

# 4<sup>th</sup> CAS-NAS Forum for New Leaders in Space Science

Space Studies Board  
National Academies of Sciences,  
Engineering and Medicine

National Space Science Center  
Chinese Academy of Sciences

## FINAL PROGRAM

May 16-17, 2016

Huntington Room  
100 Academy Drive

Beckman Center  
Irvine, California

### Monday, May 16

- 7:45 a.m. Meet in Lobby of Fairmont Hotel for transport to Beckman Center
- 8:00 a.m. Breakfast Beckman Center Dining Room and Terrace
- 9:00 a.m. Welcome to the Fourth Forum Robert Braun  
Georgia Institute of Technology
- 9:05 a.m. Current Activities of the Space Studies Board Michael Moloney  
National Academies of Sciences  
Engineering and Medicine
- Earth Science from Space Session 1** **Session Chair Byron TAPLEY**
- 9:30 a.m. Hydrologic Extremes: Challenges in Forecasting Floods and Predicting Droughts Soroosh SOROOSHIAN  
University of California, Irvine
- 10:00 a.m. Break
- 10:30 a.m. Global Mapping of Land Surface Soil Moisture from the Water Cycle Observation Mission Tianjie ZHAO  
CAS Institute of Remote Sensing  
and Digital Earth
- 11:00 a.m. Sea Surface Wind and Ocean Waves in Extreme Weather Xiaobin YIN  
CAS National Space Science Center
- 11:30 a.m. A Novel Push-Broom Type Multi-Frequency Microwave Interferometric Radiometers For Ocean and Land Surface Observation Hao LIU  
CAS National Space Science Center
- 12:00 p.m. Lunch Beckman Center Dining Room and Terrace

## Earth Science from Space Session 2

Session Chair Charles KENNEL

- 1:30 p.m. Gravity as a Monitor of Earth-System Mass Change Byron TAPLEY  
University of Texas
- 2:00 p.m. Post-Newtonian Reference Ellipsoid Wenbiao HAN  
CAS Shanghai Astronomical Observatory
- 2:30 p.m. Assessing Solar-Induced Chlorophyll Fluorescence Ying SUN  
In Monitoring and Early Warning of Flash Drought Jet Propulsion Laboratory  
Over the US Great Plains
- 3:00 p.m. Break

## Planetary Science Session 1

Session Chair Robert BRAUN

- 3:30 p.m. Toward Reliable Biosignature Detection in Feng TIAN  
Exoplanetary Atmospheres Tsinghua University
- 4:00 p.m. Lake-Forming Climates on Mars: Cadence and Cause Edwin KITE  
University of Chicago
- 4:30 p.m. Characteristics and Origin of Sinuous Ridges on Jun HUANG  
Solis Planum, Mars China University of Geosciences
- 5:00 p.m. Examining Non-Equilibrium Effects on Subsurface Orenthal J. Tucker  
Gas Flow and Grain Acceleration in Enceladus Vents University of Michigan
- 5:30 p.m. Group Photograph All Participants
- 5:45 p.m. Assemble outside Beckman Center for transport to dinner
- 6:30 p.m. Dinner Las Brisas  
361 Cliff Drive  
Laguna Beach  
CA 92651  
949-497-5434
- 8:30 p.m. Meet outside Las Brisas for transport back to Fairmont Hotel

## **Tuesday, May 17**

- 7:45 a.m. Meet in Lobby of Fairmont Hotel for transport to Beckman Center<sup>1</sup>
- 8:00 a.m. Breakfast Beckman Center Dining Room and Terrace
- 9:00 a.m. Current Status of CAS Space Science Missions Ji WU  
CAS National Space Science Center

### **Earth Science from Space Session 3**

**Session Chair Ji WU**

- 9:30 a.m. The New Policy and Science of Climate Risk Charles KENNEL  
University of California, San Diego
- 10:00 a.m. Break
- 10:30 a.m. Introduction to the Water Cycle Observation Mission Jiancheng SHI  
CAS Institute of Remote Sensing  
And Digital Earth
- 11:00 a.m. Global Distribution of Water Vapor and Cloud Cover from Space Missions Meng SU  
MIT and Harvard University
- 11:30 a.m. General Discussion of Earth Science Presentations All Participants
- 12:00 p.m. Lunch Beckman Center Dining Room and Terrace

### **Planetary Science Session 2**

**Session Chair Feng TIAN**

- 1:30 p.m. Understanding the Surface Properties of Mars, Asteroids and Europa using Thermophysical Measurements Philip CHRISTENSEN  
Arizona State University
- 2:00 p.m. Internal Structures of Near-Earth Asteroids From Ground- and Space-Based Observations Michael BUSCH  
SETI Institute
- 2:30 p.m. Remotely Determining the Composition of Phobos and Deimos, and Implications for their Formation and Future Exploration Abigail FRAEMAN  
Jet Propulsion Laboratory
- 3:00 p.m. Break

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<sup>1</sup> CAS participants departing on flight CA984 staff should check out of the Fairmont Newport Beach Hotel prior to departure for Beckman Center. Take your luggage with you to the Beckman Center. A bag room is available at the Beckman Center.

