

# Hawai`i and the Frontiers of Planetary Sciences

G. Jeffrey Taylor



UNIVERSITY  
of HAWAII®  
MĀNOA



SCHOOL OF OCEAN AND EARTH  
SCIENCE AND TECHNOLOGY  
UNIVERSITY OF HAWAII AT MĀNOA

**HIGP** Hawai'i Institute of  
Geophysics & Planetology

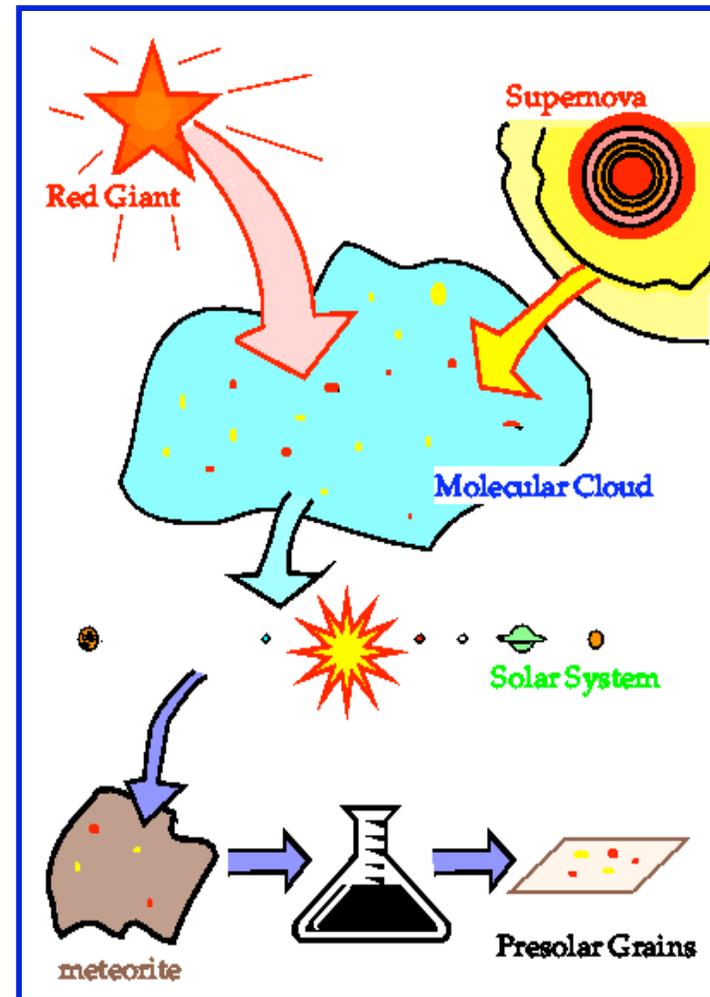
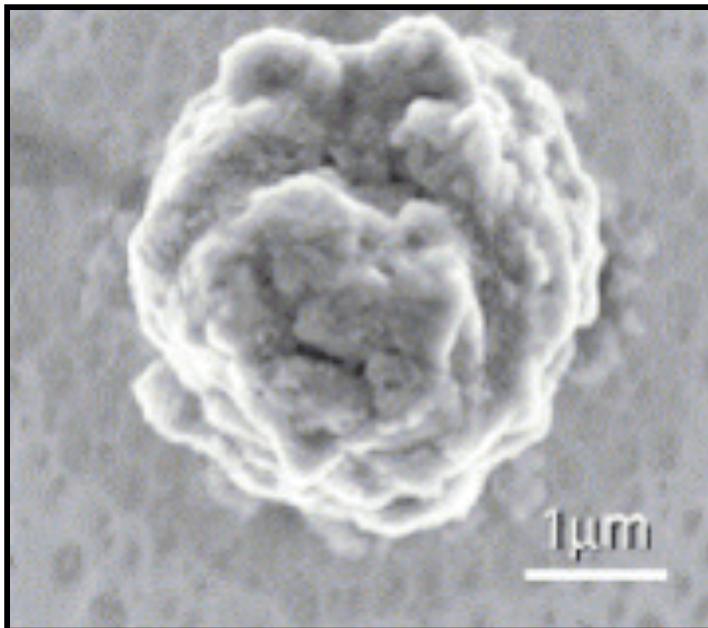
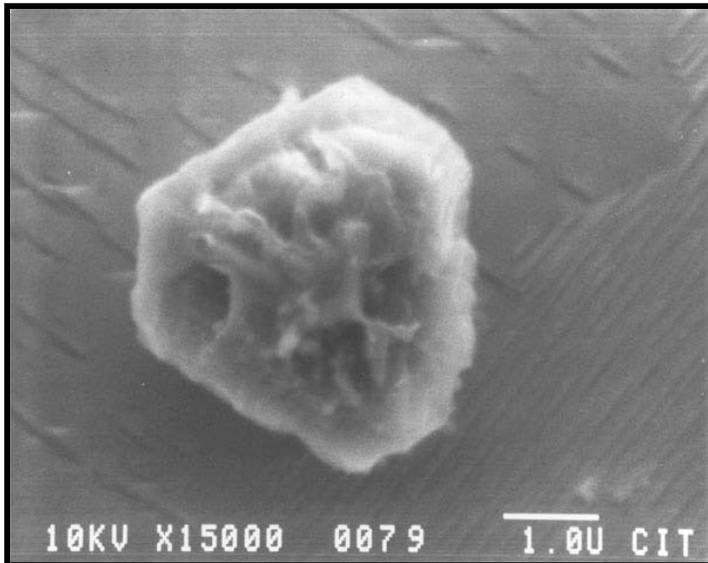
**We compete successfully against the other world-class planetary science programs...**



