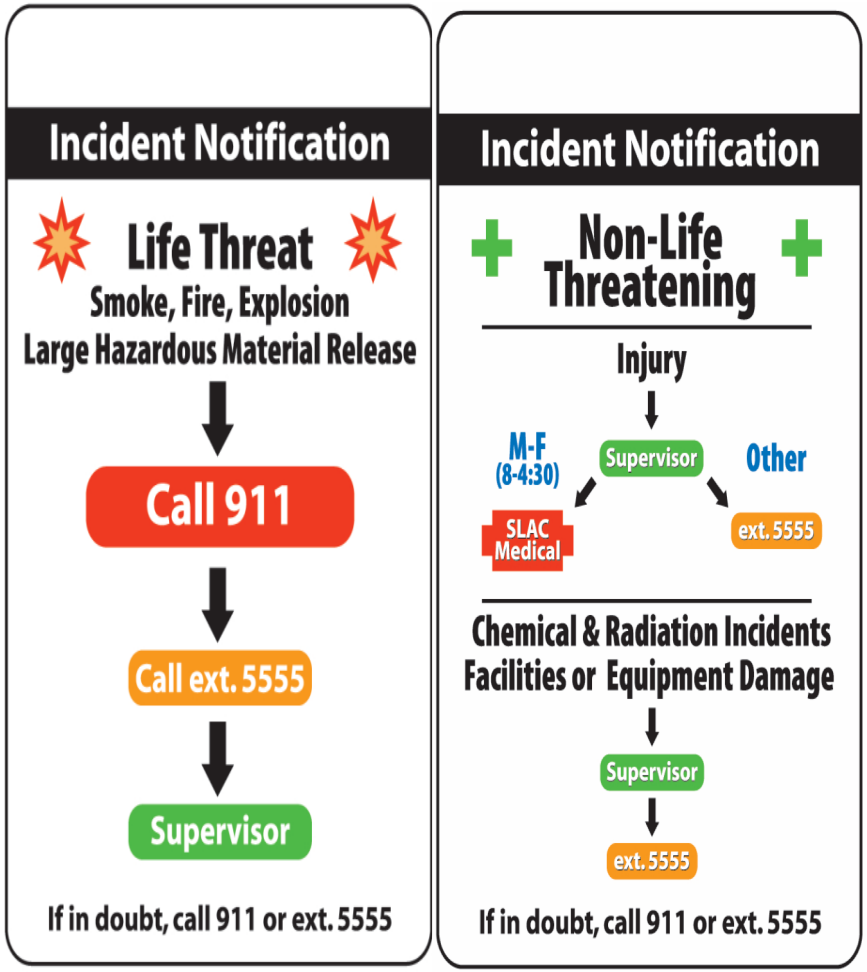
In case of an emergency



Fire

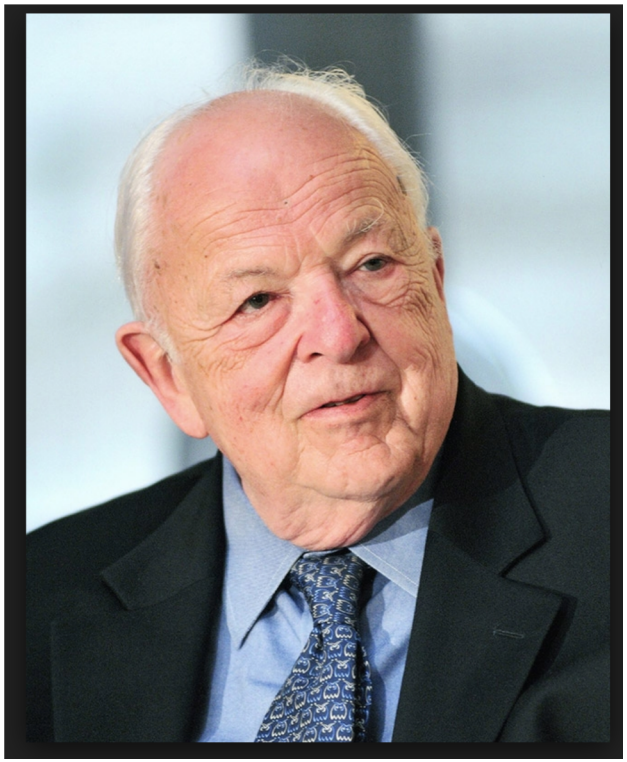
- **Evacuate. Be aware of building exits**
- **Follow building residents to the assembly area**
- **Do not leave until you are accounted for, and have been instructed to leave.**

