

Negative Emissions Science

The First Annual Scialog Conference
November 5-6, 2020

scialog2020[®]



Alfred P. Sloan
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 advance fundamental understanding of negative emissions science 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 constructively criticize each other's ideas – in a spirit of cooperative give 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.

Scialog: Negative Emissions Science

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Scialog: Negative Emissions Science

From the President

Welcome to the 2020 *Scialog: Negative Emissions Science* meeting, cosponsored by Research Corporation and the Alfred P. Sloan Foundation. This is the first of three Scialog meetings on this theme.

The goal of this Scialog is to catalyze experimentalists and theoretical modelers across multiple disciplines to collaborate on developing new and innovative projects to accelerate advances in the underlying science that will allow negative emissions technologies to become efficient, affordable, and scalable.

Scialog's overarching purpose is to advance cutting-edge science of great significance to humanity 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 for decades to come.

To that end, under the guidance of Program Directors **Richard Wiener**, **Andrew Feig**, and **Silvia Ronco** of Research Corporation and **Evan Michelson** of the Sloan Foundation, we hope you will be engaged in passionate discussions with colleagues, many of whom you will have met for the first time at 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 first meeting on this topic 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

Scialog: Negative Emissions Science

From the Program Director

This year Research Corporation and the Alfred P. Sloan Foundation are cosponsoring the first annual meeting of *Scialog: Negative Emissions Science*. 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 dialog, networking, and building new collaborations to pursue novel, high-risk discovery research. This meeting will be the first full Scialog held virtually. We are excited to hold the meeting virtually and will do our best to make it a great experience for participants.

Research Corporation and the Sloan Foundation chose to focus on Negative Emissions Science because we believe this critical area of science requires major breakthroughs in 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. Just as firmly, we believe these breakthroughs can be accelerated by chemists, engineers, environmental scientists and those in related fields working collaboratively on novel, high-risk projects, particularly with modelers and experimentalists combining efforts.

We have an outstanding keynote speaker to set the stage for breakout discussions:

Julia King, University of Cambridge

We have a team of terrific discussion facilitators: **Roger Aines** (Lawrence Livermore), **Sarbajit Banerjee** (Texas A&M), **Jordi Cabana** (University of Illinois, Chicago), **Chris Jones** (Georgia Tech), **Jeff Long** (UC Berkeley), **Alissa Park** (Columbia), **George Shields** (Furman), and **Jennifer Wilcox** (WPI), along with **Julia King**.

We have representatives on hand as observers from several organizations with a strong interest in climate issues and science philanthropy. Please see the Conference Attendees section below for a complete list.

Scialog meetings focus on dialog and team building with the goal of creating novel strategies and collaborative approaches. An important feature is the opportunity for Scialog Fellows to form teams and write proposals to pursue particularly creative ideas that emerge. We hope this competition is exciting, but regardless of which proposals are funded, the primary 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 help participants gain new insights and connections that significantly advance fundamental science to enable major advances in negative emissions technologies.

We hope each participant finds the Scialog experience of great value. Please do not hesitate to provide feedback on how to make the conference better. **Evan Michelson**, Program Director from the Sloan Foundation, my fellow RCSA Program Directors, **Andrew Feig** and **Silvia Ronco**, the RCSA staff, and I are here to help make Scialog a great experience!

Richard Wiener

Senior Program Director

Research Corporation for Science Advancement

Scialog: Negative Emissions Science

Conference Agenda (Optional activities in green)

November 5-6, 2020

(All times Mountain Standard; one hour later than Pacific & two hours earlier than Eastern)

