

COOL STARS 22

san DIEGO, CALIFORNIA, USA

<https://coolstars22.github.io/>



Host Institutions

UC San Diego (UCSD) and San Diego State University (SDSU)

Lead & Supporting Scientists and Contact Details

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Proposed Dates of Meeting

We are considering two possible weeks for this meeting:

- 1) **June 24-28, 2024** (Monday-Friday): This is our preferred meeting date, as it follows the UCSD Spring teaching term and precedes the Summer teaching term, meaning that dorm and classroom availability will be maximized. These dates would also put the meeting well before the US Independence Day holiday (July 4th), when flights and lodging will likely be at a premium.

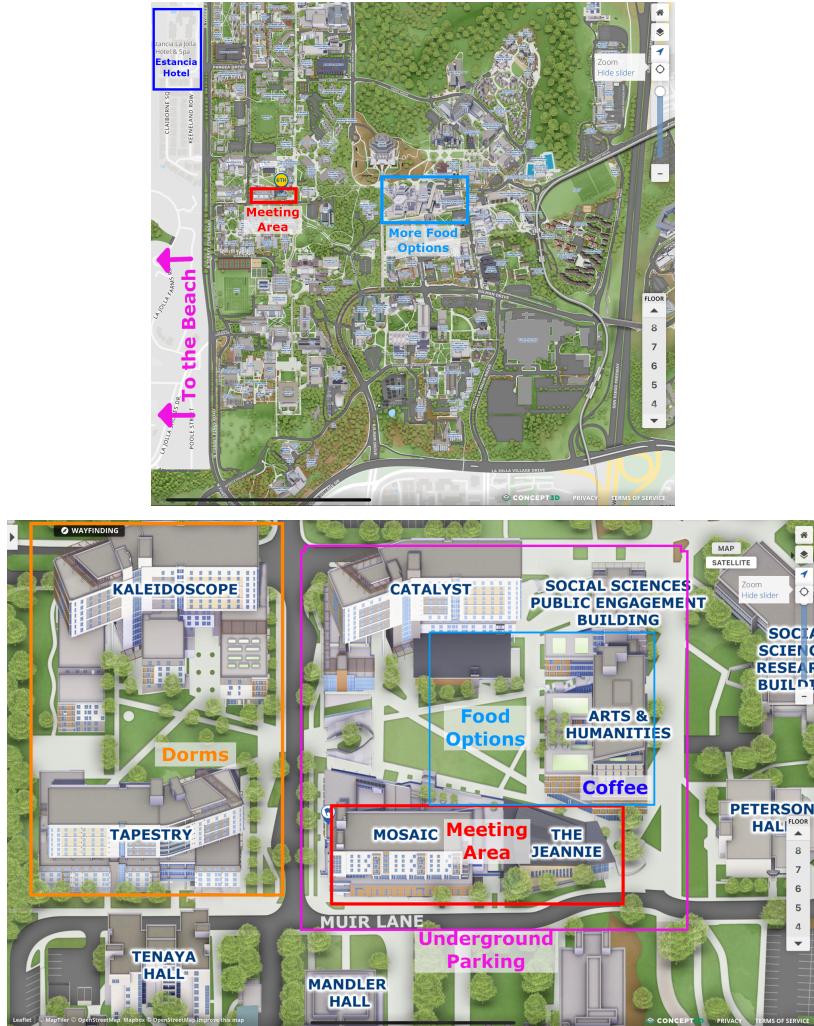
- 2) **July 8-12, 2024** (Monday-Friday): This is a back-up meeting date, happening later in the summer and 1-2 weeks before the San Diego Comic-Con Convention, a major international event during which flights and lodging will likely be at a premium. Due to the close proximity to the Independence Day holiday, incoming flights and pre-meeting lodging may still be at a premium.

