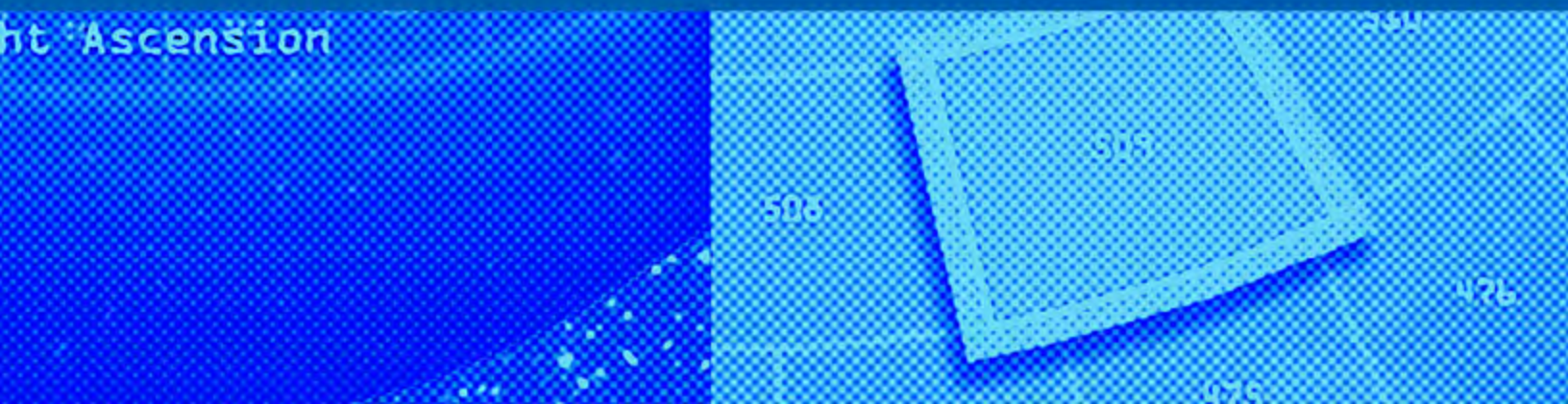
Early Science with the LSST

The Second Annual Scialog Conference
November 13–16, 2025

scialog2025®

HEISING-SIMONS FOUNDATION

RESEARCH CORPORATION *for* SCIENCE ADVANCEMENT



Scialog: Early Science with the LSST

Objectives

1. Engage in dialogue with the goal of accelerating high-risk, high-reward research.
2. Analyze challenges, and overcome bottlenecks, to fully utilize early science with the Ruben Observatory, with the goal of maximizing the value of the Legacy of Survey of Space and Time. We seek to promote basic science that supports the greatest advances that can be made with this incredible new telescope.
3. Build a creative, better-networked community of scientists that crosses all astronomy and astrophysics.
4. Form new teams to write proposals to seed novel projects based on innovative ideas that emerge from the dialogue.
5. Most importantly, enjoy the discussions about where this field should go and how we can work together to get there.

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.

Conduct at RCSA Meetings

Research Corporation for Science Advancement fosters a welcoming and respectful environment for listening in which the different identities, backgrounds, and perspectives of all participants are valued, and in which everyone is empowered to share ideas 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.

Read RCSA's Code of Conduct

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From the President

I'm delighted to welcome you to the **2025 Scialog: Early Science with the LSST** meeting, co-sponsored by **Research Corporation for Science Advancement** and the **Heising-Simons Foundation**, with additional support from the Leinweber Foundation and Kevin Wells. This is the second of three Scialog meetings on this theme and the third Scialog that we have cosponsored with the Heising-Simons Foundation.

The goal of this Scialog is to catalyze collaboration across the subdisciplines of astronomy, astrophysics, and related fields on fundamental science projects targeted to make the greatest advances with the Vera C. Rubin Observatory's LSST, including in conjunction with other observatories and space missions.

Scialog's overarching purpose is to advance cutting-edge science of great significance to humanity by catalyzing innovative, basic research. 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, Eileen Spain** and **Silvia Ronco** (Research Corporation), and with assistance from our initiative partners **Gabriele Betancourt-Martinez** and **JP O'Brien** (Heising-Simons Foundation), we hope you will be engaged in passionate discussions with colleagues, many of whom you will meet for the first time at Scialog. The process is designed to stimulate new ideas that you might not be able to pursue on your own but become possible to try out in collaborative teams. 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 incremental studies. This is the time to come up with, and be open to, completely new ideas that may truly change the world and to find new colleagues and collaborators with whom to pursue them.