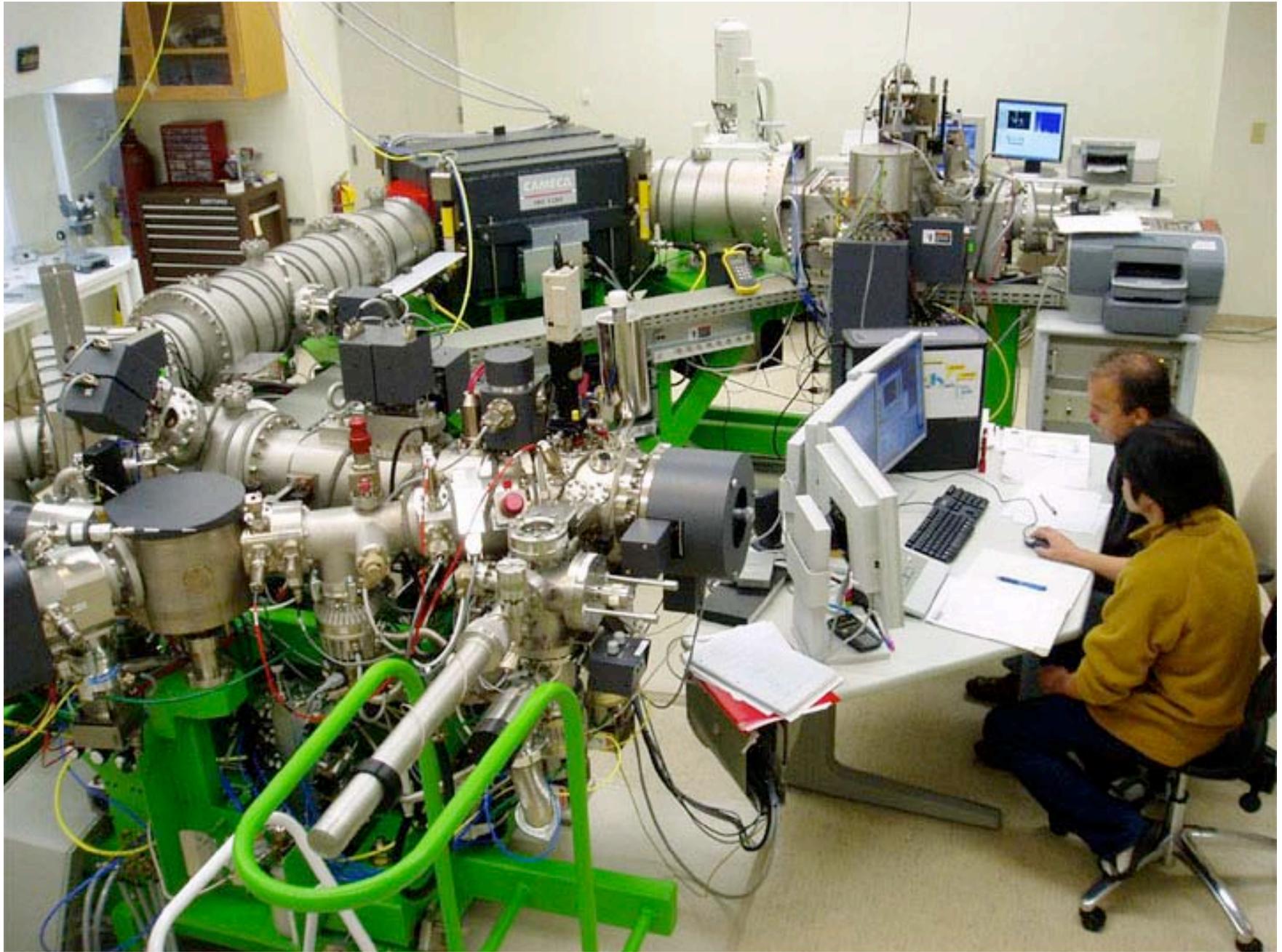
 **Washington University in St. Louis**

**...because we do