Proposed Site of Meeting

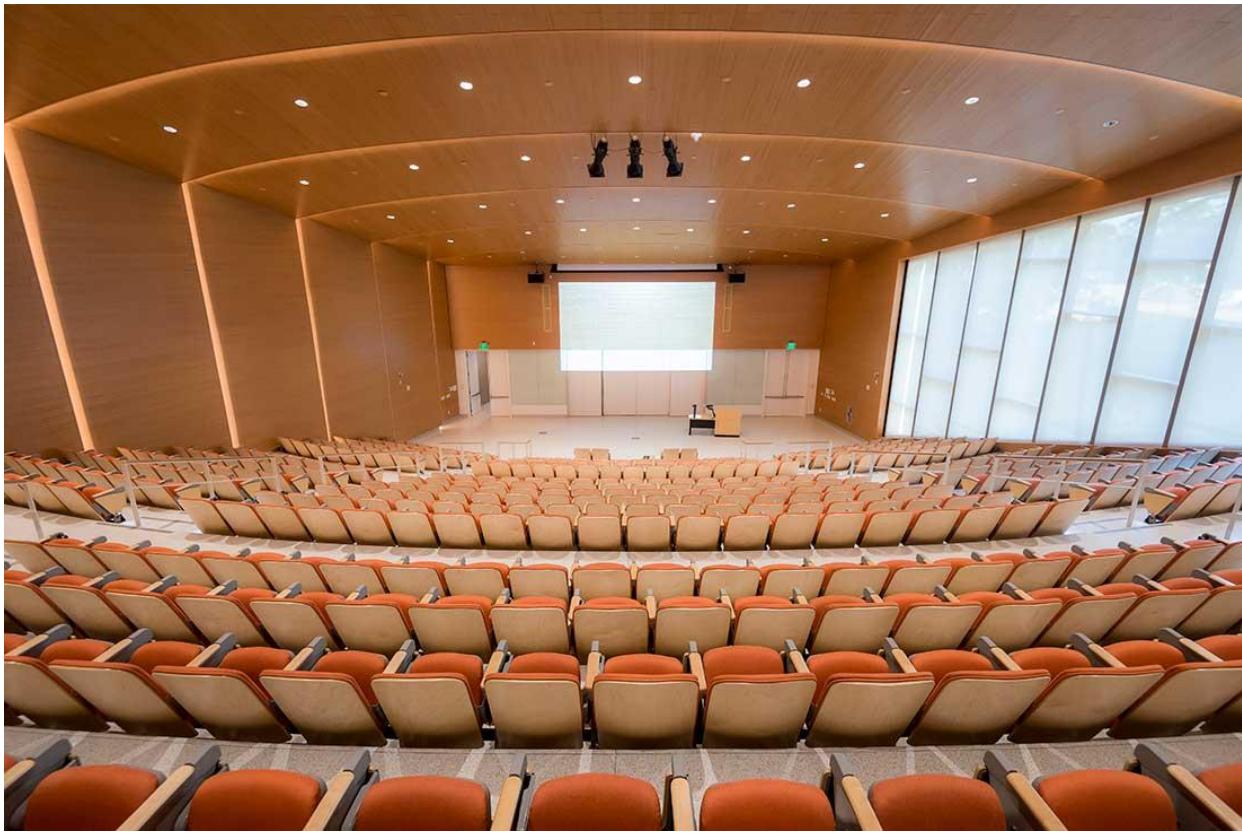
We propose to host Cool Stars 22 in 2024 on the campus of UC San Diego in La Jolla, California, USA. UC San Diego is a major research institution and university that is consistently ranked as one of the top 10 public universities in the US. As a large university (40,000 undergraduate and graduate students), UC San Diego has the capacity and facilities to host major conferences like Cool Stars. It is ideally located for global participants, with good international transportation connections by air, train, and automobile. It is a popular and pleasant site for a community science gathering, with world-famous beaches, mountain-top observatories, and cultural events all in close proximity. The organizers from the host institutions UC San Diego and San Diego State University are active researchers in stellar and exoplanetary science, long-time participants in the Cool Stars series, and experienced in organizing large astronomical conferences.

Meeting/Facility Considerations

The Cool Stars 22 meeting will be hosted at UC San Diego's newly-constructed North Torrey Pines Living Learning Neighborhood, a complex that combines classroom and meeting space, housing accommodations, parking, and multiple dining options all within a single city block. Located on the west side of campus, with expansive views of the Pacific Ocean, the "Neighborhood" includes our primary meeting space, "the Jeannie", a state-of-the-art facility with a capacity of 600 persons; and adjoining classroom spaces in Mosaic Hall (75-250 persons each) for splinter sessions.