Thursday, November 5

8:00 – 9:00 am	Early login Informal dialog BYO breakfast/lunch	Zoom Main Room & Gather Rooms
9:00 – 9:10 am	Welcome Dan Linzer, <i>President, RCSA</i> Adam Falk, <i>President, Sloan Foundation</i>	Zoom Main Room
9:10 – 9:25 am	Conference Overview & Desired Outcomes Richard Wiener, RCSA	Zoom Main Room
9:25 – 10:00 am	Small Group Ice Breakers	Zoom Breakout Rooms
10:00 – 10:35 am	Keynote Presentation & Discussion Julia King, <i>University of Cambridge</i>	Zoom Main Room
10:35 – 10:50 am	Break	
10:50 – 11:00 am	Directions for Breakout Sessions	Zoom Main Room
11:00 am – 12:15 pm	Breakout Session I	Zoom Breakout Rooms
12:15 – 12:45 pm	Report Out	Zoom Main Room
12:45 – 2:00 pm	Lunch	Zoom Breakout Rooms
2:00 – 2:45 pm	Mini Breakout Session I (Fellows only)	Gather Rooms
2:45 – 3:00 pm	Break	
3:00 – 3:45 pm	Mini Breakout Session II (Fellows only)	Gather Rooms
3:45 – 5:30 pm	Break	
5:30 – 7:30 pm	Social Mixer	Gather Rooms

Friday, November 6

8:00 – 9:00 am	Early login Informal dialog BYO breakfast/lunch	Zoom Main Room & Gather Rooms
9:00 – 10:15 am	Breakout Session II	Zoom Breakout Rooms
10:15 – 10:45 am	Report Out	Zoom Main Room
10:45 – 11:00 am	Break	
11:00 – 12:15 pm	Breakout Session III	Zoom Breakout Rooms
12:15 – 12:45 pm	Report Out	Zoom Main Room
12:45 – 1:00 pm	Discussion of Proposal Writing	Zoom Main Room
1:00 – 2:00 pm	Lunch	Zoom Breakout Rooms
2:00 – 2:45 pm	Mini Breakout Session III (Fellows only)	Gather Rooms
2:45 – 3:00 pm	Break	
3:00 – 3:45 pm	Mini Breakout Session IV (Fellows only)	Gather Rooms
3:45 – 5:30 pm	Break	
5:30 – 7:30 pm	Social Mixer	Gather Rooms

2020 Proposal Guidelines & Collaborative Awards

Scialog: Negative Emissions Science

1. Awards are intended to provide seed funding for teams of two to three Scialog Fellows formed at this conference for high-risk, high-impact projects.
2. Two-page proposals should describe the project and 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 direct funding per team member, plus a small percentage for overhead. Grant duration will be 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 teams must be different. No team can submit more than one proposal.
5. No Scialog Fellow who previously has won a Scialog NES 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 (Applies to Years 2 and 3).
6. Teams cannot include members who have previously collaborated with one another. If you are unsure of your status (e.g. prospective team members were part of a large collaboration but didn't significantly interact), please check for clarification with an RCSA program director.
7. Teams are encouraged (but not required) to:
 - a) Include members with different research approaches and methods.
 - b) Include members from different disciplines.
8. Proposals must be submitted electronically by Friday Nov. 13. Instructions for submission will be provided at the meeting.
9. Awards are anticipated to start in winter 2021.

Scialog Fellows

Ashleigh Baber baberae@jmu.edu

Chemistry and Biochemistry, James Madison University
Using surface science to optimize model catalysts for selective chemical reactions and study the fundamentals of molecular interactions on surfaces.

Praveen Bollini ppbollini@uh.edu

Chemical and Biomolecular Engineering,
University of Houston
CO₂ capture and conversion.

William (Will) Bowman will.bowman@uci.edu

Materials Science and Engineering,
University of California, Irvine
We use advanced electron microscopy to understand and design atomic- and nano-scale phenomena underlying the behaviors of energy materials.

Nanette Boyle nboyle@mines.edu

Chemical and Biological Engineering,
Colorado School of Mines
Photocatalytic conversion of carbon dioxide to bioproducts with algae and cyanobacteria.

Fikile (Fik) Brushett brushett@mit.edu

Chemical Engineering, MIT
We're interested in the science and engineering of electrochemical systems that enable a sustainable energy economy.