big-picture planetary science. And we're in Hawai'i.**

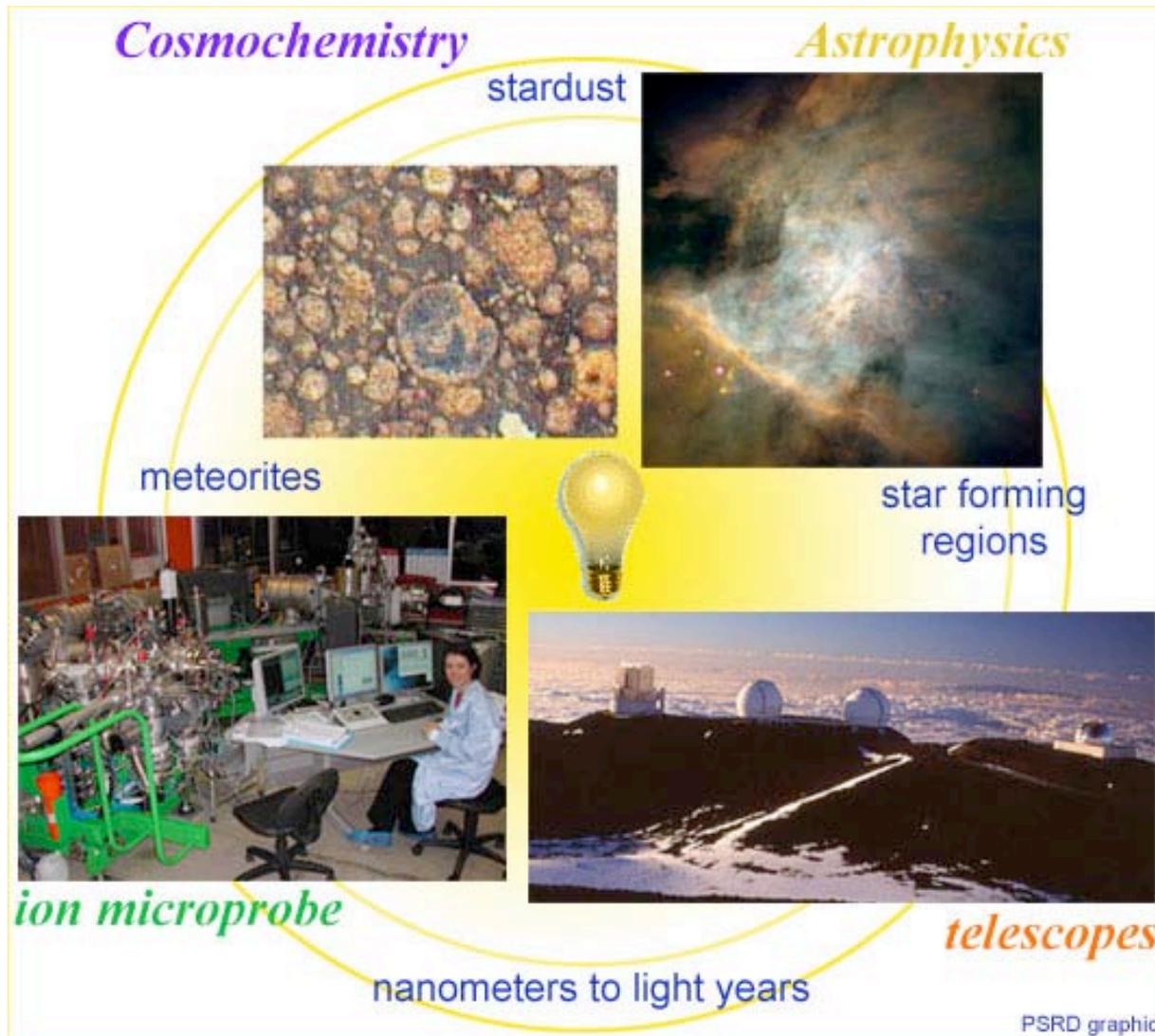