(Left) The campus of UC San Diego (<https://maps.ucsd.edu/>) showing the location of the North Torrey Pines Living Learning Neighborhood ("Meeting Area"), and locations of campus dining options, the Estancia Hotel, and the beach. (Right) A detailed map of the Meeting Area indicating the location of the Jeannie, Mosaic classrooms, dormitories, and dining. Parking is available under the complex.



The view inside the Jeannie, the main conference room that can host 600 people and is fully equipped for streaming digital presentations via Zoom.

The capacity of the Jeannie and adjoining meeting rooms sets our **nominal in-person attendance limit at 600 persons**. Following on the model of Cool Stars 21, we will also provide the option for **virtual attendance with a nominal limit of 1,000 persons** (set by broadcast limitations). All of the meeting rooms are equipped with audio/visual and screen capture systems that will allow for full streaming and remote participation in conference sessions. We will also consider (with input from the SOC) allowing for remote presentations in limited cases. We will provide in-person poster space in and around the meeting area (covered outdoor and indoor spaces), and coordinate virtual poster participation and interaction via Slack, following best practices developed in recent large-scale hybrid meetings (e.g., Cool Stars 20.5 & 21; American Astronomical Society national meeting).

Based on our preliminary budget, we estimate that registration costs will be approximately **\$400 per person**. These costs include facilities, audio and video, Zoom/Slack licensing, signage, transportation, coffee/refreshments during the meeting, and administrative support, assuming in-person attendance of 500 persons over 5 days.

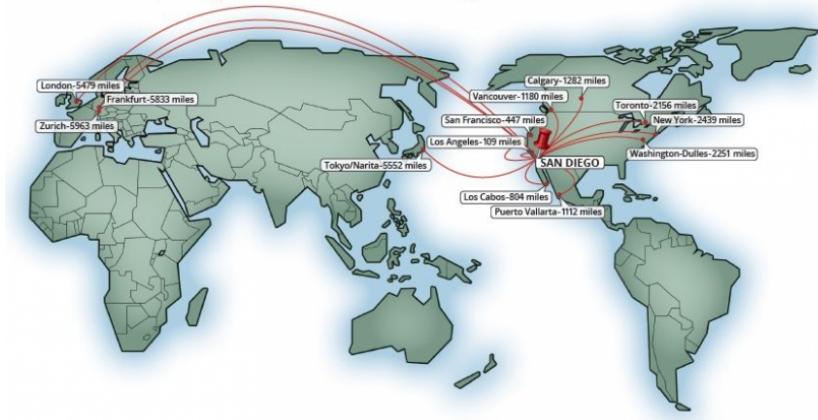
Item	Estimated cost per
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	person
Conference venue & catering	\$220
Zoom/Slack for hybrid meeting	\$80
Signage, poster boards, and printing	\$25
Pre-registration event	\$25
Administration support	\$30
Conference giveaways	\$20
ESTIMATED TOTAL	\$400

Transportation Considerations

The San Diego International Airport (SAN), located 12 miles south of UC San Diego, offers direct flights from many locations within the United States as well as internationally (e.g., Tokyo, London, Munich, Montreal). There is also short flight/train service to/from the Los Angeles International Airport (LAX), a global hub. Transportation from SAN to UC San Diego is possible via public transit using the recently completed Blue Line Trolley; it is also a short taxi or rideshare (e.g., Uber, Lyft) ride away (15-20 minutes, current estimated cost is \$30-\$40 per ride). Regional participants can also reach UC San Diego and other locations via train (Amtrak/Coaster/Trolley), bus, bike, or car; and many of the hotel venues provide local shuttle service. We will make sure all transportation options are made clearly described to participants on the conference website.

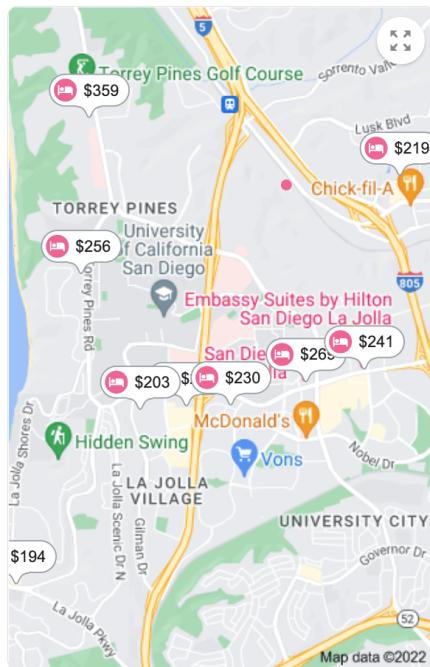
Nonstop flights from San Diego International Airport



(Left) Map of nonstop flights to/from San Diego International Airport (SAN). Note that many more international cities are directly served by Los Angeles International Airport (LAX). (Right) Amtrak rail map for California, showing regional train connections to San Diego.