### **Planetary Science Session 3**

**Session Chair Philip CHRISTENSEN**

- 3:30 p.m.      MAG: A Precision Digital Fluxgate Magnetometer      Jindong WANG  
for the SMILE Mission      CAS National Space Science Center
- 4:00 p.m.      Spectroscopic Investigations of Primary      Rebecca GREENBERGER  
and Altered Impactites      Jet Propulsion Laboratory
- 4:30 p.m.      H and Cl Isotopes Composition of Apatite in      Qin ZHOU  
Lunar Meteorite Dhofar 1442      CAS National Astronomical Observatories
- 5:00 p.m.      Preparing for Sample Return: New Perspectives on      Ryan CLEGG-WATKINS  
the Distribution of Mare and Cryptomare in      Washington University  
the South Pole-Aitken Basin
- 5:30 p.m.      General Discussion of Planetary Science Presentations      All Participants
- 6:00 p.m.      Impressions of the Third and Fourth Forums      All Participants
- 6:30 p.m.      Reception and Barbecue      Beckman Center Dining Terrace
- 9:00 p.m.      Adjourn      Bus to LAX departs from Beckman Center

## NOTES

**Emergency Contact Number:** If you need to contact DHS<sup>2</sup> on May 14 or 15 call or send a text message to +1-571-830-0429.

**Beckman Center:** Is located on the campus of the University of California, Irvine, and is approximately 4 km from Orange County/John Wayne Airport. See the following website for more information, including directions: <http://www7.nationalacademies.org/beckman/>

**Hotel:** A block of rooms has been reserved for the forum's use at the Fairmont Newport Beach Hotel, 4500 MacArthur Boulevard, Newport Beach, CA 92660 (+1-949-476-2001, +1-949-476-0153(fax)). Additional information, including directions can be found at the following website: <http://www.fairmont.com/newport-beach/>. This hotel is located adjacent to John Wayne/Orange Country Airport and is about 4 km from the Beckman Center.

**CAS Group Arriving at LAX on noon on Sunday:** Those arriving from Beijing on CA987 at about 12:00 p.m. on Sunday, May 15, will be met at the airport by DHS<sup>2</sup> and then directed to a bus to take you to the Fairmont Hotel. If you don't see me, get separated from the rest of the group, or have some other mishap send a text message to DHS<sup>2</sup> at +1-571-830-0429. If your plane is on time, you don't get stuck in immigration or customs and there are no holdups on the freeway to Newport Beach, expect to check-in at the Fairmont Hotel at about 2:00 p.m. If you get stranded at LAX and cannot reach DHS<sup>2</sup> take a taxi to the Fairmont Hotel.

**Other CAS Arrival Details:** See table. Those arriving at Orange County John Wayne Airport (SNA) should see the Fairmont Hotel shuttle bus details (below).

**US Participants Arrival:** If arriving at Orange County John Wayne Airport (SNA), take taxi or see Fairmont Hotel shuttle bus details below. If you arrive at Los Angeles International Airport (LAX) take the Super Shuttle to the Fairmont Hotel. DHS may be able to help you if you arrive at LAX on Sunday morning.

**Sunday Afternoon Excursions:** There will be limited (and informal opportunities) for exploring the local area (e.g., Newport Beach, Laguna Beach or Balboa Island) and/or shopping (e.g., in Fashion Island or the South Coast Plaza) on Sunday afternoon. We are meeting in the capital of "car culture;" you cannot really get anywhere very far on foot. Those interested in venturing out from the immediate vicinity of the hotel should rendezvous in the lobby of the Fairmont Hotel at 4:00 p.m. The extent of the excursions will depend on the number of cars available and so the assistance of those U.S. participants with cars is greatly appreciated. The Fairmont Hotel's shuttle bus that can provide some limited local transport.

**Sunday Dinner:** No formal arrangements have been made for a group dinner on Sunday May 15, so you are on your own. The restaurant at the Fairmont Hotel is quite good.

**Monday/Tuesday Breakfast and Lunch:** Available to all Forum participants in the refectory at the Beckman Center.

**Monday Dinner:** All participants in the Forum are invited to dinner on Monday May 16 at Las Brisas, 361 Cliff Drive, Laguna Beach, CA 92651 (Tel. 949-947-5434). More information about Las Brisas can be found at: <http://www.lasbrisaslagunabeach.com/>.

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<sup>2</sup> David H. SMITH

**Tuesday Dinner:** All participants in the Forum are invited to attend the farewell barbecue on the Beckman Center's Dining Terrace on Tuesday May 17.

**Parking:** There is plenty of free parking at the Beckman Center. The Fairmont Hotel only offers valet parking. There is only valet parking at Prego.

**Airports:** Orange County/John Wayne Airport (SNA) is about 1 km from the Fairmont Hotel and 4 km distant from the Beckman Center. Los Angeles International Airport (LAX) and Long Beach Airport (LGB) are 64 km and 40 km distant, respectively.

