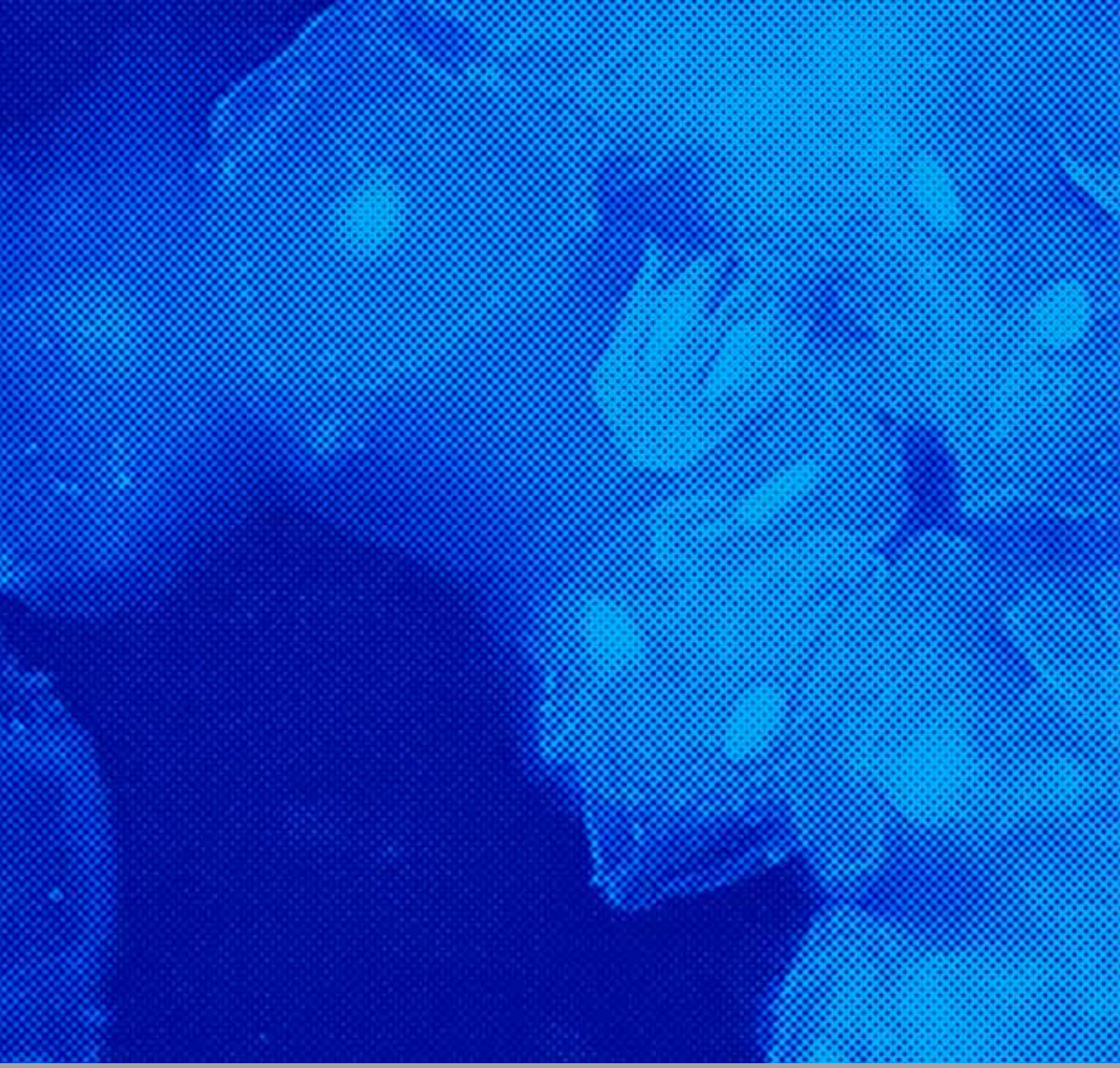
Danny Gasch dgasch@rescorp.org
Chief Financial Officer

Kathleen Eckert kathleen@rescorp.org
Senior Program Assistant

Laura Esham Lesham@rescorp.org
Program Assistant

Barbara Shapiro Bshapiro@rescorp.org
Program Assistant

2020 Scialog Conference:
Chemical Machinery of the Cell
October 8-11, 2020



4703 East Camp Lowell Dr.
Suite 201
Tucson, Arizona 85712
Phone 520.571.1111
www.rescorp.org

RESEARCH CORPORATION
for SCIENCE ADVANCEMENT