Rooming/Housing Considerations

Following the model of past Cool Star meetings, we will have low-cost dormitory housing available in addition to local hotel options. Dormitory housing will be in the North Torrey Pines Living Learning Neighborhood, either as shared doubles (\$85/person/day) or singles (\$125/person/day). These rooms include meal plans (3 meals/day), as well as linens and towels. UC San Diego also has several major chain hotels within 5 miles (Hilton, Hyatt, Marriott, Residence Inn, Sheraton; \$150-250/room/day), and boutique hotels in and around La Jolla (\$250+/room/day). The nearby Estancia hotel is across the street from the conference and provides competitive pricing through a UC San Diego agreement. Many of these hotels are within walking distance (< 2 miles) of the meeting site or provide regional shuttle service.



(Left) Map of some of the regional hotel options around the campus of UC San Diego. (Right) patio view from a room at the Estancia, across the street from the conference location.

Experience of the Host Institutions and Lead Scientists

The host institutions and lead scientists have extensive experience in hosting conferences at the scale of the Cool Stars meeting. UC San Diego is used extensively for academic conferences, organizational meetings, and summer camps, and has a dedicated Hospitality and Conference Services organization (<https://conference.ucsd.edu/>). This organization will help coordinate many of the logistical aspects of the meeting, including dormitory and meeting space reservations, hotel pricing agreements, and dining.

Co-Lead Scientist Prof. Adam Burgasser and Supporting Scientist Prof. Quinn Konopacky have organized numerous multi-day conferences at UC San Diego on the scale of 50-250 participants, including regional Graduate Admissions Boot Camps (2016 & 2017), Keck Science Meetings (2012 & 2021), and the Conference for Undergraduate Women in Physics (2016). In addition, Burgasser is currently a Vice President of the American Astronomical Society (AAS), and in that capacity organizes and manages the semi-annual national AAS conferences, most recently a fully hybrid meeting in Pasadena, CA in June 2022 with 2,000 participants.

Supporting Scientist Prof. William Welsh was a member of the SOC for the Kepler Science Conferences I and II (2011, 2013), the “Star and Planet Formation in the Southwest” meeting (2015), and a member of the LOC for IAUC 158 “Cataclysmic Variables and Related Objects” (1995). All of the Lead and Supporting Scientists have attended past Cool Stars meetings, including leadership roles on the SOC and organizing splinter sessions, and thus have a well-developed understanding of the purpose and character of the Cool Stars series.

