

Agenda - VEXAG Meeting #13

Tuesday-Thursday, October 27–29, 2015
James Webb Auditorium, NASA Headquarters (Ground Floor, West Entrance)
300 E St. SW, Washington DC 20546

Meeting Theme - Increasing our Momentum

Tuesday, October 27, 2015 - 8:00 AM – 6:30 PM – NASA and Mission Reports

- 8:00 Sign-In, Pick up Handouts, Coffee
8:15 Welcome and Objectives of 13th VEXAG meeting - Lori Glaze
- Venus Exploration Slogans
- Community Comments on Next Decadal Survey
8:45 NASA Reports
8:40 Update on NASA Planetary Science Division - Jim Green
1. Response to our previous VEXAG findings and recommendations
2. Update on NASA Planetary Science Division
10:00 COFFEE BREAK
10:00 Science Nuggets – Jim Green
11:00 NASA Headquarters Q & A
11:30 Student/Young Career Meet and Greet / Luncheon
11:30 LUNCH
- 1:00 Mission Reports
1:00 Venus Express Report – Håkan Svedhem
– What we’ve learned from Venus Express/ What’s left unanswered
1:30 Akatsuki Report – Takeshi Imamura
2:00 Venera-D Science Definition Team – Dave Senske (Web-Ex)
2:30 COFFEE BREAK
3:00 AAAC Proposal Study – Applicability to R&A - Keivan Stassun
3:45 Technology Posters Overviews – Pat Beauchamp, Moderator
4:30 POSTER/SOCIAL EVENT
- Residence Inn Washington DC/Capitol Hotel
6:30 ADJOURN

A key activity will be the preparation of Science Nuggets with a Tutorial from Jim Green on Tuesday, October 27th and presentations by attendees on Thursday, October 29th

Wednesday, October 28, 2015 - 8:00 AM – 5:00 PM – Technology Reports

- 8:00 Sign-In, Pick up Handouts, Coffee
- 8:15 Venus Mission Plans in Europe - Richard Ghail (Web-Ex)
- 8:45 Venus III Book and 2016 International Venus Conference
– Colin Wilson (Web-Ex)

- 9:00 Venus Discovery Missions
- 9:00 VERITAS (Sue Smrekar, PI), an orbiting mission to produce high-resolution topography and imaging as well as global surface composition; and
- 9:30 DAVINCI (Lori Glaze, PI), an atmospheric probe mission to study the origin, evolution, and chemical processes of the atmosphere.
- 10:00 Discussion

- 10:20 COFFEE BREAK
- 10:45 Open Microphone Presentations (5 minutes/2 view-graphs each)
- 11:15 Student/Young Scholar Invited talks
- 11:15 "Lab measurements supporting mm-wavelength Observations of the Venus atmosphere"- Amadeo Bellotti (Georgia Tech.)
- 11:25 Refining the Design of Proposed Venus Sample Delivery Systems
– Siddharth Pandey (University of New South Wales)
- 11:35 Detailed Structural Mapping of a specific region in Aphrodite Terra
– David Tovar (University of Minnesota)
- 11:45 LUNCH BREAK

Wednesday, October 28, 2015 – 1:00 PM – 5:00 PM – Science Reports

- 1:00 Gateway to Understanding Rocky Planet Evolution - Mark Bullock
- 1:20 Noble Gases and Isotopes in Venus' atmosphere - Kevin Zahnle
- 1:40 Hubble UV Observations of Venus - Kandi Jessup
- 2:00 ALMA Observations of Venus - Arielle Moullet
- 2:20 Ground based observations of atmosphere below the clouds - Giada Arney
- 2:50 COFFEE BREAK
- 3:10 Venus IR Emissivity Observations - Martha Gilmore
- 3:30 Venus in a Box - High temperature NIR emissivity measurements of Venus analogs - Joern Helbert
- 3:50 Geochemical and Mineralogical Measurements on Venus's Surface
– Darby Dyar
- 4:10 Why Venus Lacks Plate Tectonics: Insights from Possible Subduction Zones - Sue Smrekar
- 4:30 Heat Loss and Geology of a Young Venus - Bob Grimm
- 4:50 Preview of Thursday Agenda Topics – Lori Glaze
- 5:00 ADJOURN

