



Keck Institute for Space Studies

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Keck Institute for Space Studies – Overview

- W.M. Keck Foundation awarded Caltech an 8-year grant to develop a “Think-and-Do Tank” for new planetary, Earth and astrophysics science and engineering approaches that will impact future space missions
 - Develop new ideas that will lead to revolutionary advances in future space missions
 - Build and strengthen JPL/Campus collaborations
 - Involve external community (from academia, government, and industry) of scientific and engineering leaders
 - Keck Institute began formal operations in October 2008
- Collaborative Campus-JPL Institute
 - Campus participation supported by Keck Institute for Space Studies (KISS)
 - JPL participation supported by JPL R&TD (Research & Technology Development)
 - All studies have a lead from Campus and from JPL



Keck Institute for Space Studies – Overview

The Institute supports:

STUDY PROGRAMS

Large Programs

- 3 currently funded for 1 year study
- Two-year technology development follow-up starts in Fall 2009
- Selecting study program concepts (2-3) for 2009-2010

Mini-Programs

- 4 currently funded for studies (~2 weeks)

ACADEMIC & FELLOWSHIP PROGRAMS

- Keck Postdoctoral Fellowship Program
- Keck Graduate Student Fellowships in study program areas and at GALCIT
- Participation in KISS workshops

Large Studies Currently Funded



- Coherent Instrumentation for Cosmic Microwave Background Polarization Observations
Co-Leads: Tony Readhead and Charles Lawrence



- Large Space Structures
Co-Leads: Sergio Pellegrino, Jennifer Dooley, and Michael Ortiz



- New Directions in Robotic Exploration of Mars
Co-Leads: John Eiler and Dan McCleese

Mini-Programs Currently Funded



- Shedding Light on the Nature of Dark Matter
Co-Leads: Leonidas Moustakas and Andrew Benson



- Climate Feedbacks and Future Remote Sensing Observations
Co-Leads: Joao Teixeira and Yuk Yung

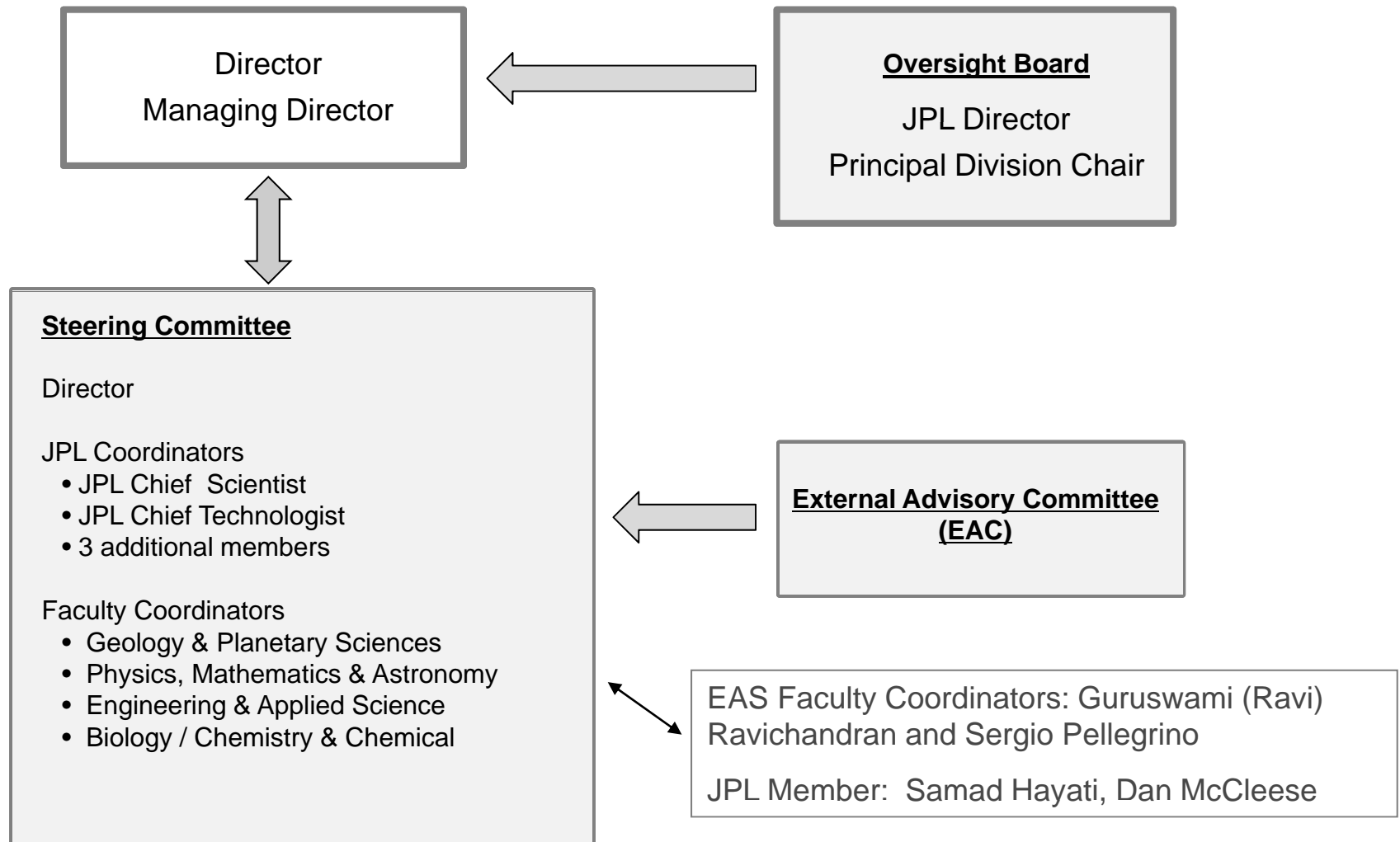


- Mission Concepts for Accessing and Sampling High-Risk Terrains on Planetary Surfaces
Co-Leads: Issa Nesnas and Joel Burdick

