

# The Future of Science

  
RESEARCH CORPORATION  
for SCIENCE ADVANCEMENT  
*A foundation dedicated to science since 1912.*

## Summary of 2020 Awards

Research Corporation for Science Advancement (RCSA) supports early-career scientists at colleges and universities in the United States and Canada through two major efforts: the Cottrell Scholar Program and Scialog. In 2020, RCSA responded to the global pandemic with three additional emergency initiatives: the COVID-19 Initiative, Cottrell Fellowships, and Cottrell Instrumentation Supplements.

**Cottrell Scholar Program** – developing outstanding teacher-scholars recognized by their scientific communities for the quality of their research programs, innovation in education, and potential for academic leadership. In 2020, Cottrell Scholar Program funding included **\$2.5 million** for 25 initial Cottrell Scholar Awards, **\$75,000** for three Cottrell Scholars Collaborative Awards, and **\$565,000** for nine Cottrell Plus Awards, which includes the competitive FRED, SEED, STAR and IMPACT awards.

**Scialog** – promoting dialogue and community-building to catalyze transformational science through collaborative, interdisciplinary research. In 2020, RCSA awarded **\$330,000** to early-career faculty for scientific research through Scialog Collaborative Innovation Awards. The contributions of partner philanthropies toward Scialog awards brought this total to **\$1,155,000**. (Three other Scialog initiatives were postponed to 2021 due to the pandemic.)

**COVID-19 Initiative** – supporting cutting-edge research into the detection and mitigation of the current and future epidemics. In 2020, seven teams of scientists were awarded a total of **\$715,000**.

**Cottrell Fellowships** – supporting the work of postdoctoral fellows whose plans to start independent academic or research careers were delayed or derailed due to institutional hiring freezes. In 2020, RCSA awarded **\$831,250** to 13 Cottrell Scholars. Four of these awards were funded through a **\$340,000** grant from the National Science Foundation.

**Cottrell Instrumentation Supplements** – supporting new instrumentation (or updates to existing equipment) needed to continue research and learning at institutions struggling with the financial impact of the pandemic. In 2020, RCSA awarded 11 Cottrell Instrumentation Supplements totaling **\$141,000**.

RCSA strives to be broadly inclusive in support of early-career scientists. To learn more about our programs, visit the RCSA website at [www.rescorp.org](http://www.rescorp.org).



2020 Cottrell Scholars

## Cottrell Scholar Program

Nurturing an interdisciplinary community of outstanding teacher-scholars, the CS program fosters synergy among faculty at major American and Canadian research universities and primarily undergraduate institutions. Cottrell Scholars engage in an annual networking event to share insights and expertise, and have the opportunity to develop initiatives to enhance science education and scientist career development through the Cottrell Scholar Collaborative. Outstanding candidates in chemistry, physics, and astronomy are admitted to the ranks of Cottrell Scholars through a stringent peer-review process based on their innovative research and education proposals. Once designated a Cottrell Scholar, several levels of competitive funding to promote career growth become available under the Cottrell Plus Awards Program.

## 2020 Cottrell Scholar Awards

(\$100,000 each)

**Carlos R. Baiz**, Chemistry, University of Texas at Austin – *Molecular Dynamics at Heterogeneous Oil-Water Interfaces and a New Approach to Addressing the Mental Health Needs of Graduate Students*

**Kateri H. DuBay**, Chemistry, University of Virginia – *Teaching Entropy and Modeling the Sequence-Determinants of Surface-Initiated Copolymerizations*

**Keary M. Engle**, Chemistry, Scripps Research Institute – *Catalytic Difunctionalization of Alkenes Using Transient Directing Groups*

**Pengfei Huo**, Chemistry, University of Rochester – *Enabling New Chemical Reactivities Through Polariton Photochemistry*

**Catherine Kealhofer**, Physics, Williams College – *Nonequilibrium Phonon Dynamics in Two-dimensional Materials*

**Elena F. Koslover**, Physics, University of California, San Diego – *Physics of Cellular Distribution Networks: Morphology and Transport in the Endoplasmic Reticulum*