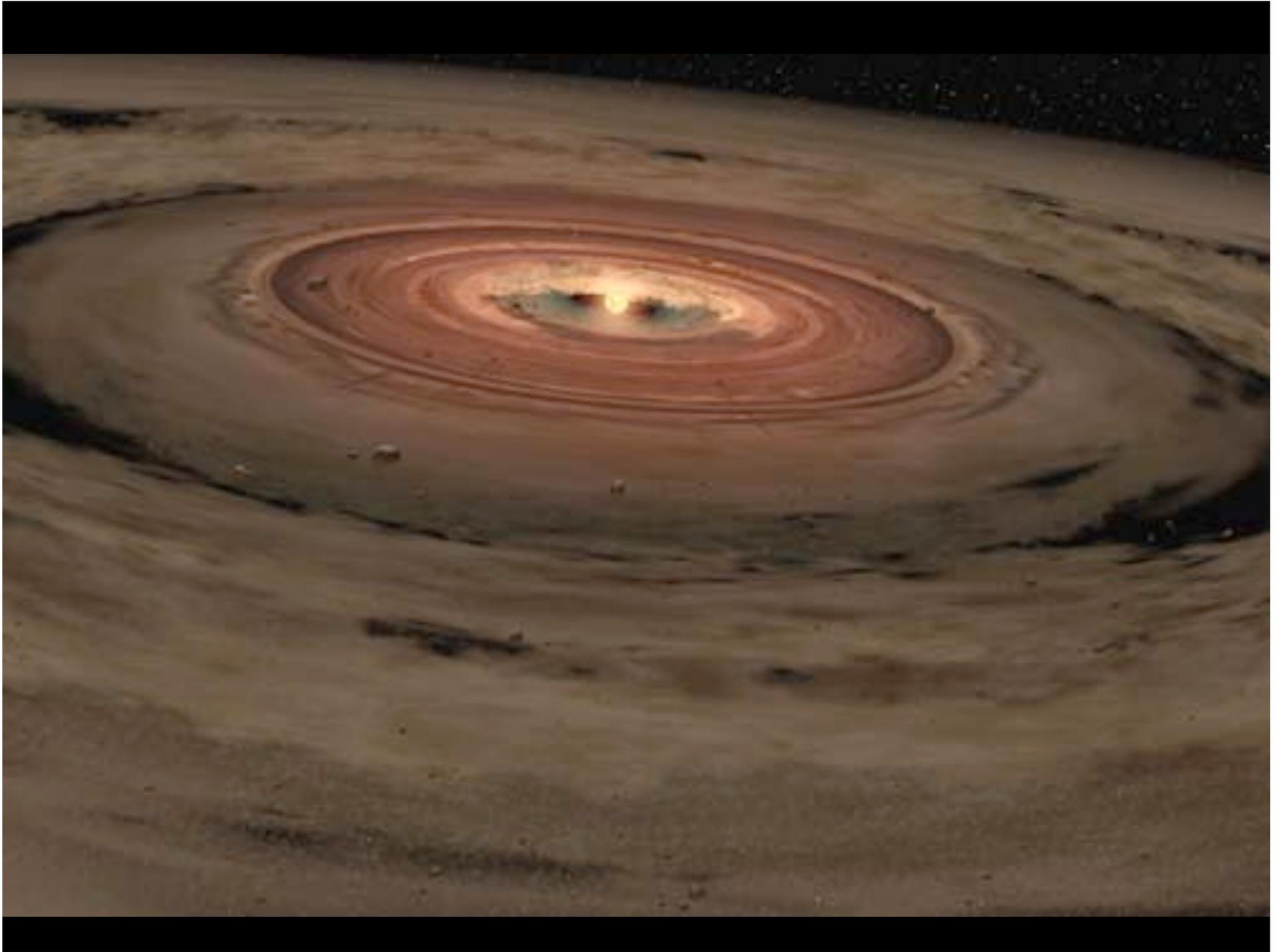


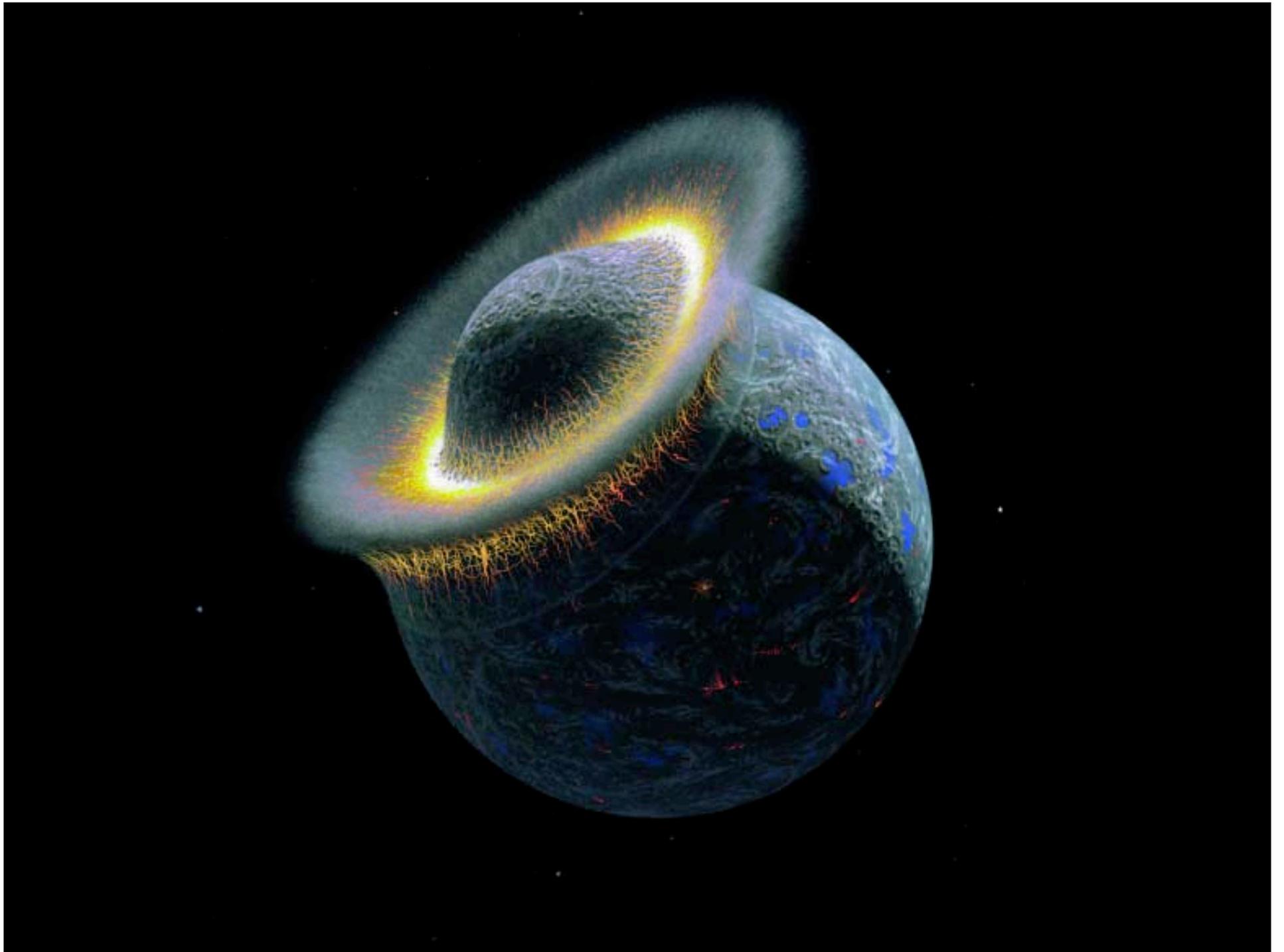
Stardust in the lab!

