

TMT Future Leaders Workshop Agenda

Day 1: Sunday, Dec 2, 2018

Instructors: Gary Sanders, Roberto Abraham, Sandra Dawson

Time	Session	Lead	Participants	Location
	Participant breakfast on own			
8:30 AM	Beverage Service Coffee and tea served in Fountain Foyer		All	Fountain Foyer
8:45 AM - 9:00 AM	Workshop Check-In Participants pick up workshop materials	Nicole Mattacola	All	Fountain Foyer
9:00 AM - 9:10 AM	Welcome & Opening Remarks Sandra Dawson, Manager of Hawaii Community Affairs for TMT, will give additional opening remarks.	Sandra Dawson	All	
9:10 AM - 10:00 AM	Opening Session & Orientation The Institute for Scientist and Engineer Educators (ISEE) will open the TMT-sponsored workshop and introduce the participants to the workshop's agenda and purpose.	Nicholas McConnell and Austin Barnes	All	Plenary: Fountain 3-4. Break-out: Fountain 1-2
10:00 AM - 10:45 AM	TMT Status Update Gary Sanders, Project Manager for the Thirty Meter Telescope, will give an update to the TECI participants on the status of the TMT project.	Gary Sanders	All	Plenary: Fountain 3-4.
10:45 AM - 11:00 AM	Break		All	
11:00 AM - 12:00 PM	Large Telescopes 101 Roberto Abraham, Professor of Astronomy & Astrophysics at the University of Toronto and member of the TMT Science Advisory Committee, will describe some successful and less successful ideas for building instruments on large telescopes, and the role of the SAC in making decisions.	Roberto Abraham	All	Plenary: Fountain 3-4
12:00 PM - 1:00 PM	Lunch (Westin buffet)		All	Fountain Foyer
1:00 PM - 3:15 PM	Project Management Activity, Part 1 ISEE staff will facilitate an activity to improve participants' project management skills. The activity will be introduced and small groups of participants will create a project plan and schedule for the project management scenario.	Rafael Palomino	All	Plenary: Fountain 3-4. Break-out: Fountain 1-2
3:15 PM - 3:45 PM	Break			
3:45 PM - 5:30 PM	Project Management Activity, Part 2 Continuation and conclusion of Project Management activity lead by ISEE staff	Rafael Palomino	All	Plenary: Fountain 3-4. Break-out: Fountain 1-2
	Dinner on own			

Day 2: Monday, Dec 3, 2018
Instructors: Scott Roberts, Renate Kupke, Warren Skidmore

Time	Session	Lead	Participants	Location
	Participant breakfast on own			
8:30 AM	Beverage Service- Coffee and tea available in Fountain Foyer		All	Fountain Foyer
8:45 AM - 9:15 AM	Overview and Preparation for the Day Participants will fill out an anonymous reflection on the previous day's sessions to provide ISEE with feedback. Austin Barnes will introduce the plan for today's sessions.	Austin Barnes	All	Plenary: Fountain 3-4. Break-out: Fountain 1-2
9:15 AM - 9:45 AM	The Roles of Scientists in the TMT Project and Overview of TMT Science Cases Warren Skidmore, Telescope Research Scientist, will present an overview of TMT's science and discuss TMT's Detailed Science Case chapters.	Warren Skidmore	All	Plenary: Fountain 3-4.
9:45 AM - 10:00 AM	Short break and participants regroup			
CONCURRENT 10:00 AM - 10:45 AM	Collaboration & Teamwork ISEE Staff will introduce participants to the collaboration and teamwork sessions and objectives for TECI. In this first session, participants will discuss the pre-reading scenarios and prompts, focusing on functioning on an international team with various expertise.	Rafael Palomino	All except below	Plenary: Fountain 3-4. Break-out: Fountain 1-2
CONCURRENT 10:00 AM - 10:45 AM	Collaboration, Teamwork, and Leadership In this first session, instrument design leaders and returning participants will discuss the pre-reading scenarios and prompts, with a focus on leading an international team with various expertise.	Austin Barnes	Instrument Design Leaders + Returners	Plenary: Fountain 3-4. Break-out: Fountain 1-2
10:45 AM - 11:00 AM	Break			
11:00 AM - 12:00 PM	Introduction to TECI Mini-Projects Participants see a final list of mini-projects and indicate those in which they are most interested.	Nicholas McConnell	All	Plenary: Fountain 3-4. Break-out: Fountain 1-2
12:00 PM - 1:00 PM	Lunch (Westin buffet)		All	Fountain Foyer
1:00 PM - 2:00 PM	Astronomical Instrumentation Overview and Activity Introduction Renate Kupke, project scientist at the University of California Observatories, will introduce participants to astronomical instrumentation design, and begin an interactive activity in which participants will work in small international teams to develop conceptual designs for a TMT instrument.	Renate Kupke	All	Plenary: Fountain 3-4. Break-out: Fountain 1-2
2:00 PM - 3:00 PM	Instrument Design Part 1: choosing science goals Teams will choose the primary science goals for their instrument.	Renate Kupke	All	Plenary: Fountain 3-4. Break-out: Fountain 1-2
3:00 PM - 3:15 PM	Break			
3:15 PM - 4:15 PM	TMT Systems Engineering: Requirements Flow Down & Risk Management Scott Roberts, the TMT systems engineering group leader, will present details on TMT's system engineering team and process, focusing on the flow down of engineering requirements from science goals and the management of risk.	Scott Roberts	All	Plenary: Fountain 3-4
4:15 PM - 5:00 PM	Instrument Design Part 2: defining instrumentation requirements Teams will begin to define the instrumentation requirements from the primary science goals.	Renate Kupke	All	Plenary: Fountain 3-4. Break-out: Fountain 1-2
	Dinner on own			