**Kristin S. Koutmou**, Chemistry, University of Michigan – *Chemical Modifications to mRNA Nucleosides: A New Frontier in Gene Regulation*

**Kah Chun Lau**, Physics, California State University, Northridge – *Data-Driven Solubility Model Development of Concentrated Non-aqueous Electrolytes*

**Frank A. Leibfarth**, Chemistry, University of North Carolina at Chapel Hill – *Organocatalytic Kinetic Resolution Polymerization of Lactones*

**Huey-Wen Lin**, Physics, Michigan State University – *Unveiling the Three-Dimensional Structure of Nucleons*

**Song Lin**, Chemistry, Cornell University – *New Catalytic Methods for Enantioselective Electrosynthesis and Introducing Electrosynthesis to College and Graduate Curricula*

**Britt F. Lundgren**, Astronomy, University of North Carolina Asheville – *Shedding Light on Star Formation Driven Galaxy Outflows across Cosmic Time*

**Elisabetta Matsumoto**, Physics, Georgia Institute of Technology – *Knotty Knits: Using Topological Constraints to Program Geometry and Elastic Response in Knitted Textiles with Lattice Defects*

**Sharon R. Neufeldt**, Chemistry, Montana State University – *Combined Experimental and Computational Approach to Improving Nickel and Palladium-Catalyzed Cross-Couplings*

**Glen D. O'Neil**, Chemistry, Montclair State University – *Neurotransmitter Detection using Light-Addressable Electrochemical Sensors: Investigating the Role of Metal Morphology and Coverage on Sensor Response using Scanning Electrochemical Methods*

**Peter P. Orth**, Physics, Iowa State University – *Probing Fractionalization and Entanglement in Quantum Spin Liquids: Theory of Two-dimensional Spectroscopy*

**Cedric Owens**, Chemistry, Chapman University – *Constructing a Better Nitrogenase by Uncovering Protein-protein Interactions That Protect the Enzyme and Expand its Chemistry*

**Dennis V. Perepelitsa**, Physics, University of Colorado Boulder – *Next-Generation Experimental Probes of Hot and Dense Nuclear Matter*

**Leslie A. Rogers**, Astronomy, University of Chicago – *Searching for Water in Distant Worlds: Connecting the Atmospheric and Bulk Compositions of Sub-Neptune-Size Planets*

**Brenda M. Rubenstein**, Chemistry, Brown University – *Advancing Chemistry through Data Science: Catalyst Design via Data-Enabled Quantum Chemistry and Integrating Data Science into the Chemistry Curriculum*

**Lorenzo Sironi**, Astronomy, Columbia University – *To B or Not to B: The Birth and Death of Magnetic Fields in the Universe*

**David A. Strubbe**, Physics, University of California, Merced – *Light-induced Structural Dynamics in Materials: New Theoretical Insight into Ultrafast Phenomena*

**Claire P. Till**, Chemistry, Humboldt State University – *Scandium and Iron: Parallels in Chemical Reactivity, and Reducing the Opportunity Gap in the HSU Chemistry Department and Beyond*

**Jesús M. Velázquez**, Chemistry, University of California, Davis – *Achieving Energy Conversion Functionality Through Compositional Modification: The Role of Metal Promotion in Chalcogenide Frameworks*

**Jessica K. Werk**, Astronomy, University of Washington – *The Observational Signatures of Cosmic Gas Flows in a Hydrodynamic Framework*

**Total: \$2,500,000**



## Cottrell Scholars Collaborative

At the annual Cottrell Scholar Conference, participants are encouraged to form teams and develop collaborative projects with potential national impact in science education. Through this Cottrell Scholars Collaborative program, RCSA funded three projects in 2020 at \$25,000 each:

### ***Moving the Dial: A Network for Systematic Change***

This project seeks to support broader diversification and improved equity and inclusion in science by building a national network of Scholars researching specific areas of DEI and creating readily disseminatable products.