Rob Coridan rcoridan@uark.edu

Department of Chemistry, University of Arkansas
We use modeling, machine learning, and soft-matter interparticle interactions to develop scalable new electrode structures for photoelectrochemical solar fuels applications.

Pratik Dholabhai pratik.dholabhai@rit.edu

School of Physics and Astronomy,
Rochester Institute of Technology
Computational materials scientist with expertise in application and development of atomistic simulation methods to design materials.

Greeshma Gadikota gg464@cornell.edu

School of Civil and Environmental Engineering,
Cornell University
Innovative low carbon energy and resource conversions; carbon capture, utilization and storage; subsurface energy science and engineering.

Betar Gallant bgallant@mit.edu

Mechanical Engineering, MIT
Integration of CO₂ capture and electrochemistry to facilitate new storage and utilization concepts, accelerating mineralization and permanent storage.

Rebecca Gieseking gieseking@brandeis.edu

Department of Chemistry, Brandeis University
Quantum mechanical modeling of photochemical and electrochemical electron transfer; plasmon-enhanced catalysis.

Robert Gilliard rjg8s@virginia.edu

Department of Chemistry, University of Virginia
Main-Group- and Carbene-Mediated Strategies for Carbon Dioxide Reduction.

Christopher (Chris) Gorski gorski@psu.edu

Civil and Environmental Engineering, Penn State
I am interested in developing, analyzing, and comparing electrochemical systems used for carbon capture based on thermodynamics and rates.

Matthew (Matt) Green mdgreen8@asu.edu

Chemical Engineering, Arizona State University
The Green Lab integrates macromolecular design and controlled synthesis to create hierarchical, multifunctional materials and systems for CO₂ capture.

Burcu Gurkan beg23@caae.edu

Chemical and Biomolecular Engineering,
Case Western Reserve University
Interfacial and bulk structure of concentrated electrolytes; Solvation and transport in ionic liquids and deep eutectic solvents; Gas separations and sensors.

Kelsey Hatzell kelsey.b.hatzell@vanderbilt.edu

Mechanical Engineering, Vanderbilt University
Transport and kinetic properties at active solid|Liquid and solid|solid Interfaces.

Marta Hatzell marta.hatzell@me.gatech.edu

Mechanical Engineering, Georgia Tech
We investigate the thermodynamics and interface science of next generation electrochemical technologies for sustainable food, energy and water production.

Andrea Hicks hicks5@wisc.edu

Civil and Environmental Engineering,
University of Wisconsin-Madison
The environmental impacts of negative emission technologies, and determining environmental break-even points as a function of materials, energy, and scale.

Scialog Fellows Continued

Caleb Hill caleb.hill@uwyo.edu

Department of Chemistry, University of Wyoming
The development and application of analytical methods to characterize the chemical and physical behavior of individual nanoscale entities.

Adam Holewinski adam.holewinski@colorado.edu

Chemical and Biological Engineering,
University of Colorado - Boulder
Catalysis, kinetics, spectroscopy, biomass conversion, electro-organic chemistry.

Katherine Hornbostel hornbostel@pitt.edu

Mechanical Engineering and Materials Science,
University of Pittsburgh
Membrane development for direct ocean capture; direct air capture using metal-organic-frameworks; designing negative emissions power plants.

Shu Hu shu.hu@yale.edu

Chemical and Environmental Engineering,
Yale University
Catalysis, modeling and reactor engineering, in situ IR and x-ray spectroscopy.

Jianbing (Jimmy) Jiang jiangjb@ucmail.uc.edu

Department of Chemistry, University of Cincinnati
The research interest in my group focuses on using molecular engineering strategy to understand the mechanisms of CO₂ electroreduction and to enhance the overall catalytic efficiency.

Feng Jiao jjiao@udel.edu

Chemical and Biomolecular Engineering,
University of Delaware
The Jiao group develops novel electrochemical reactors for solving critical issues in carbon utilization and sustainable chemical production.