Day 3: Tuesday, Dec 4, 2018

Instructors: Claire Max, Maureen Savage, Nick MacDonald, Scott Roberts, Renate Kupke, Warren Skidmore

Time	Session	Lead	Participants	Location
	Participant breakfast on own			
8:30 AM	Beverage Service- Coffee and tea available in Fountain Foyer		All	Fountain Foyer
9:00 AM - 9:30 AM	Overview and Preparation for the Day Participants will fill out an anonymous reflection on the previous day's sessions to provide ISEE with feedback. We will introduce the plan for today's sessions.	Austin Barnes	All	Plenary: Fountain 3-4. Break-out: Fountain 1-2
9:30 AM - 10:30 AM	Instrument Design Part 3: Defining Instrument Requirements and Initial Concepts Teams continue to define instrumentation requirements and start working on initial design concepts for their TMT instruments.	Renate Kupke	All	Plenary: Fountain 3-4. Break-out: Fountain 1-2
10:30 AM - 11:30 AM	Instrument Design Part 4: Initial Concept Presentations Teams present their initial concepts to the group and receive some guidance and feedback.	Renate Kupke	All	Plenary: Fountain 3-4. Break-out: Fountain 1-2
11:30 AM - 12:00 PM	Walk to TMT Project Office	Austin Barnes	All	
12:00-12:15 PM	Welcome to TMT Ravinder Bhatia, Associate Project Manager	Ravinder Bhatia		TMT project office
12:15 PM - 1:00 PM	Lunch at TMT Opening Remarks		All	TMT project office
1:00 PM - 1:45 PM	Instrument Design Part 5: Further Design and Consultation Preparation Teams continue to refine their initial instrumentation concepts and prepare for a design consultation with TMT project office personnel and other staff members.	Renate Kupke	All	TMT project office
1:45 PM - 2:00 PM	Break			TMT project office
2:00 PM - 3:30 PM	Instrument Design Part 6: Design Consultation with TMT Project Office Personnel Teams present their instrument concepts to TMT project office personnel and staff members to receive feedback and guidance, specifically on particularly high-risk aspects of their design.	Renate Kupke	All	TMT project office
3:30 PM - 4:30 PM	First and second-generation AO on TMT	Claire Max	All	TMT project office
4:30 PM - 5:30 PM	Instrument Design Part 7: Developing Instrument Work Breakdown Structure Maureen Savage, project manager of the wide-field optical spectrograph (WFOS), will lead teams in developing a WBS for their instrument design, and if time allows, thinking about the instrument interfaces.	Maureen Savage	All	TMT project office
	Dinner on own		All	

Day 4: Wednesday, Dec 5, 2018

Instructors: Claire Max, Maureen Savage, Nick MacDonald, Scott Roberts, Renate Kupke, Warren Skidmore