Possible Sources of Financial Support

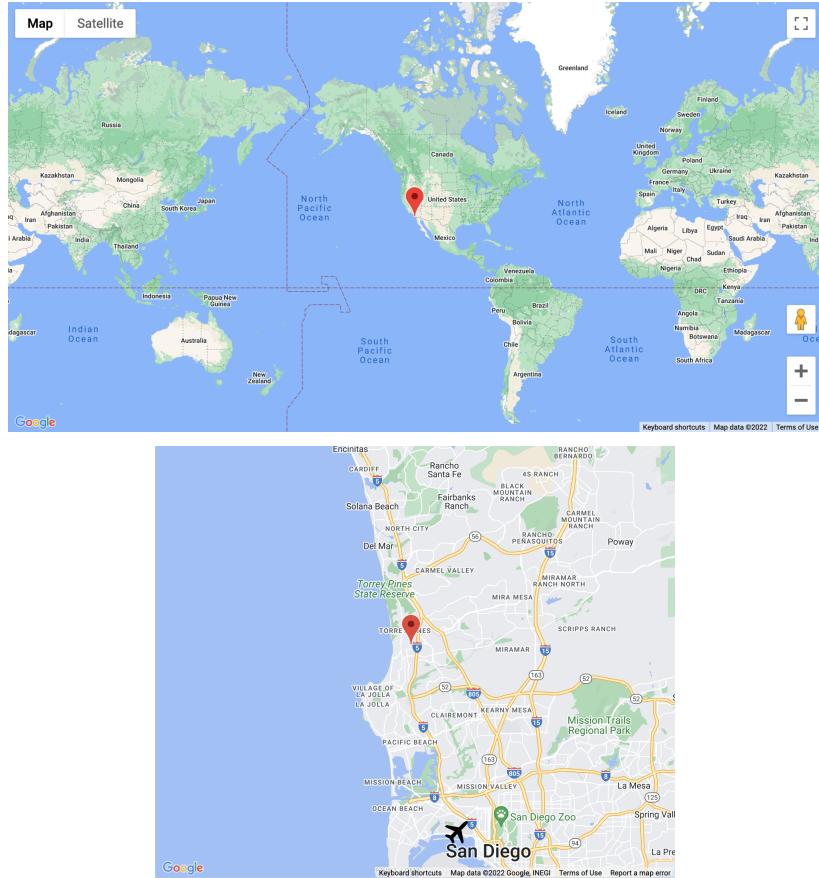
The organizers are committed to keep registration fees near or below historical values, and will pursue a range of potential funding sources to offset meeting costs. These include:

- 1) **UC San Diego:** Both departmental and divisional sources of funding are available for meeting costs, as well as reduced cost/in-kind contributions of staffing and facility support. We will also work with the UC San Diego Development Office to identify potential private donors
- 2) **Heising-Simons Foundation:** Organizers have existing funding relationships with this Foundation and will explore funding opportunities for student participants
- 3) **American Astronomical Society:** The AAS provides conference grants and potentially reduced cost/in-kind contributions for publication of proceedings
- 4) **National Science Foundation & NASA:** Organizers with active NSF and NASA grants will seek meeting extensions to support Cool Stars
- 5) **Local industry:** We will reach out to industry contacts at regional technology/aerospace companies (e.g., SpaceX, Viasat) for corporate support and branding
- 6) **Food sponsors:** We will reach out to local breweries and restaurants for contributions/branding

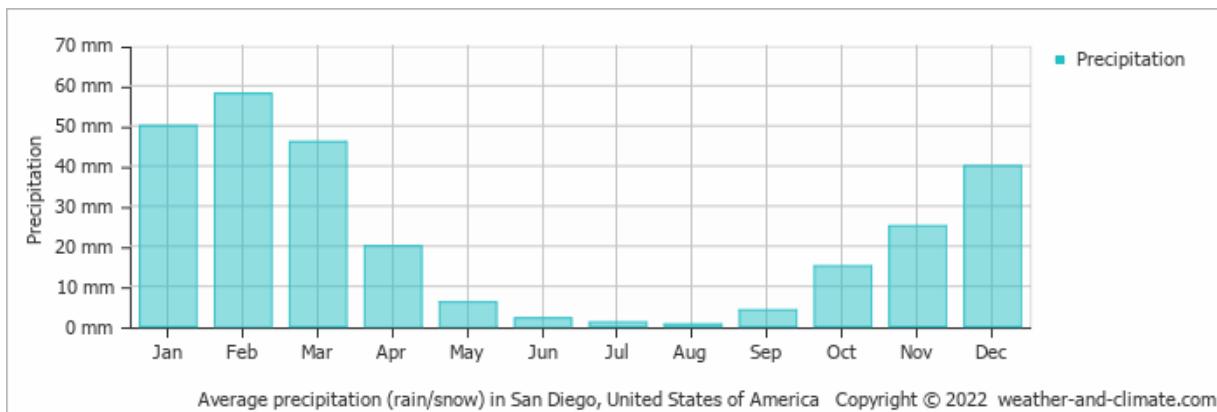
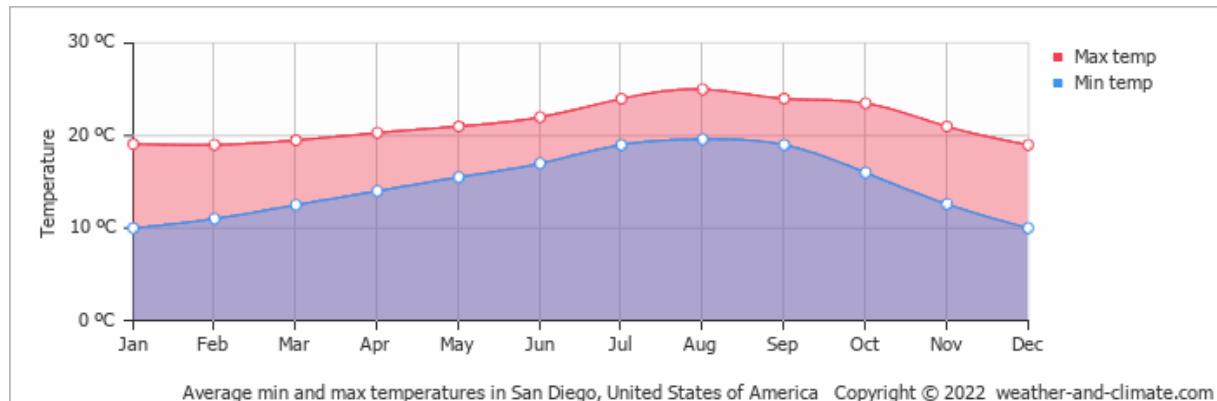
Why Should Cool Stars be Held at San Diego?