Kathryn (Katie) Knowles kknowles@ur.rochester.edu

Chemistry, University of Rochester
Synthesis and fundamental study of the photophysical and electrochemical properties of first-row transition metal oxide nanomaterials.

David (Dave) Koweek david.koweek@oceanvisions.org

Ocean Visions
How much of a role can the oceans play in solving our climate crisis?

David Kwabi dkwabi@umich.edu

Mechanical Engineering, University of Michigan
Design and study of chemically functionalized interfaces and materials for low-cost batteries and electrochemical devices for energy-efficient separations.

Simona Liguori sliguori@clarkson.edu

Department of Chemical and Biomolecular Engineering,
Clarkson University
Liguori's research interests are in carbon-neutral and carbon-free energy production associated with carbon capture technology to power a sustainable future.

Feng Lin fenglin@Vt.edu

Chemistry, Virginia Tech
Tailoring the electrochemical processes in batteries, electrocatalysis, and smart windows.

Li-Chiang Lin lin.2645@osu.edu

Chemical and Biomolecular Engineering,
The Ohio State University
Employing molecular simulations and ab initio calculations to pose computation-driven material discoveries with atomic-level understandings.

Chong Liu chongliu@chem.ucla.edu

Department of Chemistry and Biochemistry,
University of California, Los Angeles
Inorganic chemist. Integrating chemistry and biology for electrochemical applications of negative emission and small molecule activation.

Tianbiao (Leo) Liu leo.liu@usu.edu

Chemistry and Biochemistry, Utah State University
Maximize the utilization of renewable energy (solar and wind) and produce chemical fuels and valuable products using abundant raw materials, such as N₂, CO₂, and water.

Yuanyue Liu yuanyue.liu@austin.utexas.edu

Mechanical Engineering, University of Texas at Austin
Computational chemistry focusing on electrochemistry at solid-liquid interface by advanced first-principles atomistic modelling.

Oana Luca oana.luca@colorado.edu

Chemistry, University of Colorado Boulder
We are interested in the electrochemical conversion of waste chemical feedstocks into valuable products.

Shaama Mallikarjun Sharada ssharada@usc.edu

Chemical Engineering and Materials Science,
University of Southern California
Using quantum chemistry and machine learning to understand underlying electron transfer processes and drive discovery of organic photoredox catalysts for CO₂ reduction.

Scialog Fellows Continued

Jarad Mason mason@chemistry.harvard.edu
Department of Chemistry and Chemical Biology,
Harvard University
Manipulating porosity and phase transitions in metal-organic materials for energy-related applications.

Ellen Matson matson@chem.rochester.edu
Chemistry, University of Rochester
Synthesis of multi-metallic clusters for the conversion of energy poor substrates to energy rich fuels.

Charles McCrory cmccrory@umich.edu
Chemistry, University of Michigan
The McCrory Lab focuses on electrochemical conversions of small molecules relevant to energy and environmental chemistry.

Andrew (AJ) Medford ajm@gatech.edu
Chemical and Biomolecular Engineering,
Georgia Institute of Technology
Computational design of heterogeneous catalysts for nitrogen chemistry and fertilizer development.

Jose Mendoza jmendoza@msu.edu
Chemical Engineering and Materials Science, MSU
We created and applied Quantum Simulations, Materials by Design, and Big Data/Machine Learning to attack problem in pure sciences and engineering.

Phillip (Phill) Milner pjm347@cornell.edu
Chemistry and Chemical Biology, Cornell University
Prof. Milner's research interests involve drawing inspiration from reactivity patterns in organic synthesis to engineer new gas capture mechanisms within porous solid adsorbents.

Gary Moore gary.f.moore@asu.edu
School of Molecular Sciences, Arizona State University
My research interest include: catalysis, solar-energy transduction, hard-to-soft matter interfaces, and structure-function relationships.