Time	Session	Lead	Participants	Location
	Participant breakfast on own			
8:30 AM	Beverage Service- Coffee and tea available in Fountain Foyer		All	Fountain Foyer
9:00 AM - 9:30 AM	Overview and Preparation for the Day Participants will fill out an anonymous reflection on the previous day's sessions to provide ISEE with feedback. We will introduce the plan for today's sessions.	Austin Barnes	All	Plenary: Fountain 3-4. Break-out: Fountain 1-2
9:30 AM - 10:15 AM	IRIS: the First-Generation AO-fed Imaging Spectrograph for TMT James Larkin, UCLA Professor and Principal Investigator of the TMT IRIS instrument, will present highlights of the IRIS design, and how it has developed from its initial concept.	James Larkin	All	Plenary: Fountain 3-4
10:15 AM - 11:00 AM	Reflections on the design Process for the TMT Planetary Systems Imager Mike Fitzgerald, UCLA Professor and co-lead of the TMT Planetary Systems Imager (PSI), will describe some of the history of PSI, a proposed second-generation instrument concept for TMT. Mike will give his reflections on the decision making and organizational structures in place so far, and how the project team is looking forward.	Mike Fitzgerald	All	Plenary: Fountain 3-4
11:00 AM - 11:15 AM	Break		All	
11:15 AM - 12:45 PM	Instrument Design Part 8: Final Instrument Presentations Instrument teams deliver their final instrument presentations and have time for questions with the other teams and staff. Eight teams: 8 min presentations + 2 min Q&A.	Renate Kupke	All	Plenary: Fountain 3-4. Break-out: Fountain 1-2
12:45 PM - 2:00 PM	Lunch (Westin buffet)		All	Fountain Foyer
2:00 PM - 2:45 PM	WFOS Trade Studies, or how we spent the summer, fall, winter, spring, summer, fall of 2017/2018	Maureen Savage	All	Plenary: Fountain 3-4
2:45 PM - 3:30 PM	Instrument Design Part 9: SAC Downselect Discussion and Activity Wrap-Up The Instrument Design SAC will present their final downselection decision and key points from their discussion over lunch. Participants will have the opportunity to ask questions if time allows.	Warren Skidmore and Renate Kupke	All	Plenary: Fountain 3-4. Break-out: Fountain 1-2
3:30 PM - 4:00 PM	Break			
4:00 PM - 5:30 PM	TECI Mini-Projects: Project Milestones and Team Roles Mini-project teams have 1.5 hours of working time, with focus on project deliverables, milestones, and how individuals' expertise and resources can be utilized.	Nicholas McConnell	All	
	Dinner on own		All	

Day 5: Thursday, Dec 6, 2018 TMT lab field trip in Monrovia

Time	Session	Lead	Participants	Location
	Participant breakfast on own		All	
9:30 AM	Depart Westin - Meet passenger bus in front of hotel	Austin Barnes	Signed up for Monrovia tour	
10:00 AM	Arrive Monrovia	Austin Barnes		
10:00 AM - 12:00 PM	Tour of TMT optics and integration labs	TMT Staff		
12:00 PM	Depart Monrovia	Austin Barnes		
12:30 PM	Arrive back at Westin	Austin Barnes		
	Lunch on own		All	
	Dinner on own		All	

Day 6: Friday, Dec 7, 2018 DAY OFF

Day 7: Saturday, Dec. 8, 2018 Caltech				
Instructors: Jessica Lu, Heather Kaluna, Warren Skidmore, Rich Dekany, Dimitri Mawet, Mitch Aiken?				
Time	Session	Lead	Participants	Location
	Participant breakfast on own		All	
8:30 AM - 9:00 AM	Bus transportation to Caltech	Austin Barnes	All that signed up for Caltech Tour	
9:00 AM - 9:30 AM	Overview and Preparation for the Day Participants will fill out an anonymous reflection on the previous day's sessions to provide ISEE with feedback. We will introduce the plan for today's sessions.	Nicholas McConnell	All	Avery dining hall
9:30 AM - 10:00 AM	Intro to Caltech labs	Rich Dekany and Dimitri Mawet	All	Avery dining hall
CONCURRENT 10:00 AM - 11:00 AM	Caltech Lab Tours	Rich Dekany, Dimitri Mawet, Nicholas McConnell	groups A&B	Cahill, Downs-Lauritsen
CONCURRENT 10:00 AM - 11:00 AM	Collaboration & Teamwork: Accomplishing a Task Participants will revisit ideas and strategies that came up near the beginning of the workshop during the previous collaboration & teamwork session, and what an effective international team looks like. As participants begin to spend more time on mini-projects, they consider strategies for helping the teams make decisions, accomplish the task, and how to be an effective team member.	Austin Barnes	groups C&D	Avery dining hall
CONCURRENT 11:00 AM - 12:00 PM	Collaboration & Teamwork: Accomplishing a Task See above	Rafael Palomino	groups A&B	Avery dining hall
CONCURRENT 11:00 AM - 12:00 PM	Caltech lab tours	Rich Dekany, Dimitri Mawet, Austin Barnes	groups C&D	Cahill, Downs-Lauritsen
12:00 PM - 1:00 PM	Lunch at Caltech		All	Avery Dining Hall
1:00 PM - 1:45 PM	UH Hilo's Education-Based Telescope: A Potential Bridge Between Local and Astronomical Communities Heather Kaluna, Assistant Professor of Astronomy, University of Hawaii at Hilo	Heather Kaluna	All	Avery dining hall
1:45 PM - 3:15 PM	TECI Mini-Projects: working time Teams continue working on their mini-projects, informed by this morning's review and teamwork/collaboration sessions	Nicholas McConnell	All	Avery dining hall
3:15 PM - 3:30 PM	Break		All	
3:30 PM - 4:45 PM	TECI Mini-Projects: Showcase Project Work Participants will take turns sharing the work they have done on their mini-project, and visiting other teams to hear about other mini-projects and consider if there is a project they would like to pursue remotely after the workshop	Lisa Hunter	All	Avery dining hall
4:45 PM - 5:00 PM	TECI Mini-Projects: Briefing on Next Steps Participants will prepare to select one project they want to work on tomorrow, and possibly after the workshop	Lisa Hunter		
5:00 PM	Bus return from Caltech	Austin Barnes	All	
	Dinner on own		All	