It has been 16 years since Cool Stars was hosted in Southern California (Cool Stars 14 in Pasadena, CA in 2006), and San Diego has never hosted a Cool Stars meeting. Nevertheless major astronomical conferences have frequently turned to San Diego, including the American Astronomical Society and SPIE, among others. UC San Diego itself is ideally suited for a conference at the scale of a Cool Stars meeting, with sufficient room capacity and technical resources for in-person and virtual participation. The Lead and Support Scientists are actively engaged in stellar and exoplanetary research, and have experience in organizing and attending Cool Stars meetings. Both UC San Diego and San Diego State University also host graduate programs in Astronomy. In addition, the Southern California region has numerous research universities (e.g., Caltech, UC Irvine, UC Los Angeles, UC Riverside, UC Santa Barbara, USC), centers (e.g., Carnegie Observatories, NASA Jet Propulsion Laboratory), and facilities (e.g., Palomar Observatory, Mt. Wilson Observatory, Mt. Laguna Observatory) that are actively engaged in studying cool stars, stellar systems, and the Sun, making San Diego a convenient regional destination for a Cool Stars conference.

San Diego itself is an ideal central site for an international conference, roughly equidistant between Asia, Australia, the Americas, Africa, and Europe, enabling broad international participation. Major airports, rail service, and an extensive highway system make transportation straightforward, and UC San Diego campus is situated in a region within ample visitor housing. San Diego is an exceptionally pleasant place to visit in the summer, as temperatures are moderated by its proximity to the Pacific Ocean, and the late June/early July period generally has dry, sunny days and clear, star-filled nights. San Diego also hosts world-class attractions including the San Diego Zoo (the proposed site of our banquet), the museums of Balboa Park, a vibrant art and theater scene, and over 150 breweries, in addition to its beautiful beaches, mountains, and desert environments, making it a good conference to bring the whole family.



(Left) San Diego's is centrally located for participants from all continents, with direct flights between San Diego International Airport and major Asian, American, and European cities, and connecting flights through Los Angeles. (Right). UC San Diego is located in La Jolla, about 12 miles north of the airport, with direct rail connection to campus via the San Diego Trolley.



The climate of San Diego is ideal in late June and early July, with warm (but not hot) temperatures and dry & sunny days

Projected Science Themes

In the time between Cool Stars 21 and Cool Stars 22, the *James Webb Space Telescope*, the Rubin Observatory, and *Euclid* will all have had first light and have started obtaining data. Consequently, we expect dramatic developments to emerge in our understanding of cool star formation, evolution, and systems over this time, much as has happened with Gaia. We therefore propose five broad science themes (one per day) that we expect to be highly relevant

over the next two years, with a mix of observational and theoretical, invited and contributed talks around each theme.

