

Wednesday, November 15, 2017
VENUS SURFACE AND ATMOSPHERIC SCIENCE
8:00 a.m.

- 8:00 a.m. *Registration*
- 8:15 a.m. O'Rourke J. G. * Gillmann C. Tackley P.
[Prospects for an Ancient Dynamo and Modern Crustal Remnant Magnetism on Venus](#) [#8008]
 Venus is the only major planet with no known evidence for an internally generated magnetic field now or in the past. We use numerical simulations to investigate possible explanations and to predict whether remnant magnetism awaits discovery.
- 8:30 a.m. McGovern P. J. *
[How Volcano-Tectonically Active is Venus Anyway?](#) [#8041]
 The findings for magmatic flux dV/dt and seismic activity presented here suggest the obituaries for Venus that commonly appear in the literature are premature.
- 8:45 a.m. Byrne P. K. * Ghail R. C. Şengör A. M. C. Klimczak C. Solomon S. C.
[Block Tectonics on Venus](#) [#8022]
 Hey! You know continental China? We think it's an analog to a bunch of places on Venus where the lithosphere is broken into chunks that have jostled into each other. You should come check out this presentation, it'll be great!
- 9:00 a.m. Martinez S. N. Treiman A. H. * Kiefer W. S.
[Venus' Radar-Dark Streaks: Bakisat Crater and Impact-Related Origins](#) [#8034]
 Many small craters on Venus are associated with SAR-dark streaks. We studied the geology of one such streak, on Nissaba Corona, and consider several mechanisms for their origins.
- 9:15 a.m. Lorenz R. D. *
[Venera 13 and 14 Discharge Current Measurements — Evidence for Charged Aerosols in the Venus Lower Atmosphere?](#) [#8001]
 Corona discharge! / Electrified particles? / Or large ambient field?
- 9:30 a.m. *Coffee Break*
- 10:00 a.m. Navarro T. * Schubert G. Lebonnois S.
[Large Stationary Gravity Waves: A Game Changer for Venus' Science](#) [#8018]
 In 2015, the discovery by the Akatsuki spacecraft of an astonishing, unexpected, 10,000 km long meridional structure at the cloud top, stationary with respect to the surface, calls into question our very basic understanding of Venus.
- 10:15 a.m. Bellan J. *
[Modeling of High-Pressure Turbulent Multi-Species Mixing Applicable to the Venus Atmosphere](#) [#8005]
 A comprehensive theory of high-pressure multi-species mixing is presented and salient results pertinent to the Venus atmosphere are discussed. The influence of the insights obtained from these results on Venus exploration are addressed.
- 10:30 a.m. Collinson G. A. * Grebowsky J. Frahm R. Gloer A. Barabash S. Futaana Y.
[The Quest for Venus' Lost Water](#) [#8026]
 We discuss the measurements needed to obtain closure on the scientific mystery of what happened to Venus' water, and how we may use Venus as a natural laboratory for understanding planetary habitability of Earth-like planets around distant suns.

10:45 a.m. Limaye S. S. * Mogul R. Yamagishi A. Ansari A. Smith D. J. Slowik G.
Vaishampayan P. Lee Y. J.

[Possibility of Microorganisms Being the Missing Absorbers of Solar Radiation in the Clouds of Venus and Their Detection](#) [#8025]

The cause of ultraviolet contrasts and their evolution as well as the nature of absorbers of incident sunlight (between 330–600 nm) in the clouds of Venus have been a mystery for a long time, and microorganisms could be responsible.

11:00 a.m. McGouldrick K. *

[A Paradigm Shift in Planetary Exploration?](#) [#8047]

I argue that the coming era of exoplanetary science via transit analysis will require a new way of thinking about and executing the tasks of planetary exploration.

11:15 a.m. *Lunch*