Day 8: Sunday, Dec. 9, 2018 Poster Symposium
Instructors: Jessica Lu, Warren Skidmore, Johanna Teske (for panel), Heather Kaluna

Time	Session	Lead	Participants	Location
	Participant breakfast on own			
8:30 AM	Beverage Service- Coffee and tea available in Fountain Foyer		All	Fountain Foyer
9:00 AM - 9:30 AM	Overview and Preparation for the Day Participants will fill out an anonymous reflection on the previous day's sessions to provide ISEE with feedback. We will introduce the plan for today's sessions. Participants contribute questions for the Collaboration & Teamwork panel taking place after lunch.	Nicholas McConnell	All	Plenary: Fountain 4. Break-out: Fountain 3 and San Gabriel.
9:30 AM - 9:45 AM	TECI Mini-Projects: Review Process for Re-forming Teams and Advancing Projects TECI instructors will briefly review the next phase of mini-projects, beginning this morning	Nicholas McConnell	All	
9:45 AM - 10:30 AM	TECI Mini-Projects: New Team Formation or Original Teams Continue Each TECI participant will select one project they want to work on for the remainder of the morning, and possibly continue after the workshop. For each project area, the new pool of participants will have an opportunity to re-form teams based on ideas that are emerging, or continue with the team they have worked with so far.	Nicholas McConnell	All	Plenary: Fountain 4. Break-out: Fountain 3 and San Gabriel.
10:30 AM - 10:45 AM	Break			
10:45 AM - 12:15 PM	TECI Mini-Projects: Next Steps and Post-Workshop Proposals In their new (or continuing) teams, TECI participants will outline the next steps toward completing their project, clarify what they have accomplished so far, and work toward proposals for continuing after the workshop. The morning will end with a brief wrap-up to the overall mini-project strand.	Lisa Hunter		Plenary: Fountain 4. Break-out: Fountain 3 and San Gabriel.
12:15 PM - 1:15 PM	Lunch (Westin buffet) Box lunch day. Put up symposium posters if presenting		All	Fountain Foyer
1:15 PM - 2:15 PM	Collaboration & Teamwork: Techniques, Tools, and Methods A panel of workshop instructors and other guests will field questions from the TECI participants about experience with or strategies for improving collaboration practices.	Austin Barnes	All	Fountain 3-4
2:15 PM - 2:30 PM	Closing remarks	Austin Barnes	All	Fountain 3-4
2:30 PM - 3:00 PM	Final survey	Lisa Hunter	All	Fountain 3-4
4:00 PM - 4:20 PM	Poster Symposium: Opening Remarks	Lisa Hunter	All	Fountain 1-4
4:20 PM - 6:00 PM	Poster Symposium & Reception Light refreshments will be served.	Lisa Hunter	All	Fountain 1-4
6:00 PM	Dinner on own		All	

Day 9: Departure Day / TMT Science Forum Day 1 - Monday, Dec. 10, 2018

Time	Session	Lead	Participants	Location
9:00 AM - 4:00 PM	Participants Depart	Nicole Mattacola		