Earthquake

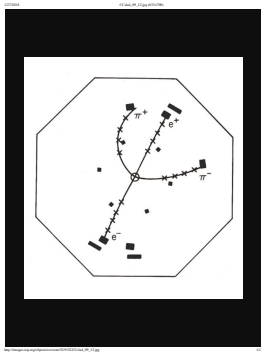
- **Remain in building: Duck, cover, and hold position**
- **When shaking stops: Evacuate building via a safe route to the assembly area**
- **Do not leave until you are accounted for, and have been instructed to leave.**

Welcome to the 46th SLAC SUMMER INSTITUTE !

SSI 2018 is dedicated to the memory of Burt Richter
who passed away less than two weeks ago



Nobel Laureate 1976 and Director of SLAC 1984-99

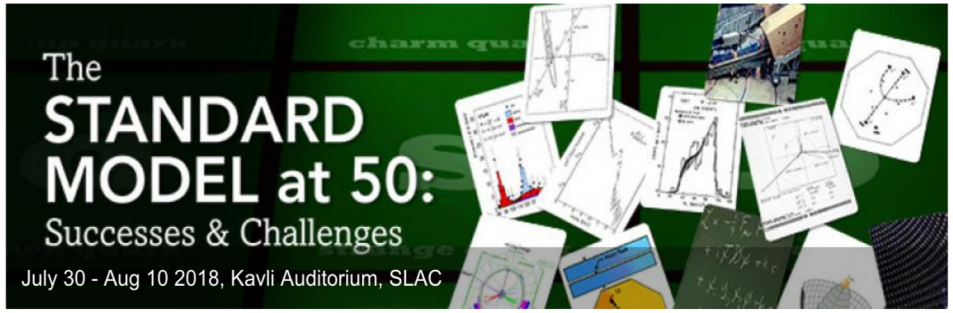


Hopefully everything you need to know is on the SSI webpage.. but let's go through a few things……

SLAC NATIONAL ACCELERATOR LABORATORY

SSI 2018 - SLAC Summer Institute 2018

HOME | PROGRAM | PAST SSI | REGISTRATION | PARTICIPANTS | PRACTICAL INFORMATION | CONTACT US



46th SLAC SUMMER INSTITUTE

Standard Model at 50: Successes and Challenges

Date: July 30 - Aug 10, 2018
Location: Kavli Auditorium, SLAC

The SLAC Summer Institute (SSI) is an annual two-week-long Summer School tradition since 1973. Lectures are given Monday through Friday each morning. The afternoons contain a mixture of special lectures, topical conference talks, discussion sessions, student projects and tours. In the evenings, there are social activities and student poster sessions. The attendance is typically a mixture from graduate students to postdocs, as well as senior researchers.

QUICK LINKS

- Registration
- Submit Poster Session Abstract
- Program
- Accommodations
- Code of Conduct