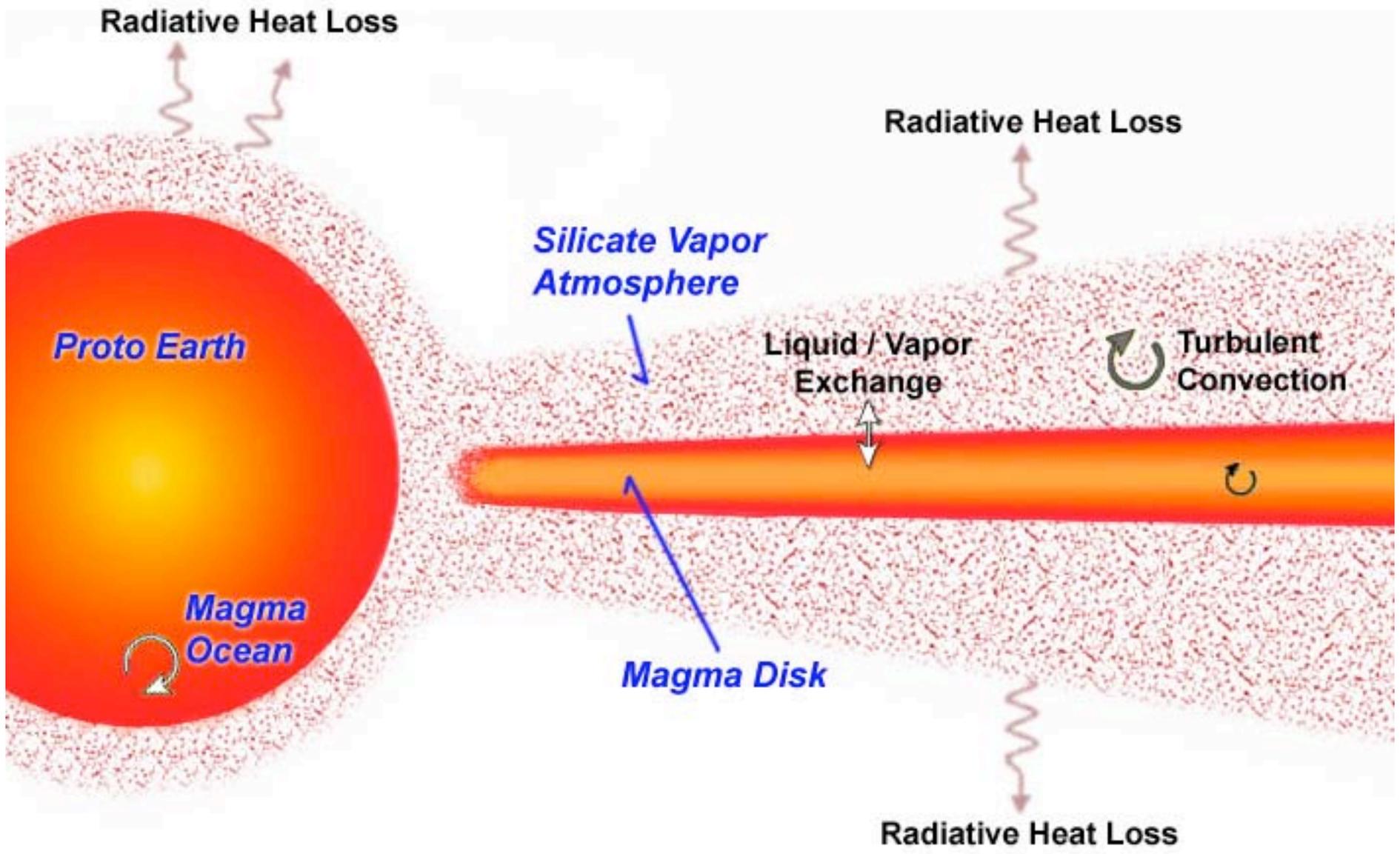


# Interdisciplinary research...





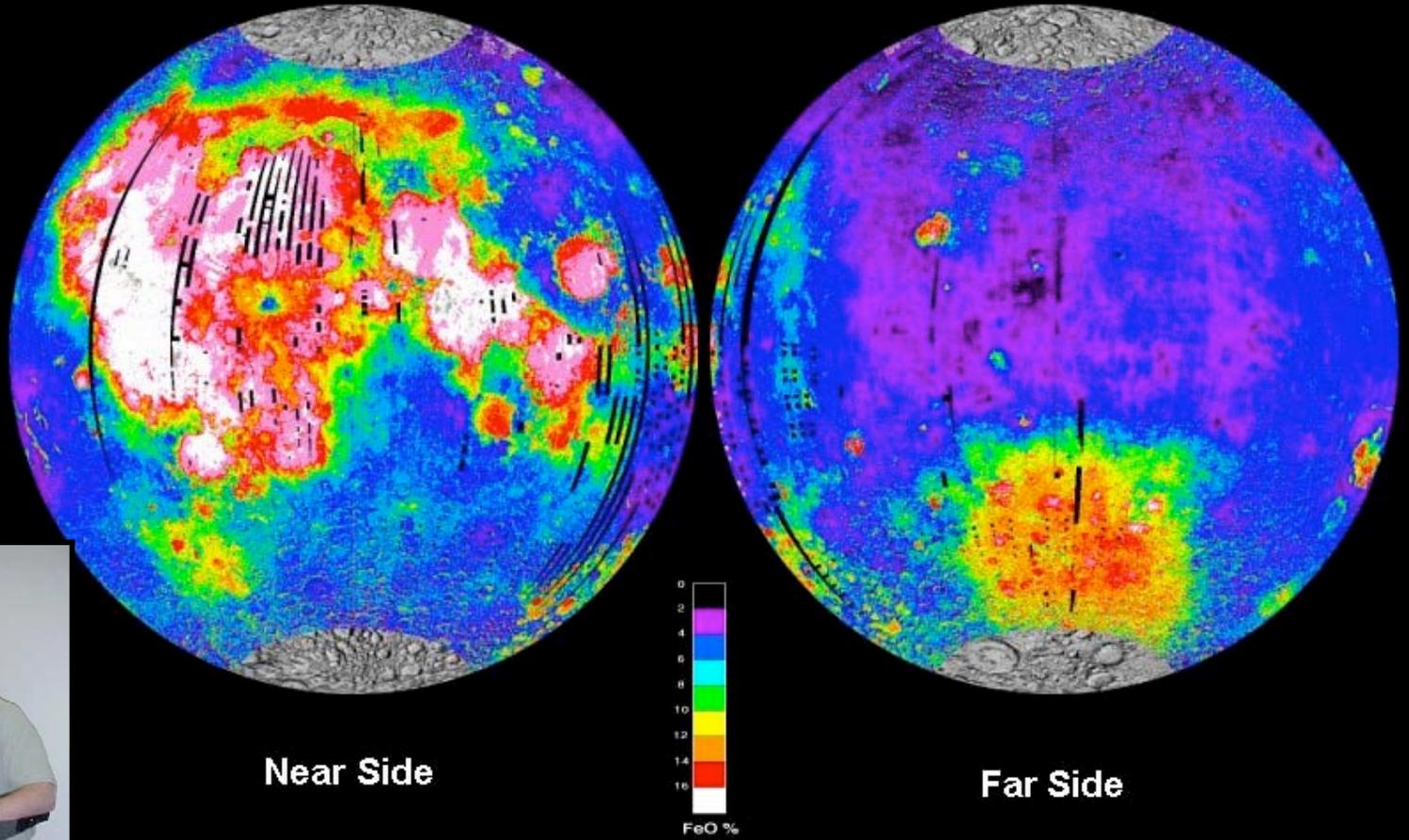




(PSRD graphic based on Pahlevan and Stevenson, 2007, *EPSL*, v. 262, p.438-449, Fig. 3.)

