Welcome to the 2023 SLAC SUMMER INSTITUTE!
In case of an emergency

**Fire**
- Evacuate. Be aware of building exits
- Follow building residents to the assembly area
- Do not leave until you are accounted for, and have been instructed to leave.

**Earthquake**
- Remain in building: Duck, cover, and hold position
- When shaking stops: Evacuate building via a safe route to the assembly area
- Do not leave until you are accounted for, and have been instructed to leave.
You are here

The San Andreas Fault is here
After 3 years of being Zoom-only, we’re happy to be back in a hybrid mode!
Hopefully everything you need to know is on the SSI webpage, but let’s go through a few things……

The SLAC Summer Institute (SSI) is an annual two-week-long Summer School tradition since 1973. The theme of the 51st SLAC Summer Institute is “Artificial Intelligence in Fundamental Physics”. These SSI lectures will introduce methods for Artificial Intelligence and Machine Learning and their successful applications across the fundamental physics. This SSI intends to inspire invigorated efforts for new revelations on how the rapidly developing field of Artificial Intelligence can change the ways that data is analyzed in fundamental physics. SSI is especially targeted for graduate students and postdocs while senior researchers are also welcome.

For SSI logistics questions, please use the contact us link.
Please use eduroam or SLAC-VISITOR networks for wifi

https://it.slac.stanford.edu/support/KB0010023

https://confluence.slac.stanford.edu/display/NetMan/Eduroam+service+at+SLAC
People on Zoom: Just in case, please keep your microphones & cameras turned off – raise your hand at the end of the lecture to ask a question.
Please read & act accordingly!

Code of Conduct

The SLAC Summer Institute is a community event intended for networking and collaboration as well as learning. We value the participation of everyone and want all attendees to have an enjoyable and fulfilling experience. Accordingly, all attendees are expected to show respect and courtesy to other attendees and to abide by the following Code of Conduct. Any issues can be brought to the confidential attention of the organizers and we thank you for helping make these events welcoming and friendly event.

CODE OF CONDUCT

The community of participants of the SLAC Summer Institute is made up of members from around the globe with a diverse set of skills, personalities, and experiences. It is through these differences that our community experiences success and continued growth. We expect everyone in our community to follow these guidelines when interacting with others both inside and outside of our community. Our goal is to keep ours a positive, inclusive, successful, and growing community.

As members of the community,

- We pledge to treat all people with respect and provide a harassment- and bullying-free environment, regardless of sex, sexual orientation and/or gender identity, disability, physical appearance, body size, race, nationality, ethnicity, and religion. In particular, sexual language and imagery, sexist, racist, or otherwise exclusionary jokes are not appropriate.
- We pledge to respect the work of others by recognizing acknowledgment/citation requests of original authors. As authors, we pledge to be explicit about how we want our own work to be cited or acknowledged.
- We pledge to welcome those interested in joining the community, and realize that including people with a variety of opinions and backgrounds will only serve to enrich our community. In particular, discussions relating to pros/cons of various technologies, programming languages, and so on are welcome, but these should be done with respect, taking proactive measure to ensure that all participants are heard and feel confident that they can freely express their opinions.
- We pledge to welcome questions and answer them respectfully, paying particular attention to those new to the community.
- We pledge to be conscientious of the perceptions of the wider community and to respond to criticism respectfully. We will strive to model behaviors that encourage productive debate and disagreement, both within our community and where we are criticized. We will treat those outside our community with the same respect as people within our community.
- We pledge to help the entire community follow the code of conduct, and to not remain silent when we see violations of the code of conduct. We will take action when members of our community violate this code such as notifying a workshop organizer or talking privately with the person.

This code of conduct applies to all community situations online and offline, including the meetings themselves, mailing lists, forums, social media, social events associated with the conference, and one-to-one interactions.