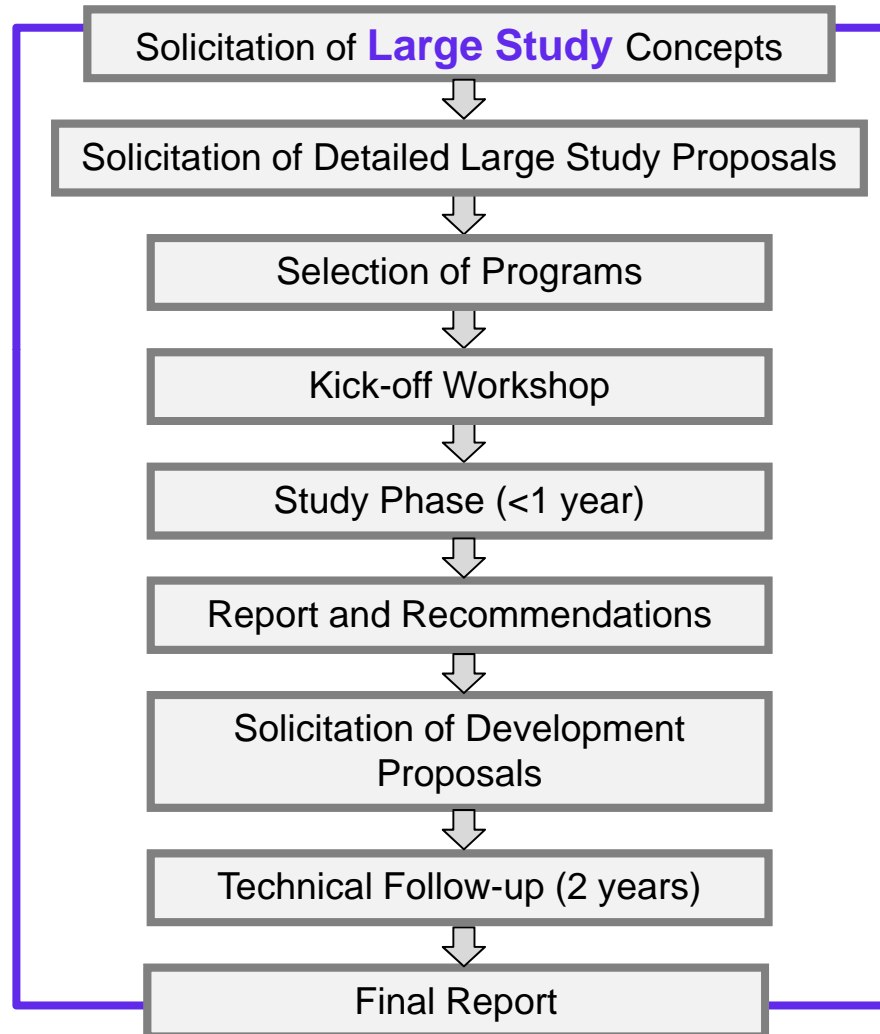


- Innovative Concepts in IR/Submm Astronomy from Space
Co-Leads: George Helou and Matt Bradford

Institute Organization



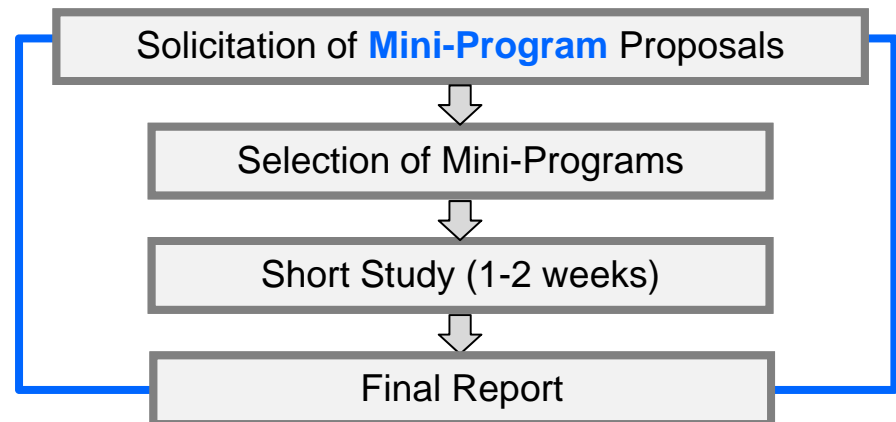
Two Types of Study Programs



Large Study Programs

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Mini-Programs





Elements of a Good KISS Program

- Broad in scope
- Stimulated by recent scientific or technical advances
- Promise for making a significant impact on future space missions
- Strong participation by Campus, JPL and the external scientific and technical communities, including industry if appropriate
- Significant opportunities for interaction between participants



Close Technical Interaction is the Critical Ingredient

- KISS is not interested in convening “yet another” workshop or symposium
- KISS is interested in stimulating in-depth technical discussion and interaction on space mission science and technology
- We want to create an environment in which the technical discussions are open, honest, intense, and collegial.

This can be challenging!

Further information

- <http://kiss.caltech.edu/>
- Sign up to get monthly updates of current KISS events
- Contact Michele Judd, Managing Director, if you have questions