We hope — and expect — that this second meeting will yield compelling team proposals. It's your job to make our job difficult when it comes to deciding which projects receive funding. But no matter the outcome, we're confident this experience will create lasting collaborations and expand your professional community.

On behalf of all of us at RCSA, I wish you two days of fruitful conversations, breakthrough ideas, and maybe even a bit of scientific serendipity.

Have a terrific meeting!

Eric Issacs
President & CEO
Research Corporation for Science Advancement

From the Program Director

Research Corporation's highly interactive Scialog meetings seek to catalyze new collaborations among Scialog Fellows who constitute a highly select group of exemplary early career scientists from the U.S. and Canada – and for this initiative, also from Chile. The emphasis is on dialogue, networking, and pursuit of novel, high-risk discovery research based on blue-sky ideas.

Research Corporation, the Heising-Simons Foundation, the Leinweber Foundation, Kevin Wells, and the PCLB Foundation chose to focus on Early Science with the LSST because we believe the Vera C. Rubin Observatory offers an incredible and unique opportunity to advance our understanding of the Universe. However, to fully maximize this opportunity, we need to build a strong network of early career researchers who will be best positioned to make great scientific advances with the LSST over the next several decades. And we need out-of-the-box thinking to ideate high-risk, high-reward collaborative projects.

We have an outstanding keynote speaker, **Enrico Ramirez-Ruiz**, University of California, Santa Cruz, to set the stage for breakout discussions. He will be joined by a terrific group of senior scientists to round out the team of facilitators:

Fred Adams, University of Michigan
Eric Bellm, University of Washington and LSST
Rebecca Bernstein, Giant Magellan Telescope
Lars Bildsten, Kavli Institute for Theoretical Physics
Jackie Faherty, American Museum of Natural History
Xiaohui Fan, University of Arizona
David Hogg, New York University
Jeno Sokoloski, Columbia University and LSST Discovery Alliance
Beth Willman, LSST Discovery Alliance

Scialog meetings focus on dialogue 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 through the dialogue. 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 the fundamental science needed to make the most of a dataset enabled by one of the most powerful observational machines ever built.

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. My fellow Program Directors, **Andrew Feig, Silvia Ronco**, and **Eileen Spain**, the RCSA staff, and I are here to help make the meeting a great experience!

Richard Wiener
Senior Program Director
Research Corporation for Science Advancement

Conference Agenda
November 13 – 16, 2025

Thursday, November 13

2:00 pm	**Registration Opens**	Kiva B
2:00 – 5:00 pm	**Snacks & Informal Discussions**	Kiva B
5:00 – 6:30 pm	**Poster Session and Reception**	Kiva B
6:00 – 6:30 pm	**Meeting for Discussion Facilitators**	Kiva A
6:30 – 7:30 pm	**Dinner**	Kiva Patio
7:30 – 8:30 pm	**Welcome** Daniel Gasch, Vice-President & CFO, RCSA **Conference Overview** Richard Wiener, Senior Program Director, RCSA **Introductions**	Kiva A
8:30 – 10:00 pm	**Starlight Café**	Kiva Patio

Friday, November 14

7:00 – 8:00 am	**Breakfast**	Kiva Patio
8:00 – 8:40 am	**Keynote Presentation** *The Calm Before the Boom: Astrophysical Transients and Stellar Stories with the Vera C. Rubin Observatory* Enrico Ramirez-Ruiz, University of California, Santa Cruz	Kiva A
8:40 – 8:55 am	**Breakout Session Overview and Instructions**	Kiva A
8:55 – 10:15 am	**Breakout Session I**	Kiva A, Kiva B, Rincon, Sabino, Ventana
10:15 – 10:40 am	**Report Out**	Kiva A
10:40 – 11:15 am	**Conference Photo and Morning Break**	Kiva B
11:15 – 11:45 am	**Mini Breakout Session I** (Fellows)	All spaces
	Facilitator Meeting	Kiva A
11:45 – 1:00 pm	**Lunch**	Kiva Patio
1:00 – 1:40 pm	**2024 Team Award Presentations**	Kiva A
1:40 – 3:00 pm	**Breakout Session II**	Kiva A, Kiva B, Rincon, Sabino, Ventana
3:00 – 3:25 pm	**Report Out**	Kiva A
3:25 – 3:55 pm	**Mini Breakout Session II** (Fellows)	All spaces
3:55 – 5:30 pm	**Afternoon Break, Informal Discussions and Leisure Time**	Kiva B
5:30 – 6:30 pm	**Poster Session and Reception**	Kiva B
6:30 – 7:30 pm	**Dinner**	Kiva Patio
7:30 – 8:30 pm	**2024 Team Award Presentations**	Kiva A
8:30 – 10:00 pm	**Starlight Café**	Kiva Patio