**Lead Cottrell Scholar: Rory Waterman**, Chemistry, University of Vermont

In collaboration with additional Cottrell Scholars:

**Nikki Pohl**, Chemistry, Indiana University Bloomington

**Aaron Leconte**, Chemistry, Claremont MacKenna College

**Carla Fröhlich**, Physics, North Carolina State University

**Sarah Reisman**, Chemistry and Chemical Engineering, California Institute of Technology

**Laura Chomiuk**, Physics and Astronomy, Michigan State University

**Nancy Forde**, Physics, Simon Fraser University

**Lou Charkoudian**, Chemistry, Haverford College

**Jesús M. Velázquez**, Chemistry, University of California, Davis

**Charles McCrory**, Chemistry, University of Michigan

**David Strubbe**, Physics, University of California, Merced

**Tim Kowalczyk**, Chemistry, Western Washington University

**Jordan Gerton**, Physics and Astronomy, University of Utah

**Amanda Hargrove**, Chemistry, Duke University

**Dinah Loerke**, Physics and Astronomy, University of Denver

**Ellen Matson**, Chemistry, University of Rochester

**Ashleigh Baber**, Chemistry, James Madison University

**Rigoberto Hernandez**, Chemistry, Johns Hopkins University

**Nandini Ananth**, Chemistry, Cornell University  
**Chad Risko**, Chemistry, University of Kentucky  
**Geoff Hutchison**, Chemistry, University of Pittsburgh  
**Kristen Koutmou**, Chemistry, University of Michigan  
**Gina MacDonald**, Chemistry and Biochemistry, James Madison University

***Seeing is Believing: Enhancing the Visualization of Atoms, Molecules, and Materials Using Augmented and Virtual Reality***

This collaborative aims to develop a process for using augmented and virtual reality in aiding visualization of atoms, molecules, and materials in an effort to enable students in chemistry and physics courses to visualize concepts where conventional resources often prove inadequate.

**Lead Cottrell Scholar: Katherine Mirica**, Chemistry, Dartmouth College

In collaboration with additional Cottrell Scholars:

**Kah Chun Lau**, Physics, California State University, Northridge

**Huey-Wen Lin**, Physics, Michigan State University

**Geoff Hutchison**, Chemistry, University of Pittsburgh

**Günther Thiele**, Inorganic Chemistry, Freie Universität Berlin, Germany

***Diversity, Equity, and Inclusion in the Age of COVID-19: A New STEM Pipeline Model that Grows Undergraduate Research at Minority-Serving Institutions via Collaboration, Personnel Exchange and Online Training***

The goal of this award is to increase underrepresented minority participation in STEM fields by developing a new pipeline model that combines high-quality collaborative research with research exchanges, available to first year undergraduates at historically Black or Hispanic-serving colleges and universities.

**Lead Cottrell Scholar: Shane Ardo**, Chemistry, University of California, Irvine

In collaboration with additional Cottrell Scholars:

**Shannon Boettcher**, Chemistry and Biochemistry, University of Oregon

**Tom Markland**, Chemistry, Stanford University

**Yogi Surendranath**, Chemistry, Massachusetts Institution of Technology

And with:

**Yixian Wang**, California State University, Los Angeles

**Matt Minus**, Prairie View A&M University

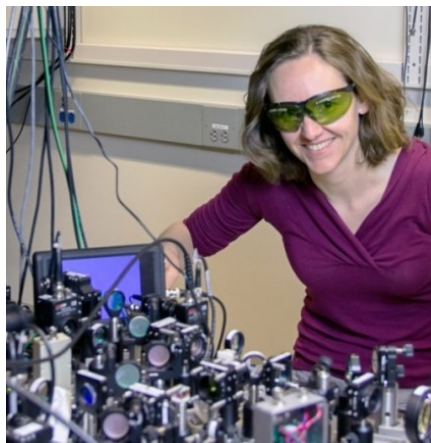
**Niya Sa**, University of Massachusetts, Boston

**Total: \$75,000**



## Cottrell Plus Awards

As their scientific careers advance, Cottrell Scholars are eligible to receive post-tenure Cottrell Plus Awards to further support their research and educational activities.