Carlos Morales-Guio moralesguio@ucla.edu
Chemical and Biomolecular Engineering, UCLA
From atomic scale catalysis to modular device. Multi-scale approach to the development of electrocatalytic systems for the production of fuels and chemicals.

Eva Nichols enichols@chem.ubc.ca
Chemistry, University of British Columbia
We study the local environment's role in homo/heterogeneous electrocatalytic CO₂/CO reduction and use IR spectroscopy to probe mechanisms.

Michael Nippe nippe@chem.tamu.edu
Chemistry, Texas A&M University
Addressing global challenges by molecular design.

Valentina Prigiobbe vprigiob@stevens.edu
Civil, Environmental, and Ocean Engineering,
Stevens Institute of Technology
I am a geosystems and process engineer interested in particulate processes and flow and transport in porous media with applications to energy and water.

Fateme Rezaei rezaeif@mst.edu
Chemical and Biochemical Engineering, Missouri S&T
My research lies at the interface of chemical, materials science and environmental engineering, with the goal of development of advanced materials and processes for clean energy and sustainable chemical processes.

Emily Ryan ryanem@bu.edu
Mechanical Engineering, Boston University
Computational modeling of reactive transport in multi-phase systems.

Rafael Santos santosr@uoguelph.ca
School of Engineering, U. Guelph
Mineral carbonation approaches (ambient, accelerated, intensified) that provide the capacity and permanency to sequester many gigatonnes of CO₂.

Kristen Schell kristen.schell@carleton.ca
Mechanical and Aerospace Engineering,
Carleton University
My overarching research interest is in studying how to utilize renewable resources to power negative emissions technologies (NETs).

Marcel Schreier mschreier2@wisc.edu
Chemical and Bioengineering / Chemistry,
University of Wisconsin-Madison
The Schreier group takes a bottom-up approach to understand and tune electrocatalytic interfaces, expanding the scope of electricity-driven reactions.

Linsey Seitz linsey.seitz@northwestern.edu
Chemical and Biological Engineering,
Northwestern University
Catalyst synthesis, mechanistic determination, in situ spectroscopy, and reactor design towards selective up-conversion of waste streams.

Scialog: Negative Emissions Science

Wilson Smith wilson.smith@nrel.gov

Chemistry and Nanoscience Center/Dept. of
Chemical and Biological Engineering, NREL/CU Boulder
*I am interested in scaling electrochemical processes that
can contribute to negative emissions science, with a
focus on integrating systems for optimized balance of
plant operation.*

Xiao Su x2su@illinois.edu

Chemical and Biomolecular Engineering,
University of Illinois Urbana-Champaign
*My research seeks to develop new functional materials
for electrochemical separations, with a focus on
achieving molecular selectivity.*

Andrew Teixeira arteixeira@wpi.edu

Chemical Engineering, Worcester Polytechnic Institute
*Using process intensification and next-generation
reactor design to transform our energy and chemical
infrastructure.*

Jesus Velazquez jevelazquez@ucdavis.edu

Chemistry, UC-Davis
*Synthesis and electronic structure characterization of
multidimensional solid-state materials and thin films for
energy conversion and environmental remediation.*

Venkat Viswanathan venkvis@cmu.edu

MechE, Carnegie Mellon
*All things that involve electrons and chemicals. Finding
ways to electrify everything—transportation, aviation,
chemicals and fuels production.*

Haotian Wang htwang@rice.edu

Chemical and Biomolecular Engineering, Rice University
*My group's research is focused on developing novel
catalytic materials and reactors to convert CO₂ into
valuable chemical products.*

Luisa Whittaker-Brooks luisa.whittaker@utah.edu

Chemistry, University of Utah
*Synthesis and morphology control of 2D and 3D
coordination polymers. Understanding electrochemical
processes via in situ spectroscopy and diffraction.*

Jenny Yang j.yang@uci.edu

Chemistry, UC Irvine
*CO₂ capture and concentration, direct air, electrochemical
methods, CO₂ as a feedstock to fuels.*

Sen Zhang sz3t@virginia.edu

Chemistry, University of Virginia
*I am interested in developing catalysts for clean energy
applications by studying how atomic structure affects their
catalytic performance.*

Discussion Facilitators

Roger Aines aines@llnl.gov
Atmospheric, Earth, and Energy Division,
Lawrence Livermore National Laboratory
Leads the Carbon Initiative at LLNL, which aims to understand, develop, and implement technologies for the removal of CO₂ from the atmosphere.