Conference Agenda
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Saturday, November 15

7:00 – 8:00 am	**Breakfast**	Kiva Patio
8:00 – 8:20 am	**Update on cadence optimization and the open resources available for TDA** Igor Andreoni, University of North Carolina at Chapel Hill	Kiva A
8:20 – 8:45 am	**2024 Team Award Presentations**	Kiva A
8:45 – 9:15 am	**Mini Breakout Session III** (Fellows)	All spaces
9:15 – 9:40 am	**Morning Break**	Kiva B
9:40 – 11:00 am	**Breakout Session III**	Kiva A, Kiva B, Rincon, Sabino, Ventana
11:00 – 11:25 am	**Report Out**	Kiva A
11:25 – 11:55 am	**Mini Breakout Session IV** (Fellows)	All spaces
	Facilitator and Funding Partners Discussion	Kiva A
11:55 – 1:00 pm	**Lunch**	Kiva Patio
1:00 – 5:45 pm	**Team Formation, Informal Discussions and Proposal Writing**	All spaces
5:45 – 6:30 pm	**Reception**	Kiva B
6:30 – 7:30 pm	**Dinner**	Kiva Patio
7:30 – 10:00 pm	**Starlight Café**	Kiva Patio

Sunday, November 16

6:30 – 7:30 am	**Breakfast**	Kiva Patio
7:30 – 11:00 am	**Presentation of Proposals**	Kiva A
	Assessment Survey and Wrap-up	
10:00 – 12:00 pm	**Lunch** (available to go)	Kiva B

Keynote Presentation

The Calm Before the Boom: Astrophysical Transients and Stellar Stories with the Vera C. Rubin Observatory

Enrico Ramirez-Ruiz
University of California, Santa Cruz

Abstract:
The Vera C. Rubin Observatory's Legacy Survey of Space and Time (LSST) is poised to transform our view of a dynamic universe — one filled with exploding stars, fading impostors, and restless stars that refuse to stay steady. With its unprecedented depth, cadence, and sky coverage, LSST will capture not only the grand stellar explosions but also the subtle clues that precede them — the quiet brightening, flickering, and final murmurs of stars on the verge of collapse. In this talk, we'll explore how LSST's time-domain vision will revolutionize our understanding of astrophysical transients, from pre-explosive outbursts to stellar variability on every conceivable timescale. We'll discuss what can be learned from stars that pulse, flare, and fade — sometimes heralding cosmic catastrophe —and how LSST will help connect these behaviors into a coherent story of stellar evolution. By the end, you'll see that LSST isn't just a telescope — it's the universe's ultimate storyteller, ready to capture every remarkable chapter in the lives (and deaths) of stars.

Biography:

Enrico Ramirez-Ruiz is a Professor and the Vera Rubin Presidential Chair at the University of California, Santa Cruz (UCSC). A theoretical astrophysicist, Professor Ramirez-Ruiz is developing the conceptual framework needed to understand the Universe's extreme and capricious nature. After studying at the University of Cambridge, he was the John Bahcall Fellow at the Institute for Advanced Study in Princeton. Since joining the UCSC faculty in 2007, Ramirez-Ruiz has won several awards for his research, including a Packard Fellowship, the NSF CAREER Award, the Radcliffe Fellowship at Harvard, the Niels Bohr Professorship from the Danish National Research Foundation, the Bouchet Award from the APS, and the HEAD Mid-Career Prize from the AAS. He is a member of the Mexican Academy of Sciences and the American Academy of Arts and Sciences. He is a 2025 recipient of RCSA's Robert Holland Jr. Award.

2024 Team Awards

Wenbin Lu, Astronomy, University of California, Berkeley
Ana Bonaca, Carnegie Observatories, Carnegie Institution for Science
Kareem El-Badry, Astronomy, California Institute of Technology
IMBH in the LMC? A Hypervelocity Star Survey with LSST

Allison Strom, Physics and Astronomy, Northwestern University
Ben Margalit, Physics and Astronomy, University of Minnesota Twin Cities
Adam Miller, Physics and Astronomy, Northwestern University
Not So Heavy Metal: An Enhanced Rate of SLSNe at Cosmic Noon

Kareem El-Badry, Astronomy, California Institute of Technology
Caroline Morley, Astronomy, University of Texas at Austin
White Dwarf Companions as Brown Dwarf Chronometers