ANNOUNCEMENTS AND KEY DATES

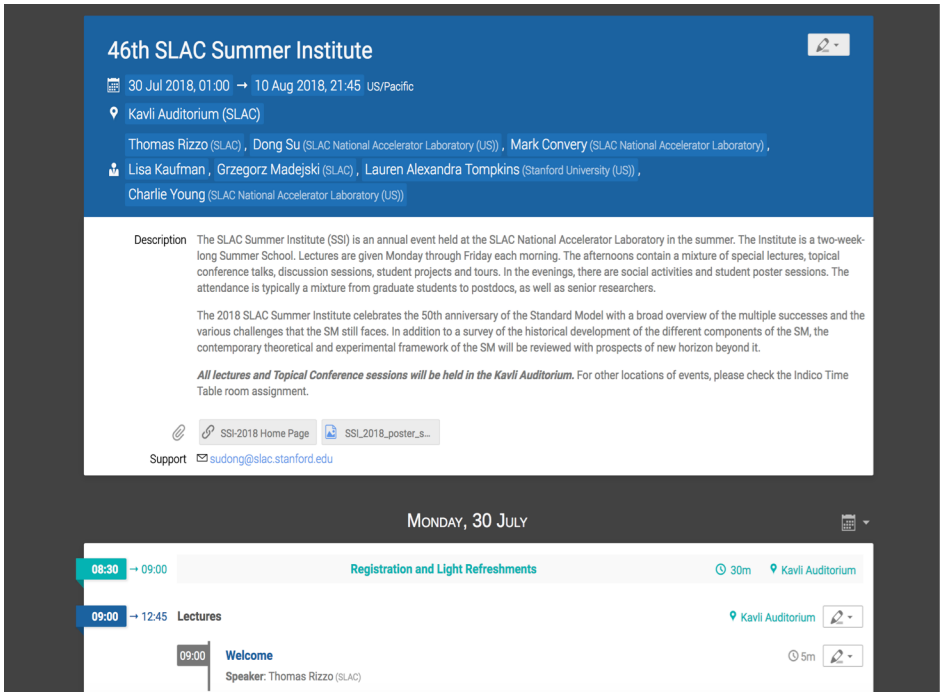
March/18	Registration opens
March/18	Application for travel support opens. Limited number of awards available for selected applicants to partially offset travel cost by waiving or reducing registration fee
March/18	Call for poster session abstracts
May/31	Deadline for travel support application
June/14	Stanford Guest House SSI room block allocation expires
	Early registration fee rate ends

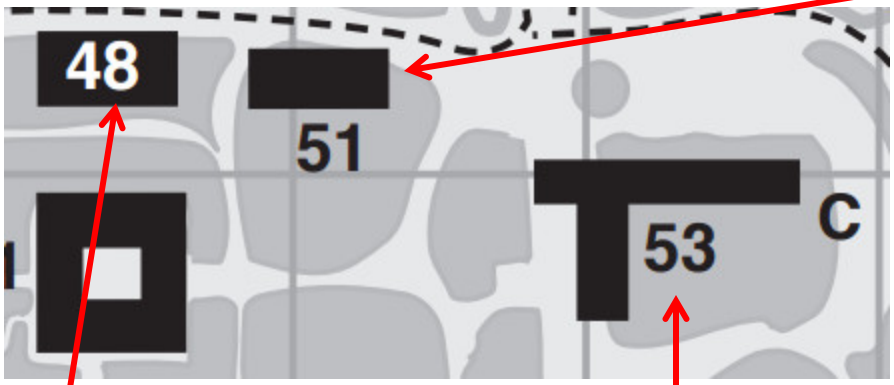
The schedule is available in 2 forms: a spreadsheet & in full detail on Indico

- The morning lectures & the afternoon talks will be here in the Kavli Auditorium (unless otherwise noted)
- The afternoon Q&A and the Project sessions : Redwood Rooms in ROB
- The reception & dinners : on the patio outside the ROB