2020 FRED Award recipient Cindy Regal

### FRED

The **FRED Award** of \$250,000 is for a high-risk, high-reward project with the potential to transform a significant area of research.

The 2020 FRED Award was made to CS 2014 **Cindy Regal**, associate professor of physics at the University of Colorado Boulder. The award will support her efforts to address challenges in nuclear spin detection and imaging, and to broaden approaches to precision mechanical sensing. Her pioneering work could create a new pathway for observing spins through force signatures and perhaps enable 3D imaging at the nanoscale.

### SEED

**SEED (Singular Exceptional Endeavors of Discovery) Awards** are competitive grants to launch new projects in research (at \$50,000 each) or education (at \$25,000 each). In 2020, SEED Award winners (all for research) were:

**Richard Brutchey**, Chemistry, University of Southern California

*SEED: Optimization of Quantum Dot Nanofabrication Based on High-Throughput Continuous Flow Chemistry*

**Mark Bussell**, Chemistry, Western Washington University  
*Metal Phosphide-Oxide Hybrid Catalysts for Solar Fuels Production*

**Seth Herzon**, Chemistry, Yale University  
*Practical methods for oxygen–oxygen bond formation*

**Hanadi Sleiman**, Chemistry, McGill University  
*DNA Hydrogels Promoted by Small Molecules: Highly Scalable Synthesis and Stimuli-Responsive Applications in Tissue Regeneration*

**Brian Stoltz**, Chemistry and Chemical Engineering, California Institute of Technology  
*The Advancement of Small Molecule Electron Crystallography via MicroED: Leading the Transition from Proofs of Concept to Global Adoption*

**Ann West**, Chemistry and Biochemistry, University of Oklahoma  
*How Does an Anaerobic Microbial Pathogen Sense Oxygen Stress?*



2020 SEED Award recipients



2020 awardees Rigoberto Hernandez, Helen Blackwell and Julio de Paula

## IMPACT

**IMPACT** Awards recognize the work of Cottrell Scholars who have had a national impact in science through their leadership and service activities. In 2020, the IMPACT Award of \$5,000 went to:

**Rigoberto Hernandez**, CS 1999, Chemistry, Johns Hopkins University

## STAR

**STAR (excellence in Science Teaching And Research) Awards** recognize the outstanding research and educational accomplishments of Cottrell Scholars and encourage the improvement of science education at American and Canadian universities and colleges. In 2020, STAR Awards of \$5,000 went to:

**Helen Blackwell**, CS 2005, Chemistry, University of Wisconsin, Madison

**Julio de Paula**, CS 1994, Chemistry, Lewis & Clark College

**Total: \$565,000**



## Scialog Collaborative Innovation Awards

The Scialog program was created in 2010 by RCSA, which oversees its administration. Scialog – short for "science + dialog" – funds early-career scientists to pursue transformative research with their fellow grantees on crucial issues of scientific inquiry. Scialog initiatives are a multi-year thematic investment, in which around 50 early-career Scialog Fellows, facilitated by 10 leading scientists, convene annually to discuss cutting-edge multidisciplinary themes and propose high-risk collaborative projects.

Due to the pandemic, RCSA convened one Scialog conference in 2020 in which awards were made – the virtual inaugural meeting of the Negative Emissions Science initiative. Through 2020 Scialog Collaborative Innovation Awards, RCSA along with funding partners the Alfred P. Sloan Foundation and the Thistledown Foundation provided a total of \$1,155,000 in seed funding for eight teams' research.



## Negative Emissions Science (Year 1)

**Goal:** To catalyze chemists, engineers, environmental scientists and those in related fields to collaborate on new and innovative projects to accelerate breakthroughs in the fundamental understanding of capturing and utilizing or sequestering carbon and other greenhouse gases in the atmosphere and oceans that will lead to a sustainable future. Each of the 21 individual awards is \$55,000.