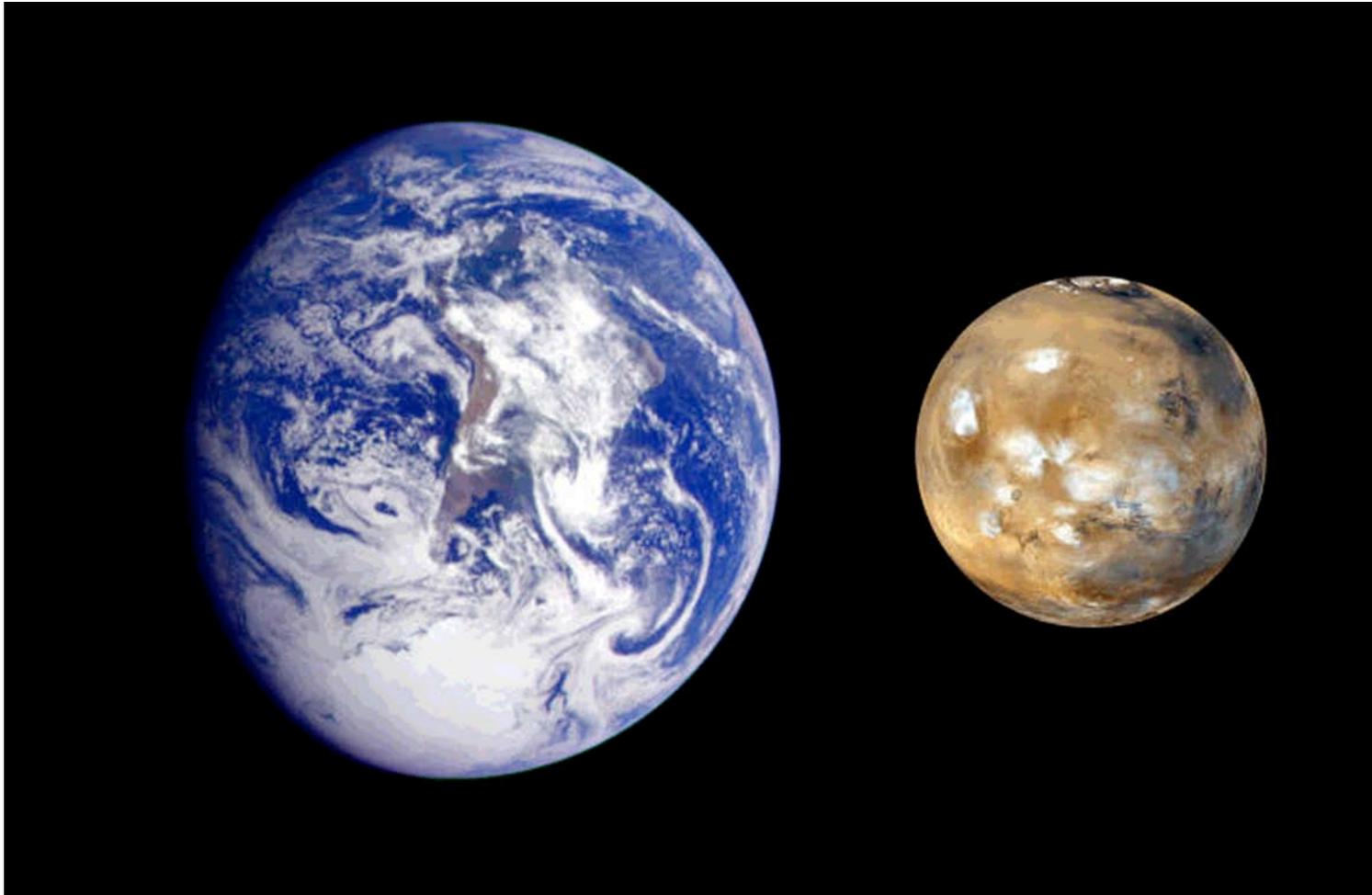
# Clementine Fe Map of the Moon

Equal-Area Projection



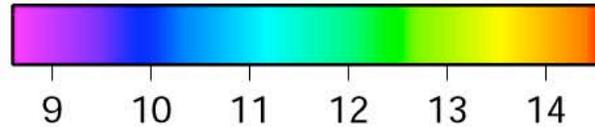
Paul Lucey and his iron map

# Comparing planets to each other...

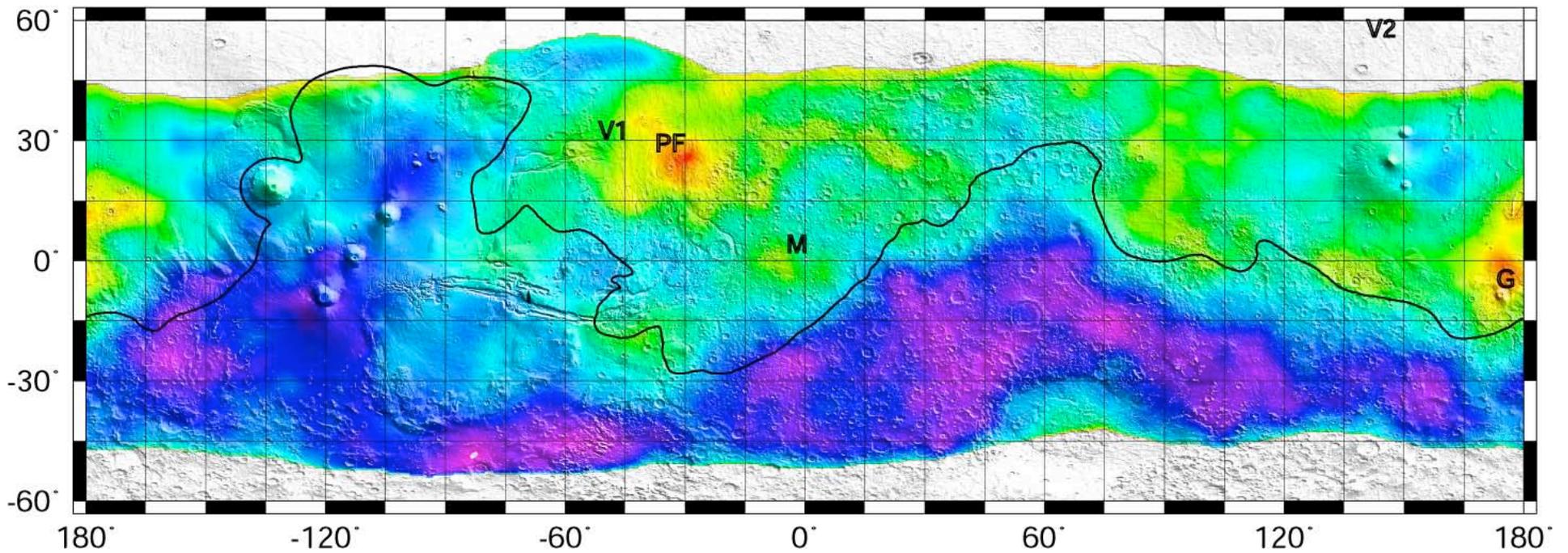