Thursday, October 29, 2015 - 8:00 AM – 1:00 PM – VEXAG Activities

- 8:00 Sign-In, Pick up Handouts, Coffee
8:15 Discussion – Lori Glaze
9:00 Science Nugget Presentations
9:30 Venus Exploration Targets Workshop Recap – Kevin McGouldrick
9:45 Venus Science Priorities Workshop for Laboratory Measurements and Instrument Definition Recap - Tibor Kremic, Jeff Belcerski
10:00 COFFEE BREAK
10:30 Comparative Tectonics and Geodynamics of Venus, Earth, and Exoplanets
- Bob Grimm
10:45 International Dunes Workshop #4 – Tim Titus (Web-Ex)
11:00 Comparative Climatology of Terrestrial Planets II Conference Recap
- Jeff Hollingsworth
11:15 Young Scholars Focus Group Report - Lynnae Quick
12:00 VIRA Update and Current Venus Atmosphere Challenges – Sanjay Limaye
12:15 Prospects for International Cooperation on Future Missions - Sanjay Limaye
12:30 Proposed Findings and Resolutions / VEXAG Goals & Plans for 2016
Community Survey for Next Decadal Survey - Lori Glaze
1:00 ADJOURN

1:30 VEXAG Executive Committee Meeting

VEXAG Meeting #13 Technology Posters

POSTER/SOCIAL EVENT - Monday October 27, 2015, 4:30PM
Residence Inn Washington DC/Capitol Hotel

1. High-temperature, Radiation-tolerant Ultra-violet Photodetector Arrays for Space Exploration.
Ruth Miller and Debbie Senesky, Stanford Univ.
2. Gallium Nitride High Electron Mobility Pressure Sensors for Venus Exploration
Caitlin Chapin and Debbie Senesky, Stanford University.
3. Venus Heat Flux Sensor Instrument Development,
Michael Pauken, Suzanne Smrekar, Jean-Pierre Fleurial and Kevin Smith, JPL
4. GaN (Gallium Nitride) Electronics for Extreme Environments (high temperature, high radiation)
Robert Frampton and Leora Peltz, Boeing Corp.
5. Silicon Carbide (SiC) Electronics Development for High Temperature Venus Applications,
G. W. Hunter, P. G. Neudeck, D. J. Spry, G. E. Ponchak, G. M. Beheim, M. C.

Scardelletti, R. D. Meredith, M. J. Krasowski, NASA GRC, Liangyu Chen, Ohio Aerospace Institute, D. Lukco, Vantage Partners.

6. Current Laboratory Research and Venus In-Situ Chamber Investigations
E. Kohler and N. M. Johnson (GSFC)
7. A progress report on Heat shield for Extreme Entry Environment Technology (HEEET) Development for New Frontier Missions
Ethiraj Venkatapathy, Don Ellerby, Peter Gage, Mairead Stackpole, Keith Peterson, Zion Young, Matt Gasch and Milad Mahzari. (ARC)
8. Conformal TPS for New Frontier Missions – What is it? Why should Venus Mission Proposals need to consider it?
Ethiraj Venkatapathy, Robin Beck, Matt Gasch and Mairead Stackpole (ARC)
9. Adaptable, Deployable Entry and Placement Technology (ADEPT) – Overview of FY15 Accomplishments
P. Wercinski¹, C. Brivkalns¹, A. Cassell¹, Y-K Chen¹, T. Boghonian², R. Chinnapongse¹, M. Gasch¹, S. Gorbunov³, C. Kruger¹, A. Makino¹, F. Milos¹, O. Nishioka¹, D. Prabhu², B. Smith¹, T. Squire¹, G. Swanson², E. Venkatapathy¹, B. Yount¹, and K. Zarchi¹
¹ NASA ARC; ²ERC Inc.-Moffett Field, CA; ³Jacobs Technology, Inc.-Moffett Field, CA
10. VAMP Science Instrument Accommodations and Performance Capabilities,
Floyd Ross, Gregory Lee, Ronald Polidan, Daniel Sokol, Linden Bolisay, (Northrop Grumman) Sanjay Limaye (U. Wisconsin) and Thomas Widemann (Paris Observatory/LESIA).
11. Auto-Inflatable Sojourner Balloon Concepts for Venus
Michael Pauken (JPL-Caltech), Paul Voss (Smith College), James Cutts (JPL-Caltech), and Julian Nott (World-Renowned Balloon Designer)
12. Simulating Venus with GEER, Tibor Kremic, Dan Vento, GRC.
13. Thermal Control of a Venus Lander: Evaporation of Ammonia
Eric Gollhofer, GRC and Michael Pauken, JPL
14. Investigating The Origin And Evolution Of Venus With In Situ Mass Spectrometry. Melissa Trainer, Paul Mahaffy, Will Brinckerhoff, Natasha Johnson, Lori Glaze, GSFC
15. Venus Exploration Targets Workshop Traceability Matrix - Buck Sharpton, Lori Glaze, Larry Esposito, Kevin McGouldrick, Stephanie Johnston, Chris Lee, Christophe Sotin, Marty Gilmore, Robbie Herrick