2020 Scialog: Negative Emissions Science Collaboration Innovation Award recipients

**Shaama Mallikarjun Sharada**, Chemical Engineering and Materials Science, University of Southern California †  
**Burcu Gurkan**, Chemical and Biomolecular Engineering, Case Western Reserve University †  
**Xiao Su**, Chemical and Biomolecular Engineering, University of Illinois at Urbana-Champaign †  
*Electrifying Humidity-Swing Adsorption for DAC by Modulation of Redox-Polymer Hydration*

**William Bowman**, Materials Science and Engineering, University of California, Irvine †  
**Eva Nichols**, Chemistry, University of British Columbia †  
**Robert Coridan**, Chemistry and Biochemistry, University of Arkansas †  
*Using Electrochemistry to Improve Selectivity of Plasma-Assisted CO<sub>2</sub> Reduction*

**Kathryn Knowles**, Chemistry, University of Rochester \*

**Carlos Morales-Guio**, Chemical and Biomolecular Engineering, University of California, Los Angeles \*

**Robert Coridan**, Chemistry and Biochemistry, University of Arkansas \*

*Integrated Low-Temperature Electrified Process for CO<sub>2</sub> Direct Air Capture and Transformation to Solid Carbon*

**Rafael Santos**, School of Engineering, University of Guelph ††

**Pratik Dholabhai**, Physics and Astronomy, Rochester Institute of Technology \*

**Andrea Hicks**, Civil and Environmental Engineering, University of Wisconsin - Madison \*

*Investigation of the Carbonation Dynamics of Synthetic Silicates: Guiding the Development of Net-Negative Production Process and Deployment in Enhanced Rock Weathering*

**Nanette Boyle**, Chemical & Biological Engineering, Colorado School of Mines \*

**Shu Hu**, Chemical and Environmental Engineering, Yale University ††

*Bricks from The Ocean: Hybrid Microbial-Electrochemical Mineralization of CO<sub>2</sub>*

**Nanette Boyle**, Chemical & Biological Engineering, Colorado School of Mines \*

**Chong Liu**, Chemistry and Biochemistry, University of California, Los Angeles \*

*Solar-Augmented Direct Air Capture of Methane Using Methanotrophic Bacteria*

**Greeshma Gadikota**, Civil and Environmental Engineering, Cornell University ††

**Venkat Viswanathan**, Mechanical Engineering, Carnegie Mellon University ††

*Envisioning a Low Carbon Built Environment through Innovative Electrochemical and Chemical Processing of Construction Materials and Enhanced Circular Reuse*



**Wilson Smith**, Chemical and Biological Engineering, University of Colorado Boulder \*  
**David Kwabi**, Mechanical Engineering, University of Michigan \*  
**Robert Gilliard**, Department of Chemistry, University of Virginia \*  
*Electrochemically Driven Reactive Capture of CO<sub>2</sub> from Air Using Azolium-Carboxylates*

\* Sloan funding (total \$605,000)

† RCSA funding (total \$330,000)

†† Thistledown funding (total \$220,000)

**Total: \$1,155,000**

## Emergency Initiatives

### COVID-19 Initiative: Detecting and Mitigating Epidemics

RCSA awarded seven teams of scientists a total of \$715,000 for cutting-edge research that could contribute to the global effort to combat the coronavirus. For each proposal, team members were awarded \$55,000 apiece to support the work. Funded proposals were:

*Glycomimetics for Inhibiting SARS-CoV-2 Entry*

**Nicole Snyder**, Chemistry, Davidson College

Collaborating with:

**Laura Hartmann**, Heinrich-Heine-Universität, Düsseldorf

**Mario Schelhaas**, Westfälische-Wilhelms-Universität, Münster

*Pan-Covid-19 MultiValent Binders (MVBs) to Block Virus Entry*

**Rommie Amaro**, Chemistry and Biochemistry, University of California, San Diego

**Ronit Freeman**, Applied Physical Sciences, University of North Carolina at Chapel Hill

**Carlos Simmerling**, Chemistry, Stony Brook University

*Establishing Swift, Sensitive, and Selective (3S) Sensing Technologies – Going Beyond RT-PCR*