Igor Andreoni, Physics and Astronomy, University of North Carolina at Chapel Hill
Tanmoy Laskar, Physics & Astronomy, University of Utah
Mathew Madhavacheril, Physics and Astronomy, University of Pennsylvania
Rubin LSST as a Multi-Wavelength Discovery Engine for Relativistic Transients

Alexander Ji, Astronomy & Astrophysics, University of Chicago
Vera Gluscevic, Physics and Astronomy, University of Southern California
A Unified Model of Stellar Systems in LSST-Y1 for Dark Matter Inference

Anna Ho, Astronomy, Cornell University
Maya Fishbach, Canadian Institute for Theoretical Astrophysics, University of Toronto
Elisabeth Newton, Physics and Astronomy, Dartmouth College
Multimessenger Transients in AGN Disks

Charlotte Christensen, Physics, Grinnell College
Nora Shipp, Astronomy, University of Washington
Burçin Mutlu-Pakdil, Physics and Astronomy, Dartmouth College
Dwarf Debris and Dark Matter: Searching for Evidence of Hierarchical Formation in the Stellar Halos of Dwarf Galaxies

Krista Smith, Physics and Astronomy, Texas A&M University
Adi Foord, Physics, University of Maryland, Baltimore County
Towards a Census of Dual AGN Across Cosmic Time

2025 Proposal Guidelines

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. The application package should be submitted as a single PDF file. Pages one and two should describe the project and role of each team member. A third page may be used for references. No budget is necessary.

3. Awards will be in the amount of $60K 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: LSST 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. Scialog Fellows who have previously won two Scialog: LSST Collaborative Awards are not eligible to be funded members of a team, but they can participate as a non-funded team member.

7. 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 did not significantly interact), please check for clarification with an RCSA Program Director.

8. Teams are encouraged (but not required) to:
    a. Include members with different research approaches and methods.
    b. Include members from different disciplines.

9. Proposals must be submitted electronically by **6:00 a.m. Mountain Sunday, November 16, 2025**. Instructions for submission will be provided at the meeting.

10. Awards are anticipated to start **February 1, 2026**.

2025

Scialog Fellows

Kate Alexander kdalexander@arizona.edu
Astronomy, University of Arizona
I am interested in the physics of rare extragalactic transients such as tidal disruption events (TDEs) and long and short gamma-ray bursts (GRBs). I am also interested in multi-messenger astronomy, radio astronomy, and building software infrastructure to explore complex datasets.

Alex Amon amonalexandra@gmail.com
Astrophysical Sciences, Princeton University
My research is centered on weak gravitational lensing. I use this tool to test the cosmological model, to learn about the dark matter halos of galaxies -- from clusters to dwarf galaxies -- and to test models of the impact of galaxy formation on the large scale structure.

Igor Andreoni Igor.andreoni@gmail.com
Physics and Astronomy, University of North Carolina at Chapel Hill
Explosive transients, gravitational waves, tidal disruption events

Darcy Barron dbarron2@unm.edu
Department of Physics and Astronomy, University of New Mexico
I work on cosmology and instrumentation. My current research focuses on precision measurements of the cosmic microwave background (CMB), including building instruments to study the faint pattern known as B-mode polarization across the majority of the sky.

Jonathan Blazek j.blazek@northeastern.edu
Physics, Northeastern University
Weak lensing, galaxy clustering, and combined analysis. Galaxy intrinsic alignments as a weak lensing contaminant and a potential probe of cosmic structure and new physics. Simulation-based modeling and AI/ML acceleration to go to beyond perturbation theory.

Ana Bonaca abonaca@carnegiescience.edu
OCIW, Carnegie Institution for Science
I study dynamics of stars in the Milky Way, especially stellar streams, to map dark matter on small scales using observational data from large surveys (like LSST!) and dedicated PI programs on ground- and space-based telescopes, as well as idealized numerical experiments.

Charlotte Christensen christenc@grinnell.edu
Physics, Grinnell College
What are the formation pathways for the lowest-mass galaxies? I use hydrodynamic simulations to study the evolution of such galaxies in a variety of environments. From these, I will make predictions for LSST observables.

Michael Coughlin cough052@umn.edu
School of Physics and Astronomy, University of Minnesota Twin Cities
My research focuses on the detection and characterization of neutron star mergers, using both gravitational waves and their electromagnetic counterparts to study the neutron star equation of state and measure the Hubble Constant.

Scialog Fellows Continued

Tansu Daylan tansu.daylan@gmail.com
Physics, Washington University in St. Louis
I am interested in indirect detection of dark matter using strong gravitational lensing and the discovery and characterization of exoplanets using time-series photometric and radial velocity data.