**Return Bus to LAX:** Those CAS participants planning to return to Beijing on CA984 departing from LAX at 01:40 a.m. on Wednesday May 18 should check out of the Fairmont Hotel on Tuesday May 17 prior to departing for the Beckman Center. You can leave your luggage in the baggage room at the Beckman Center. The bus to LAX will depart from the Beckman Center at 9:00 p.m.

**Other CAS Departure Details:** See table.

**US Participants Departure:** Take Fairmont Hotel shuttle bus (see below) or taxi to Orange County John Wayne Airport. Take Super Shuttle to Los Angeles International Airport.

**Internet Access:** Free visitor access is available via the Beckman Center's wifi system. The Fairmont hotel charges for internet access. However you can obtain free access if you join the Fairmont President's Club. Joining is free. You can enroll at <https://www.fairmont.com/fpc/enroll/>. Membership has other perks such as express check-in/departure and free newspaper delivery.

**Fairmont Hotel Shuttle Bus for SNA Arrivals:** Once you have collected your luggage in the arrival hall, proceed outside Terminal B. Go to the second island and look for sign, "Ground Transportation (Hotel Courtesy Shuttles/ Taxi)." Call the Fairmont Hotel Valet desk (949-476-2001), give your name and ask to be picked up. A driver will collect in 10-15 minutes.

**Fairmont Hotel Shuttle Bus for SNA Departures:** The hotel's shuttle bus departs for Orange County John Wayne Airport on the hour and half hour. Reservations are not necessary. Wait outside the hotel lobby 10 minutes prior to your prefer departure time. The Doorman/Valet will escort you to the proper departure vehicle and provide luggage assistance.

## Chinese Delegation Arrival Details

Name	Originating City	Arrival Flight Airline	Arrival Flight Number	Arrival Flight Date	Arrival Flight Time	Arrival Arrangements
Wenbiao HAN	Shanghai,China	China Eastern Airlines	MU583	Sunday, May 15	10:05	DHS will meet him at arrival and keep him entertained until the main group arrives
Ji WU	Beijing, China	Air China	CA987	Sunday, May 15	12:00	DHS will meet group at arrival and bus will take them to hotel
Hao LIU	Beijing, China	Air China	CA987	Sunday, May 15	12:00	
Jindong WANG	Beijing, China	Air China	CA987	Sunday, May 15	12:00	
Xiaobin YIN	Beijing, China	Air China	CA987	Sunday, May 15	12:00	
Tingting SONG	Beijing, China	Air China	CA987	Sunday, May 15	12:00	
Jiancheng SHI	Beijing, China	Air China	CA987	Sunday, May 15	12:00	
Tianjie ZHAO	Beijing, China	Air China	CA987	Sunday, May 15	12:00	
Bolun NING	Beijing, China	Air China	CA987	Sunday, May 15	12:00	
Feng TIAN	San Francisco	United Airlines	UA1909	Sunday, May 15	12:14	See instructions above for Fairmont Hotel Shuttle Bus for SNA Arrivals
Qin ZHOU	Beijing, China	Air China	CA983	Sunday, May 15	18:00	Arranging for SuperShuttle to take her to hotel from LAX. Details have already been sent
Jun HUANG	/	/	/	/	/	He is already in the US and will drive to meeting place by himself

### Chinese Delegation Departure Information

NAME	Originating City	Departure Flight Airline	Departure Flight Number	Departure Flight Date	Departure Flight Time	Departure Arrangements
Ji WU	Los Angeles	Air China	CA984	Wednesday, May 18	1:40	Shuttle bus will collect from the Beckman Center at about 21:00 on Tuesday 17 May and take them to LAX
Hao LIU	Los Angeles	Air China	CA984	Wednesday, May 18	1:40	
Jindong WANG	Los Angeles	Air China	CA984	Wednesday, May 18	1:40	
Xiaobin YIN	Los Angeles	Air China	CA984	Wednesday, May 18	1:40	
Tingting SONG	Los Angeles	Air China	CA984	Wednesday, May 18	1:40	
Jiancheng SHI	Los Angeles	Air China	CA984	Wednesday, May 18	1:40	
Tianjie ZHAO	Los Angeles	Air China	CA984	Wednesday, May 18	1:40	
Feng TIAN	ORANGE COUNTY	United Airlines	UA322	Wednesday, May 18	8:00	See instructions above For Fairmont Hotel Shuttle Bus for SNA Departures
Qin ZHOU	Los Angeles	Air China	CA988	Wednesday, May 18	14:20	DHS will take these three to LAX with him. Will need to depart hotel at about 10:00
Bolun NING	Los Angeles	Air China	CA988	Wednesday, May 18	14:20	
Wenbiao HAN	Los Angeles	American Airlines	AA1258	Wednesday, May 18	15:42	
Jun HUANG	/	/	/	/	/	Will take care of himself



# Beckman Center Floor Plan