Sarbajit Banerjee banerjee@chem.tamu.edu
Chemistry, Texas A&M University
Metastable solid-state compounds, accelerated mineralization, catalytic transformations, life cycle assessment.

Jordi Cabana jcabana@uic.edu
Chemistry, University of Illinois at Chicago
We conduct research in inorganic solid state chemistry @thisisuic. Currently interested in materials for electrochemistry and energy.

Christopher Jones cjones@chbe.gatech.edu
Chemical and Biomolecular Engineering, Georgia Tech
Direct air capture materials and processes, catalytic CO₂ conversion.

Julia King kingjb@parliament.uk
Engineering, Churchill College,
University of Cambridge
Chair of the Carbon Trust and member of the House of Lords.

Jeffrey Long jrlong@berkeley.edu
Chemistry and Chemical and Biomolecular Engineering,
University of California, Berkeley
Our research focuses on the synthesis and characterization of new porous materials for potential applications in gas storage, molecular separations, catalysis, and energy storage.

Ah-Hyung (Alissa) Park ap2622@columbia.edu
Earth and Environmental Engineering and
Chemical Engineering, Columbia University
Novel materials and sustainable reaction pathways for carbon capture, utilization and storage.

George Shields george.shields@furman.edu
Chemistry, Furman University
Computational chemistry applied to important societal problems.

Jennifer (Jen) Wilcox jlwilcox@wpi.edu
Chemical Engineering, Worcester Polytechnic Institute
Carbon capture and negative emissions.

Guests

Daniel (Danny) Abrams dmabrams@northwestern.edu
Engineering Sciences and Applied Mathematics,
Northwestern University
Coupled oscillators and sociophysics (including mathematical modeling of conference dynamics).

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

Elizabeth (Betsy) Cantwell ecantwell@arizona.edu
Research, Innovation and Impact, University of Arizona
As the SVP at the University of Arizona, I am keenly interested in supporting the UA research portfolio and faculty awards towards greater engagement in this critical topic.

Peter Reiners reiners@arizona.edu
Geosciences, College of Science, University of Arizona
My interests are in geochemistry of subsurface processes, particularly thermal histories and fluid-rock interaction.

Joaquin Ruiz jruiz@arizona.edu
R11/Biosphere 2, University of Arizona
Problems ranging from the origins of life to present-day climate change.

Elizabeth Weiss eweiss@sciphil.org
Science Philanthropy Alliance

Daniel (Dan) Yawitz dan@climatepathfinders.org
Grantmaking, Climate Pathfinders Foundation
Philanthropic funding opportunities to advance negative emissions.

Emma Zajdela emmazajdela@u.northwestern.edu
Engineering Sciences and Applied Mathematics,
Northwestern University
My research focuses on developing a data-driven mathematical model to understand the effectiveness of conferences at generating scientific collaborations and the dynamics of these collaborations over time.

Jane Zelikova jane@carbon180.org
Science, Carbon180
Interested in harnessing the carbon cycle to draw down carbon and mitigate climate change.

Alfred P. Sloan Foundation

Adam Falk falk@sloan.org
President

Evan Michelson michelson@sloan.org
Program Director

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

Angela Hagen ahagen@rescorp.org
Communications Director

Kimberly Huynh khuynh@rescorp.org
Data Analytics Specialist

Barbara Shapiro bshapiro@rescorp.org
Program Assistant

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