# Martian Bulk Composition: FeO

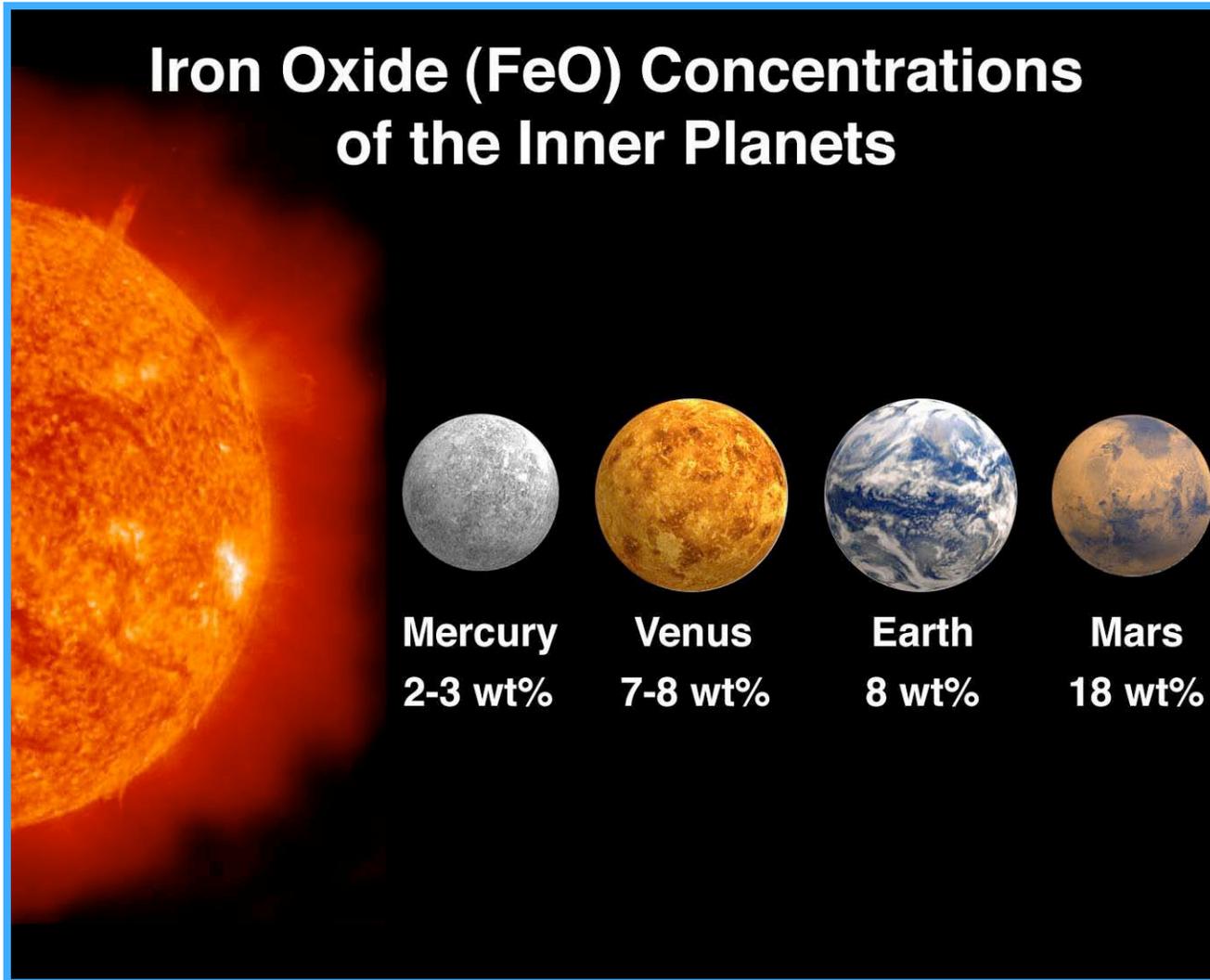
Fe (Wt%)



Typical  $1\sigma$  is 1 wt%



# Compositional gradient preserved?



# Where did Earth's water come from?



# Planetary processes...



**Sharing our discoveries...**



[www.psrđ.hawaii.edu](http://www.psrđ.hawaii.edu)