- 1) **New insights on star formation and evolution:** The resolution and mid-infrared sensitivity of JWST will probe sites of star formation like never before, and reach the faintest populations in young and old clusters across the Milky Way. This theme will explore advances made in our understanding of the life cycles of cool stars and stellar systems.
- 2) **Milky Way-scale science and big data:** While Gaia has brought us gigasource astrometry, Rubin and Euclid will map the skies more deeply and over time. This theme aims to probe the insights gained and methods developed in probing cool star populations in these large surveys.
- 3) **Cool stars in the time domain:** From Kepler, TESS and ZTF to Rubin, the variable and transient sky will be significantly richer by Cool Stars 22. This theme aims to highlight our advances in the synoptic behaviors of cool stars, including flares, transits, asteroseismology, microlensing, and potentially new types of events.
- 4) **Thirty years of brown dwarfs and exoplanets:** The first examples of both brown dwarfs and exoplanets were reported nearly thirty years ago during Cool Stars 9 in Firenze, Italy. We will honor this milestone with a series of historical and topical talks on major developments in our understanding of these objects.
- 5) **Cool stars as stellar systems:** From the creation of and interaction with planetary systems to multiple star formation and dynamics, this theme aims to put cool stars in the context of systems.

Following the framework of recent Cool Star meetings, we will have a mix of plenary speakers, review speakers, and splinter sessions focused around these themes, the last solicited from the community.

Anything Else We Should Know?

Code of Conduct

Following guidelines already in place for the conferences of major astronomical organizations (e.g., AAS, RAS, ESO) and specific meetings (e.g., NASA ExoPAG), we will establish a code of conduct for Cool Stars 24 that delineates the expected conduct of participants and organizers to provide a harassment-free conference for everyone, regardless of gender, gender identity and expression, sexual orientation, disability, physical appearance, body size, race, age, religion or nationality. We will also establish guidelines for notification, enforcement, and adjudication of code of conduct violations. This code of conduct will be crafted based on existing conference codes (e.g., NAS 2021: <https://nam2021.org/venue/code-of-conduct>), and finalized by the SOC and LOC at least 6 months prior to the meeting. All participants in the meeting, both in-person and virtual, will be required to acknowledge and adhere to the code of conduct in order to participate.

Opening Event: Birch Aquarium

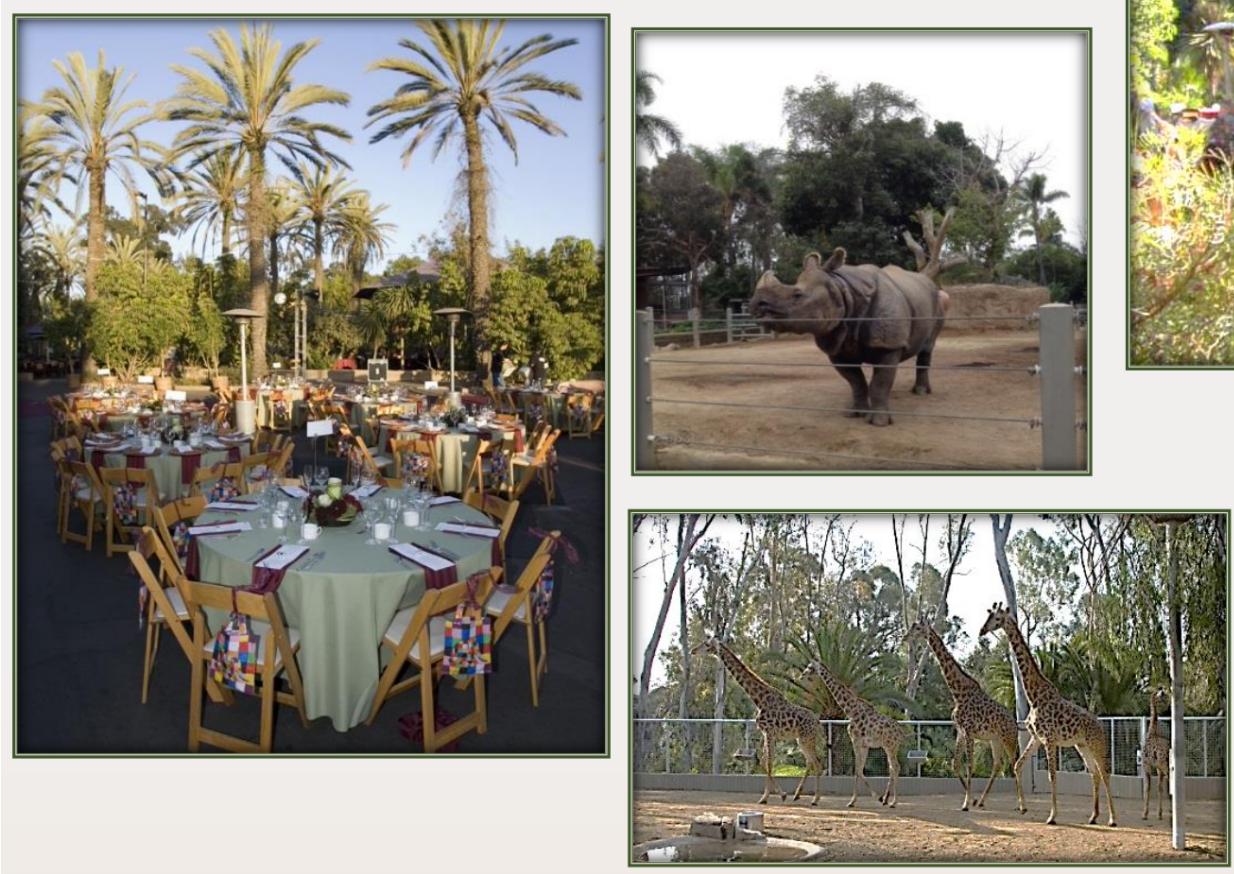
We plan on hosting our pre-registration opening event at the UC San Diego/Scripps Institute of Oceanography Birch Aquarium. Overlooking the La Jolla coastline, including Scripps Pier, this venue can host up to 1600 people and includes admission to the aquarium exhibits. The Birch Aquarium is a short trip from the main UC San Diego campus (meeting venue and dormitories), and can be reached by shuttle.