**Ronit Freeman**, Applied Physical Sciences, University of North Carolina at Chapel Hill

**Zachary Schultz**, Chemistry and Biochemistry, The Ohio State University

*Modulating Ribosomal Frameshifts to Interfere with Viral Protein Translation*

**Stephen Fried**, Biophysics, Johns Hopkins University

**Matthias Heyden**, Molecular Sciences, Arizona State University

**Carlos Simmerling**, Chemistry, Stony Brook University

*Targeting the SARS-CoV-2 Frameshift Site Pseudoknot*

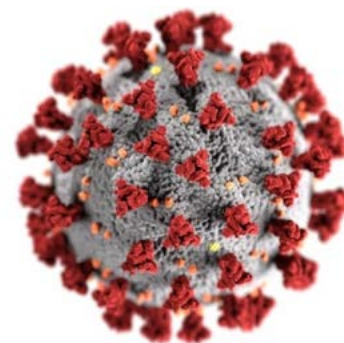
**Amanda Hargrove**, Chemistry, Duke University

**Katie Mouzakis**, Chemistry, Loyola Marymount University

Collaborating with:

**Victoria D'Souza**, Harvard University

**Gary Brewer**, Rutgers Robert Wood Johnson Medical School



*A New Technology to Assess COVID-19 Serosurveillance*

**Neil Kelleher**, Chemistry, Northwestern University

Collaborating with:

**Paul Thomas, Eleonora Forte, Rafael Melani, Richard LeDuc, Daniela Ladner, Alexander (Sasha) Misharin, and Huiping Liu**, Northwestern University

*Electric Field-Driven Antigen Enrichment to Achieve Detection of SARS-CoV-2 Nucleocapsid Protein in Urine at the Point-of-Need*

**Robbyn Anand**, Chemistry, Iowa State University

**Total: \$715,000**

## **Cottrell Fellowships**

RCSA awarded \$831,250 to 13 Cottrell Scholars to support the work of postdoctoral fellows whose plans to start independent academic or research careers this year were delayed or derailed due to institutional hiring freezes. Four of these awards are funded through a \$340,000 grant from the National Science Foundation.

**Seth Cohen** (on behalf of postdoc **Kyle Bentz**) University of California, San Diego  
*Cottrell Fellowship – Dr. Kyle Bentz – MOF-polymer Hybrid Materials*

**Jahan Dawlaty** (postdoc **Sohini Sarkar**) University of Southern California  
*Designer Electric Fields at Interfaces to Influence Electrocatalysis*

**Luis Campos** (postdoc **Rinat Meir**) Columbia University  
*Photon Upconversion Biomaterials for Light-Activated Tissue Engineering*

**Sarbajit Banerjee** (postdoc **Rachel Davidson**) Texas A&M University  
*Developing Design Rules for Accessing Metastable Solids through Global Exploration of Synthetic Landscapes*

**John Fourkas** (postdoc **Nikos Liaros**) University of Maryland, College Park  
*2-Beam Action Spectroscopy for Elucidating Complex Nonlinear Optical Phenomena in Emerging 2D Materials*

**Teri Odom** (postdoc **Shikai Deng**) Northwestern University  
*Core-shell Plasmonic Nanoparticle Lattices*

**Frank Leibfarth** (postdoc **Aaron Teator**) University of North Carolina at Chapel Hill  
*Metal-Free, Controlled Stereoselective Polymerization of Vinyl Ethers*

**Maura McLaughlin** (postdoc **Dustin Madison**) West Virginia University  
*Innovative Gravitational Research and Creative Curricular Development: A Bridge to a Career as a Teacher-Scholar*

**Kevin McFarland** (postdoc **Daniel Ruterbories**) University of Rochester  
*Neutrino-Nucleus Interaction Studies for Neutrino Interferometry, and a Flipped Classroom for Vulnerable STEM students in Introductory Physics in the COVID19 Year*

**Vassiliki Kalogera** (postdoc **Diego Munoz**) Northwestern University  
*Distorted Accretion Disks: The Restless Environments of Planet-Forming Systems*

**Lorenzo Sironi** (postdoc **Lucca Comisso**) Columbia University  
*Unveiling Particle Energization in Astrophysical Plasmas*