SSI2018 -- The Standard Model @ 50: Successes & Challenges

Time/Date	30-Jul	31-Jul	1-Aug	2-Aug	3-Aug	6-Aug	7-Aug	8-Aug	9-Aug	10-Aug
9:00–10:00	Origins of the SM S. Weinberg	SM Probes in Atoms/ Molecules/ Nuclei (II) V. Cirigliano	The Development of QCD G. Sterman	QCD at the LHC (I) J. Butterworth	QCD at the LHC (II) J. Butterworth	Higgs History H. Haber	Physics of Neutrinos (I) A. de Gouvea	The Mysteries of Flavor (I) J. Zupan	What/Where is DM? T. Slatyer	Is there a no-Lose Theorem for Future Colliders? LT Wang
10:00–10:30	*Morning Break*									
10:30–11:30	Precision EWK Theory A. Freitas	EWK Precision Measurements at Colliders TBD	Precision QCD & the SM (I) F. Caola	Precision QCD & the SM (II) F. Caola	QCD on the Lattice A. Kronfeld	The Higgs in the SM S. Dawson	Physics of Neutrinos (II) A. de Gouvea	The Mysteries of Flavor (II) F. Wilson	What/Where is DM? T. Shutt	What Future Higgs Measurements Will Tell Us ? M. Peskin
11:45–12:45	SM Probes in Atoms/ Molecules/ Nuclei (I) V. Cirigliano	Low Energy Probes of the SM (I) K. Kumar	Low Energy Probes of the SM (II) B. Kiburg	Astro/Cosmo Window on the SM S. Dodelson	Astro/Cosmo Window on the SM K. Olive	Properties of the Higgs at the LHC J. Conway	Neutrinos: What Will We Learn in the Next Decade S. Soldner-Rembold	Why more baryon than antibaryons? A. Nelson	The Hierarchy & Fine-Tuning Problems A. Nelson	View Ahead Y. Kim
12:45–13:30	*Lunch*				*Lunch*				*Lunch*	
13:30–14:00				Klystron Gallery Tour			Klystron Gallery Tour			
14:00–14:45	Evolution of EWK Theory W. Marciano	Q&A	Critical Expts (hadron colliders) P. Jenni	Q&A	Topical Conference	Topical Conference	Q&A	Q&A	Project Presentations	
14:45–15:45	Evolution of Accelerators & Technology L. Evans		Critical Expts (flavor) D. Hitlin							
15:45–16:05	*Break*	*Break*	*Break*	*Afternoon Break*			*Afternoon Break*			
16:05–17:30	Critical Expts (Early SLAC) M. Breidenbach	Project Kickoff	Critical Expts (neutrinos) E. Kearns	Projects Kavli Vislab Tour	Projects		Projects Kavli Vislab Tour	Topical Conference Projects IR2 Tour	Project Presentations	
18:00	Reception	Dinner	Poster social			Dinner	Poster social	Soccer	Dinner	





- The poster session will be held in the ROB (on 8/1)

The Contest Question: Every year we ask the students to answer a broad-based question depending on the SSI subject. This year the question is:

" What experiment or set of experiments will demonstrably discover new physics beyond the SM & what will be the nature of the theory that replaces it ? "

NB: the existence of DM or neutrino masses doesn't count !

Place your answers in the pink box (by 5PM 8/9) & a winner will be chosen during the last dinner (after wine).. the winner gets a bottle of fine CA bubbly

To get the flavor: https://indico.cern.ch/event/484545/timetable/?view=standard

Q&A Sessions

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

- Note that questions can also be submitted (anonymously) with GoogleDocs via a link on the SSI program webpage & will be addressed in the Q&A sessions

Projects:

- Since 2013 we have incorporated projects conducted by teams of students into SSI
- We will provide a list of projects (to be posted later today or early tomorrow on the program webpage -- so keep your eyes open!) & you pick what looks interesting to you.. again, sign up by using GoogleDocs on the SSI website
- Teams form around a given project & try to address the questions
- Teams present their results on the final TH afternoon (8/9) & the best team wins prizes
- More details tomorrow afternoon @ ~4PM

SSI 2018 T-Shirts are available for sale !

Only $15 !

(Correct Change Appreciated)

Odds & Ends

- Sign up for tours on the SSI webpage (see schedule for times)
- Be aware of next week's soccer game between the SSI students & the SLAC team…sign up on the webpage to play or watch
- Check the SSI "Practical Information" page for info wrt ATMs, after hours access, Bay Area touring, etc.

Group photo after the first lecture