Kishalay De kd3038@columbia.edu
Astronomy and Astrophysics, Columbia University
Time domain surveys, binary stars, dust, accretion, stellar mergers

Mia de los Reyes mdelosreyes@amherst.edu
Physics and Astronomy, Amherst College
I'm interested in using LSST to identify and characterize dwarf galaxies across a range of environments, ideally in preparation for follow-up spectroscopic and IFU surveys.

Benedikt Diemer diemer@umd.edu
Department of Astronomy, University of Maryland, College Park
Cosmological simulations (hydro and N-body), halo structure and dynamics, alternative dark matter models, ISM modeling, subhalos and satellites, multi-wavelength observations of clusters

Carl Fields carlnotsagan@gmail.com
Astronomy, University of Arizona
Computational, stellar, and nuclear astrophysics of massive star transients. Data analysis pipeline and methods. Educational tools and methods.

Maya Fishbach fishbach@cita.utoronto.ca
Canadian Institute for Theoretical Astrophysics, University of Toronto
My research focuses on gravitational waves from merging black holes and neutron stars and their astrophysical implications. I am interested in connecting gravitational-wave populations of compact objects with other populations of stars (living, dying and dead) and their hosts.

K. Decker French deckerkf@illinois.edu
Astronomy, University of Illinois at Urbana-Champaign
Galaxy evolution, supermassive black hole co-evolution, and studying these with time-domain and multi-wavelength observations. I'm especially interested in using tidal disruption events and AGN to understand their host galaxies.

JJ Hermes jjhermes@bu.edu
Department of Astronomy, Boston University
My primary research interests converge on white dwarf stars, and using observations of stellar remnants to constrain the endpoints of stars, binary, and planetary systems.

Nina Hernitschek nina.hernitschek@uantof.cl
CITEVA - Centro de Astronomía, Universidad de Antofagasta
My research interests are variable stars to trace the history of the Milky Way.
In addition, I am interested in all kind of research regarding the development and application of machine learning algorithms.

Scialog Fellows Continued

Erika Holmbeck holmbeck1@llnl.gov
Nuclear and Chemical Sciences, Lawrence Livermore National Laboratory
I study the heaviest elements made in the universe through two thrusts: (1) using nucleosynthesis simulations to predict the elemental yields of supernovae and neutron star mergers and (2) using high-resolution spectroscopy to study heavy elements in metal-poor halo stars.

Meridith Joyce mjoyce8@uwyo.edu
Physics and Astronomy / School of Computing, University of Wyoming
stellar structure and evolution, energy transport in stars, custom stellar modeling (tracks, isochrones), asteroseismology, old stars and globular clusters

Leonardo Krapp lkrapp@udec.cl
Astronomy, Universidad de Concepcion
My research interests lie within computational astrophysics, focusing on: the interplay between star and planet formation; the dynamics and composition of exoplanets; the formation of our solar system; the dynamics of minor bodies in the outer solar system; and accretion disks.

Tanmoy Laskar tanmoylaskar@gmail.com
Physics & Astronomy, University of Utah
What powers the most violent explosions in the Universe? I combine radio to X-ray observations with theoretical modeling to probe the physics powering relativistic astrophysical transients and develop their use as probes of the distant universe.

Ting Li ting.li@astro.utoronto.ca
Astronomy & Astrophysics, University of Toronto
Ting studies the stars in the Milky Way and nearby galaxies to understand how they form and to understand the nature of dark matter. Ting also builds astronomical instruments and contributes to infrastructure work for large-area sky surveys.

Wenbin Lu wenbinlu@berkeley.edu
Astronomy, University of California, Berkeley
My research has been focused on the theories of high-energy transients including supernovae, tidal disruption events, compact object mergers, fast radio bursts, and other phenomena related to massive stars, neutron stars, and black holes.

Mat Madhavacheril mathm@sas.upenn.edu
Physics and Astronomy, University of Pennsylvania
I am interested in probes of the early universe, dark matter, dark energy and neutrinos. I work with CMB observables including mass (lensing) and gas (SZ effects). I also frequently use large-scale structure data from galaxy surveys and their cross-correlations with the CMB.

Yao-Yuan Mao yymao@astro.utah.edu
Physics and Astronomy, University of Utah
I study low-mass galaxies and their evolution using large surveys and simulations. I develop methods to identify both resolved and unresolved nearby low-mass galaxies using photometric data. I also study the connection to dark matter halos to understand the nature of dark matter.

