

Nomination requests - Deadline Friday, November 1

I am writing to invite you to nominate faculty to participate in three new Scialog (science dialog) conferences that we will be launching in 2020. Each conference will bring together about 50 Fellows (early career scientists from their first year on the faculty through soon after tenure) and 10 Facilitators (senior faculty who guide the discussions) over 3½ days, with the goal of launching innovative, collaborative, interdisciplinary projects that we and our foundation partners support with one-year grants of \$50,000 per Fellow on each funded team. To nominate one or more faculty as a Scialog Fellow, please use the form available at

<https://www.surveymonkey.com/r/HV996R6>

to provide the nominee's ORCID ID, NSF or NIH biosketch or equivalent short-version CV, and a brief description of the faculty member's research area and methodological approach. You would also be most welcome to recommend senior faculty to serve as Facilitators. **Please submit nominations by Friday, November 1.** The new Scialogs in 2020, which will all be held in Tucson, Arizona, are:

Signatures of Life in the Universe

March 26-29

Co-Sponsor: Heising-Simons Foundation

Facilitators will include Vikki Meadows (University of Washington), Dimitar Sasselov (Harvard University), and Timothy Lyons (University of California, Riverside)

Over a remarkably short period of time, we have moved from seeking evidence for the existence of planets in other solar systems to amassing a catalogue of thousands of such exoplanets. We are now on the verge of being able to ask if any of these planets, or if any of the bodies in our solar system other than Earth, harbor life. To initiate a systematic survey for extraterrestrial life will require the careful definition of what chemical features to search for – the “signatures of life” – and the design and development of new, more sensitive tools to detect those chemical signatures. This Scialog will bring together early-career scientists from fields including earth and planetary science, chemistry and physics, astronomy and astrobiology, microbiology and biochemistry, and computer and data science to generate cutting edge projects to gain fundamental understanding of habitability of planets, detection of life beyond Earth, and life in extreme environments on Earth or in Earth's distant past.

Microbiome, Neurobiology and Disease

April 30-May 3

Co-Sponsors: Paul G. Allen Frontiers Group and the Frederick Gardner Cottrell Foundation

Facilitators will include Barbara Bendlin (University of Wisconsin), Ken Blount (ReBiotix), Rob Bryan (Baylor College of Medicine), Rima Kaddurah-Daouk (Duke University), and Sarkis Mazmanian (Caltech)

A growing body of evidence shows that the gut microbiome affects the brain in both normal and disease states. This finding leads to a number of questions, among them what are the biochemical and biophysical steps that constitute the gut-brain axis? What are the signaling

molecules that facilitate this communication and how do they work? Do changes to the microbiome initiate neurophysiological outcomes or are they lagging indicators of neurobiological events? This Scialog will bring together chemists, physicists, biologists and neurophysiologists to explore these and other issues with the goal of designing and launching innovative, cross-disciplinary studies with the potential to transform our understanding of this complex system.

Negative Emissions Science

November 5-8

Co-Sponsor: Alfred P. Sloan Foundation

Facilitators will be announced in early 2020

The accumulation of greenhouse gases in the atmosphere and in the oceans is a pressing challenge that requires rapid de-carbonization of the global economy. Negative emissions technologies, which remove carbon dioxide and other greenhouse gases from the atmosphere and oceans for the purposes of sequestration or potential utilization, most likely will be needed to augment other mitigation strategies. The underlying science needed to make negative emissions technologies globally scalable still requires major scientific breakthroughs. Such breakthroughs in Negative Emissions Science (NES) almost certainly will result from multidisciplinary input, including from chemistry, physics, materials science, biology, engineering, and geophysics. This Scialog will challenge early-career scientists in these and related fields to explore together how to advance fundamental science in the design of novel approaches for rapidly removing and utilizing or sequestering greenhouse gases.

We look forward to receiving your nominations,

Dan

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