**Brent Melot** (postdoc **Ahamed Irshad**) University of Southern California  
*Solid Electrolytes with Dual Li<sup>+</sup> and F<sup>-</sup> ion Conductivity to Overcome the Barrier of Gravimetric Capacity*

**David Ginger** (postdoc **Connor Bischak**) University of Washington  
*Machine Learning Guided Investigations of Structure Function Relationships in Organic Mixed Ionic Electronic Conductors*

**Total: \$831,250**

## **Cottrell Instrumentation Supplements**

Following listening sessions with Cottrell Scholars on the challenges of reopening research laboratories and programs during the COVID-19 pandemic, RCSA made awards totaling \$141,000 for new instrumentation (or for updates to existing equipment) needed to continue research and learning at 11 primarily undergraduate institutions. The awards, tailored to individual needs in amounts from \$10,000 to \$20,000, will be used as a matching-fund commitment for grant applications, or where at least half of the funds to purchase the instrument have been identified. Recipients of 2020 Cottrell Instrumentation Supplements are:

**Mario Affatigato**, Physics, Coe College  
*Purchase of a Vickers Microindenter for Glass Studies*

**Fadi Bou-Abdallah**, Chemistry, SUNY Potsdam  
*Acquisition of an ÄKTA Go Chromatography System to Help Expand and Support Learning and Research at SUNY Potsdam*

**Mark Bussell**, Chemistry, Western Washington University  
*Instrumentation for Raman Thermometry – Probing Photocatalysis at the Nanoscale*

**Jason Gillmore**, Chemistry, Hope College  
*Into the Future - Updating a GC and GC/MS Instrumentation Suite at Hope College to Extend Instrument Life and Improve Network Security*

**Casey Londergan**, Chemistry, Haverford College  
*A New Dynamic Light Scattering Instrument at Haverford College*

**Ryan McGorty**, Physics, University of San Diego  
*Upgraded Laser-Scanning Confocal Microscope System for Research and Teaching*

**Gregory O'Neil**, Chemistry, Western Washington University  
*WWU Benchtop NMR Supplement Request*

**Cedric Owens**, Chemistry, Chapman University

*A Request to Fund the Purchase of a Fermenter, A Vessel for Learning and Knowledge Creation*

**Shahir Rizk**, Chemistry, Indiana University at South Bend

*Surface Plasmon Resonance (SPR) for Analysis of Biomolecular and Surface Interactions*

**George Shields**, Chemistry, Furman University

*Acquisition of Computing Nodes to Support Experimental Research at Furman University*

**Thomas Solomon**, Physics, Bucknell University

*Instrumentation for Bucknell's Biophysics Program*

**Total: \$141,000**

## The Year Ahead

RCSA has seven major conferences scheduled for 2021. They will be held virtually or in Tucson, Arizona, depending on pandemic-related travel restrictions.

**April – Scialog: Microbiome, Neurobiology and Disease**

**May – Scialog: Advancing Bioimaging**

**June – Scialog: Signatures of Life in the Universe**

**July – Cottrell Scholar Conference**

**September – Scialog Mitigating Zoonotic Threats**

**October – Scialog: Chemical Machinery of the Cell**

**November – Scialog: Negative Emissions Science**

Nominations for early-career faculty to participate in Scialogs as Fellows, or senior faculty to serve as Scialog Facilitators, are welcome from colleagues, department heads, deans, vice presidents for research, or provosts. Institutions should also encourage eligible faculty (those in their third year with budgetary or courtesy appointments in chemistry, physics or astronomy) to apply for the Cottrell Scholar Award.

To learn more about RCSA and its programs, visit the website at [www.rcsa.org](http://www.rcsa.org) or contact:

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## About RCSA

Research Corporation for Science Advancement ([www.rescorp.org](http://www.rescorp.org)) was founded in 1912 and is the second-oldest foundation in the United States (after the Carnegie Corporation) and the oldest foundation for science advancement. Research Corporation is an advocate for the physical sciences and closely related fields in colleges and universities across the United States and Canada. RCSA believes that important advances in science will be achieved by focusing on and convening young academic scientists.