Scialog Fellows Continued

Raquel Martinez raquelmartinez@sandiego.edu
Physics and Biophysics, University of San Diego
I seek to understand the stages of star and planet formation at their extremes: from stars to substellar objects, from the youngest binary stars to systems in the final stages of forming planets, from characterizing individual systems to building samples for population studies.

Kristen McQuinn kristen.mcquinn@rutgers.edu
Physics and Astronomy, Rutgers University - New Brunswick
dwarf galaxy searches; reionization; evolution of low-mass galaxies; extragalactic distance scale; low-metallicity stars and galaxies; baryon cycle in galaxies; resolved stars

Aaron Meisner aaron.meisner@noirlab.edu
NSF NOIRLab, National Optical-Infrared Astronomy Research Laboratory
I am broadly interested in processing and mining large astronomical imaging data sets at optical and infrared wavelengths, with a current focus on discovering and characterizing Milky Way ultracool dwarfs, cold stars and brown dwarfs with temperatures less than ~2,700 Kelvin.

Adam Miller amiller@northwestern.edu
Physics and Astronomy, Northwestern University
I work at the intersection of time-domain astronomy and data science to understand stellar evolution. Recent efforts in my research group have focused on building machine learning methods to streamline the discovery and classification of electromagnetic transients.

Caroline Morley cmorley@utexas.edu
Astronomy, University of Texas at Austin
I study the atmospheres of exoplanets and brown dwarfs, mostly using theoretical models. I am involved in JWST programs targeting both brown dwarfs and exoplanets, as well as ground-based observations, and my group has both theorists and observers.

Burcin Mutlu-Pakdil burcin.mutlu-pakdil@dartmouth.edu
Physics and Astronomy, Dartmouth College
My main science focus is to understand the nature of dark matter and galaxy formation via observations of nearby galaxies. I lead several observational campaigns to discover and characterize dwarf galaxies within the Local Group and beyond.

Ethan Nadler enadler@ucsd.edu
Astronomy & Astrophysics, University of California, San Diego
I am a simulator and theorist working on galaxy formation, dark matter, and near-field cosmology. I am particularly interested in using LSST data (e.g. strong lensing, dwarf galaxies) to probe dark matter halos near/below the galaxy formation threshold.

Elisabeth Newton Elisabeth.R.Newton@Dartmouth.edu
Department of Physics and Astronomy, Dartmouth College
I am an observational astronomer working in stellar astrophysics, exoplanets and Galactic archaeology. Of particular interest to me are where these areas intersect.

Scialog Fellows Continued

Antonella Palmese apalmese@andrew.cmu.edu
Physics, Carnegie Mellon University
I use optical-NIR telescopes to search for the electromagnetic (EM) counterparts to gravitational wave (GW) events, and combine EM data from large galaxy surveys with GW events to study the evolution of the universe and the origin of compact object mergers.

Becka Phillipson rebecca.phillipson@villanova.edu
Department of Physics, Villanova University
I am generally interested in employing novel time domain techniques to study transient and variable phenomena and I am especially interested in accreting compact objects, such as X-ray binaries and AGN. My expertise is in nonlinear time series analysis and chaos theory.

Abigail Polin abigail@purdue.edu
Physics and Astronomy, Purdue University
My research spans the area of astrophysical transients. I create hydrodynamical simulations to examine the theory behind astrophysical explosions, then perform radiative transport calculations to produce testable predictions that can be compared directly to observed data.

Malena Rice malena.rice@yale.edu
Astronomy, Yale University
exoplanets, dynamics, outer solar system

Carl Rodriguez carl.rodriguez@unc.edu
Physics and Astronomy, University of North Carolina at Chapel Hill
Our work looks at both the transient and dynamic Universe: dynamics of star clusters -- including the formation of stellar streams. Transient astrophysics -- such as gravitational waves and tidal disruption events, formed through either dynamical processes or binary evolution.

Joey Rodriguez jrod@msu.edu
Physics and Astronomy, Michigan State University
My research focuses on understanding how planets form and evolve by studying exoplanets and the disks of gas and dust that they form within. I am especially interested in transiting or eclipsing architectures of these objects that can provide us with a wealth of information.

Kevin Schlaufman kschlaufman@jhu.edu
William H. Miller III Department of Physics & Astronomy, Johns Hopkins University
Exoplanets and planet formation; Galactic and stellar archaeology

Nora Shipp nshipp@uw.edu
Astronomy, University of Washington
My research centers on understanding dark matter and galaxy evolution in the Local Universe using large surveys and cosmological and idealized simulations. I am particularly interested in stellar streams and the broader population of accreted and disrupting Galactic substructure.