View of the UC San Diego Birch Aquarium (lit up in purple), with a panoramic view of La Jolla Shores beach, Scripps Pier, and the Pacific Ocean.

Meeting Banquet: The San Diego Zoo

We plan on hosting the Cool Stars 22 Banquet at the world famous San Diego Zoo. The Zoo offers evening admission as part of their banquet package, allowing any who attend the opportunity to tour the zoo before and after the banquet. The estimated cost for the banquet is \$100 per person for 300-400 people, with the ability to host as many as 600 persons.



(Left) Outdoor banquet setting at the San Diego Zoo. (Right) Some of the Zoo residents.

Excursions

There are numerous potential activities that can be organized as official conference excursions. A preliminary list includes:

- 1) Kayaking in La Jolla cove, including exploration of coastal caves
- 2) Chartered bus and tour of Palomar Observatory, about 1.5 hours from the meeting site (in partnership with Caltech)
- 3) Chartered bus and day pass to Balboa Park museums
- 4) San Diego Maritime Museum and ship tour, including USS Midway
- 5) Regional brewery tour

In addition, we will provide information for participants who want to partake in other activities such as surfing, snorkeling, scuba diving, hiking, biking, hang gliding, etc, many of which are within a few miles of the meeting site. We will also provide information on family attractions such as SeaWorld, San Diego Zoo/Wild Animal Park, Fleet Science Center, and Legoland.

Conference Proceedings

We intend to produce electronic conference proceedings, with contributions based on presentation type (e.g., posters = up to 3 pages, plenary talks up to 6 pages, splinter session summaries up to 9 pages, review talks up to 9 pages). We will work with the AAS Publication office to establish a dedicated series for the Bulletins of the American Astronomical Society (cf. Lisa IX proceedings from June 2021: <https://baas.aas.org/vol-54-issue-2-lisa-ix-proceedings>). Co-Leads Burgasser & Theissen commit to editing the proceedings. The approximate timeline for proceedings will be: (1) submission deadline mid-July 2024; (2) editing completed mid-September 2024; (3) publication late 2024/early 2025 depending on production schedule. In addition, we will establish a Zenodo collection for presenters to publish talks, slides, and posters directly online.

Student Participation Grants

We intend to have a limited number of registration and partial-support travel grants available to support undergraduate and graduate student participants at the conference. Applications for and selection of these grants will be solicited at least 4-6 months prior to the meeting to allow for adequate planning. Selection will be based on need and equity considerations, and all grant recipients will be required to present their work at the meeting. Funds to provide these grants will be specifically solicited from our potential external financial sources (see above).