Participants asked to stop any harassing behavior are expected to comply immediately. Attendees violating these rules may be asked to leave the event at the sole discretion of the organizers.
Land Acknowledgement

*We recognize that Stanford sits on the ancestral land of the Muwekma Ohlone Tribe. This land was and continues to be of great importance to the Ohlone people. Consistent with our values of community and inclusion, we have a responsibility to acknowledge, honor and make visible the university’s relationship to Native peoples.*

- Stanford Land Acknowledgement

First Peninsula Inhabitants - [Facts about the Ohlone people](#)

Stanford’s Relationship with Native Peoples - [Honoring Our Relationship](#)

More information about the Stanford University Land Acknowledgement can be found [at this web page](#).
The schedule is available as both a spreadsheet & in full detail on Indico

- The morning lectures will be here in the Kavli Auditorium
- The tutorials will be in the Redwood, Madrone & Cedar (wk1)/Sonoma (wk2)
- The afternoon Q&A and the Project sessions: Redwood Rooms in ROB
- The reception tonight is on the patio outside of the Redwood Rooms
The indico agenda will have links to lecturer’s slides, the video of the presentation (eventually) as well as to the Q&A google docs...
Dinners

- We are ‘restructuring’ the catered dinners as our previous plans were inadequate & too $$$ after Covid (that’s the Bay Area ...)

- We’ll refund all those that paid already (including me..)

- Tomorrow’s dinner is cancelled BUT we will have signup info on our webpage for dinners next Mon & Thurs at MUCH lower prices via take-outs. These will still take place on the patio outside of ROB.

- Wine, beer, soda, etc. will be covered..

- Sign up will be thru the SSI website
The Contest Question: Every year we ask the students to answer a ‘light’, broad-based question depending on the SSI subject. This year the question is:

“What experimental/observational discovery would be the greatest impetus for the further use of ML in astro/particle physics?”

Place your answers in the pink box (by 4 PM 8/17) & the organizers will pick a winner who will get a bottle of fine CA bubbly on Friday.
SSI locations in a bit more detail....
PM Q&A Sessions

• These are intended for extensive questions. Those immediately afterward the lectures should be kept short & to the point. Of course, other questions can also be addressed to the speakers directly during the breaks.

• Note that questions can also be submitted (anonymously) with GoogleDocs via individual links on the SSI program indico agenda & will be answered, given the time limitations, at the end of each talk, in the Q&A sessions or by written answers that will appear within a few days from the lecturer
Projects:

- Since 2013 we have incorporated projects conducted by teams of students into SSI
- Some info already exist on the SSI website & more later today
- These will very likely require in-person attendance
- Teams form around a specific project & try to address the issues
- Teams will present their results on the final TH afternoon (8/17) in Kavli...take a look at past years efforts!

E.g., https://indico.slac.stanford.edu/event/134/timetable/?view=standard
SSI 2023 T-Shirts are available for sale!

Only $23!

(see Glenna out front)
Odds & Ends

• Sign up for the different tours on the SSI webpage (see the schedules for times)

• Be aware of next week’s soccer game … sign up via the SSI webpage to play or to watch

  https://indico.slac.stanford.edu/event/7540/page/73-soccer-game

• Check the SSI “Practical Information” page for info wrt ATMs, after hours access, shuttle buses, Bay Area touring, etc.
Some Tour Details

NOTE: There will be 2 different tours BUT you’ll need to sign up for them as numbers are restricted – first come, first served

Klystron Gallery: 1 hour tour on each of both days limited to 25
Choose 1 of these tours only! Closed toe shoes required!

Vis Lab: Two 30 min tours on each of both days limited to 20
Choose 1 of these tours only!

More info on the SSI webpage. If interested, please sign up for these ASAP to reserve your spot!

https://indico.slac.stanford.edu/event/7540/page/72-tours
Group photo at ~10AM today after this presentation

Follow Glenna!
Before we start, a few words on SLAC and SSI...
SLAC is a DOE multi-purpose laboratory ...

Lead the world in X-ray and ultrafast science

Transform high energy density science

Foster a frontier program in the physics of the universe

Build new capabilities for transformative quantum information science technologies

Innovate massive-scale data analytics

Drive biological, chemical, and material science for sustainability
The SLAC HEP Program itself is quite diverse...
It began before: NC’s, AF, charm, τ, b, W/Z,.. Its history reflects the evolution of HEP itself..
SSI has always covered a very broad set of topics of general interest...

SSI Topics over the years

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This year ML has been added into the mix!
ML begins after the break

Please be back by 10:30!