Scialog Fellows Continued

Krista Smith kristalynnesmith@tamu.edu
Physics and Astronomy, Texas A&M University
Supermassive black holes, including accretion physics, blazar jet physics, and AGN feedback.
Gravitational wave sources, especially binary supermassive black holes, but also black hole mass functions and intermediate mass black holes.
AGN feedback and galaxy evolution.

Niharika Sravan niharika.sravan@gmail.com
Physics, Drexel University
I am interested in the use of AI/ML techniques to streamline scientific discovery by addressing challenges of scale, speed or complexity. I have expertise in the design of artificial agents that enable real-time follow-up decision-making for characterizing survey discoveries.

Allison Strom allison.strom@northwestern.edu
Physics and Astronomy, Northwestern University
My research focuses on high-redshift star-forming galaxies, with a particular emphasis on their physical conditions and chemical abundance patterns. More recently, I have begun to investigate new ways of studying the massive star populations in these distant galaxies.

Jamie Tayar jtayar@ufl.edu
Astronomy, University of Florida
Stars, how they grow, how they change, and what that tells us about the physics going on inside them. Also connections to stellar variability, absolute temperature, metallicity, mass, and ages. Galactic archaeology. Exoplanets around those stars. Models. Stellar transients. etc.

Ashley Villar ashley.villar@gmail.com
Astronomy, Harvard University
I study the eruptions, collisions and explosions of stars using a combination of observational data and machine learning.

Feige Wang fgwang.astro@gmail.com
Astronomy, University of Michigan
I have broad interests in studying supermassive black holes, galaxies, large-scale structures, and cosmic reionization in the early Universe. I am interested in exploring observations across the entire electromagnetic spectrum and mining big data using advanced techniques.

Jinyi Yang jyyangas@umich.edu
Astronomy, University of Michigan
My research interests include quasar/AGN in the early Universe, the growth and evolution of early supermassive black holes and host galaxies, cosmic reionization history, as well as imaging and spectroscopic surveys.

Discussion Facilitators

Fred Adams fca@umich.edu
Physics, University of Michigan
I have studied a range of topics in Theoretical Astrophyiscs, including star formation, planet formation, and cosmology.

Rebecca Bernstein rab@carnegiescience.edu
Carnegie Observatories, Carnegie Institution for Science
My research combines work on galaxy formation and evolution, focusing on chemical abundances of star clusters and metal-poor stars, with the design and development of instruments and the next-generation of ground-based telescopes.

Lars Bildsten bildsten@kitp.ucsb.edu
Physics, University of California, Santa Barbara
Theoretical astrophysics, especially stellar evolution and explosive phenomena.

Jackie Faherty jfaherty@amnh.org
Astrophysics, American Museum of Natural History
Astrometry, Brown dwarfs, low mass stars, variable stars

Xiaohui Fan xfan@arizona.edu
Astronomy, University of Arizona
I am an extragalactic observational astronomer with main interests in galaxy formation, supermassive black hole evolution, quasars/AGN, and the epoch of cosmic reionization.

David Hogg david.hogg@nyu.edu
Physics, New York University
Data analysis, precision measurement, machine learning, data science, statistics.

Enrico Ramirez-Ruiz enrico@ucolick.org
Astronomy and Astrophysics, University of California, Santa Cruz
I use computer simulations to explore transient phenomena such as collisions, mergers, and disruptions of stars - especially those involving compact objects like black holes, neutron stars, and white dwarfs.

Jeno Sokoloski jeno@astro.columbia.edu
Astronomy, Columbia University
Within eruptive and interacting binary stars, my areas of interest include: 1) physics of white-dwarf accretion and jets in wide binaries; 2) nova eruptions; and 3) populations of interacting binary stars and progenitors of type Ia supernovae from wide-field, time-domain surveys.

Beth Willman bwillman@lsst-da.org
LSST Discovery Alliance
Survey and big-data science. Near-field cosmology. Time-domain astrophysics. Computational and observational astrophysics. Development and management of major research facilities. Inclusive access to cutting-edge scientific knowledge and infrastructure.

Guests

Gabriele Betancourt-Martinez gbetancourt@hsfoundation.org
Science, Heising-Simons Foundation
I am a program officer for the Science program at Heising-Simons Foundation. Before joining the Foundation, she did research in X-ray instrumentation (mostly X-ray microcalorimeters) and laboratory astrophysics (mostly charge exchange).

Daren Ginete dginete@sciphil.org
Science Philanthropy Alliance

Anne Lassen alassen@flinn.org
Scholarship and Education Initiatives, Flinn Foundation
We are interested in learning about the Scialog process and how we might implement the strategy into our own work with Flinn Scholars and Flinn-Brown Fellows.

Olga Lew-Kiedrowska OlgaLew-Kiedrowska2024@u.northwestern.edu
Applied Mathematics, Northwestern University

Tammy McLeod
President & CEO, Flinn Foundation

John O'Brien jobrien@hsfoundation.org
Science, Heising-Simons Foundation
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Dawn Wallace dwallace@flinn.org
Civic Leadership, Flinn Foundation
The nonpartisan Arizona Center for Civic Leadership at the Flinn Foundation enhances civic life in Arizona through civic education, engagement, and leadership-development programs.

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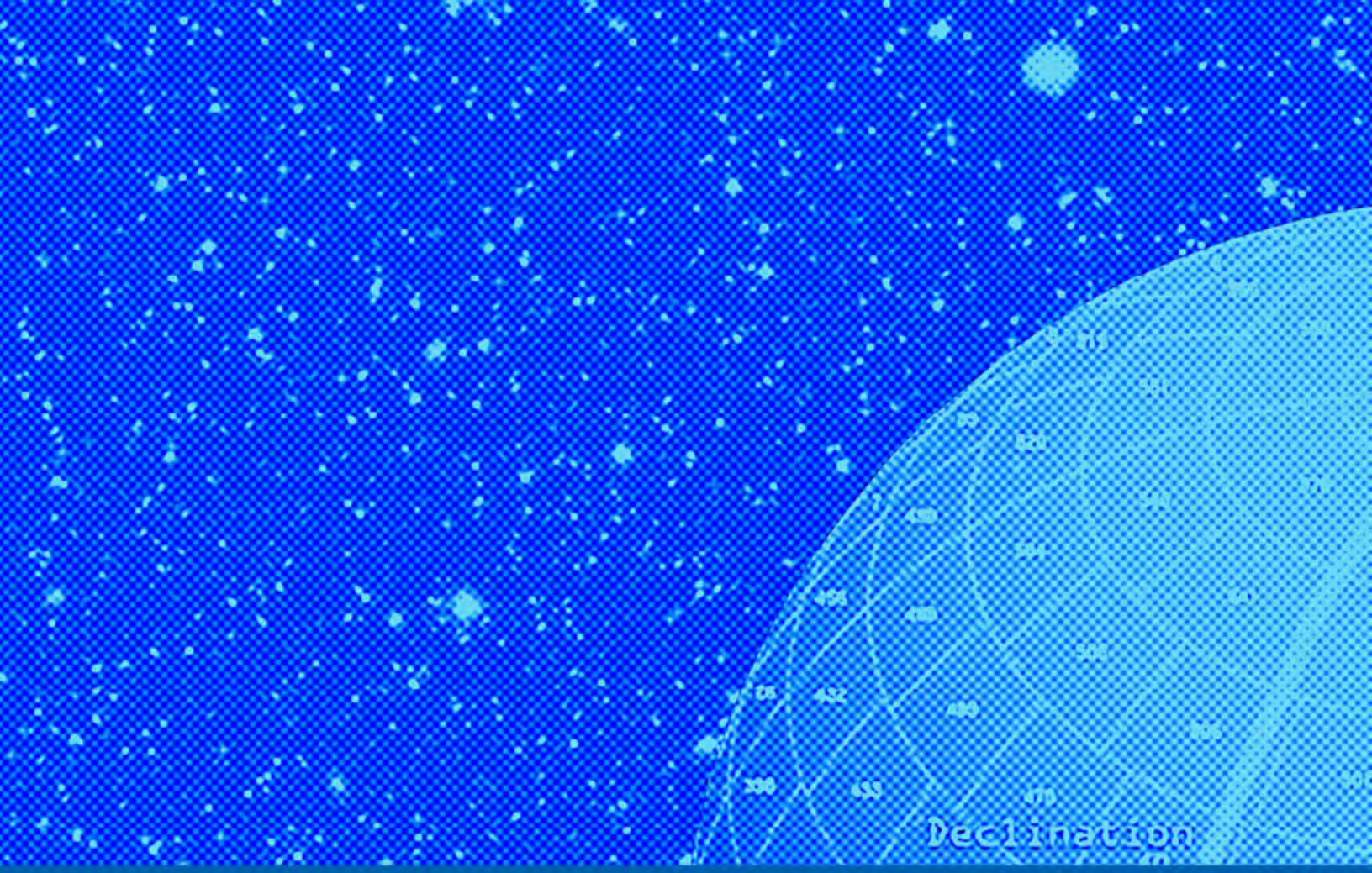

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