SPECIAL SESSION: WATER IN THE SOLAR SYSTEM: INCORPORATION INTO PRIMITIVE BODIES AND EVOLUTION
2:30 p.m. Waterway Ballroom 6

Chairs: Lysa Chizmadia
       Maria Teresa Capria

2:30 p.m. Dyar M. D. * Hibbitts C. A. Orlando T. M.
Mechanisms for Incorporation of Hydrogen in and on Terrestrial Planetary Surfaces [2116]
Mechanisms for incorporation of hydrogen on terrestrial planetary surfaces are considered, including
endogenic (juvenile) H in the interiors of planetary materials, bulk H on the surface, and results of
exogenic alterations of surfaces.

2:45 p.m. Stimpfl M. Muralidharan K. * de Leeuw N. H. Runge K. Deymier P. A. Drake M. J.
Atomistic Simulations of Adsorption of Water onto Forsterite and Fayalite Planar Surfaces:
Implication for the Origin of Water in the Inner Solar System [2493]
Using atomistic and electronic structure calculations, it is shown that adsorption is a significant source
of terrestrial planetary water.

3:00 p.m. Hoffman E. J. * Stewart E. J. Jr. Abreu N. M.
Hydration of Synthetic Mg-Silicates: A Temperature Study [2681]
Synthetic Mg-silicate dust, humidified at temperatures around 20°C, produces XRD peaks differing
from those of the raw material.

3:15 p.m. Chizmadia L. J. * Lebrón-Rivera S. A.
Temperature and pH Changes Associated with the Hydration of Amorphous Silicate Smokes [2536]
The hydration of Fe-Si smokes results in acidic pH levels and negligible change in temperature. When
mixed with Mg-Si smokes, pH becomes alkaline and temperature increases slightly. Water-rock ratio
is a minor variable relative to composition.

3:30 p.m. Hibbitts C. A. * Dyar M. D. Orlando T. M. Grieves G. Moriaty D. Poston M. Johnson A.
Thermal Stability of Water and Hydroxyl on Airless Bodies [2417]
This paper focuses on distinguishing between molecular water (H₂O) and hydroxyl (OH-) on the
illuminated Moon and discusses their thermal stabilities, possible abundances, and mobilities.

3:45 p.m. Ostrowski D. R. * Sears D. W. G. Lacy C. H. S. Gietzen K. M.
Heating Experiments on Phyllosilicates-Evaporite Mixtures: Implications for the Surface Composition
of C Asteroids [1235]
Phyllosilicate-evaporite mixtures have been heated to various temperatures. The resulting samples
have had their infrared spectra analyzed and compared to that of C asteroids to examine implications
for the surface of the C asteroid complex.

4:00 p.m. Beck P. * Quirico E. Montes-Hernandez G. Bonal L. Bollard J. Orthous-Daunay F-R.
Howard K. Schmitt B. Brissaud O.
Hydrous Mineralogy of CM and CI Chondrites from Infrared Spectroscopy and Their Relationship
with Low Albedo Asteroids [1586]
We report on NIR measurements of 9 CM and 3 CI chondrites. We reveal a spectral evolution
among CM. We also show that high-T spectra are required to have a valid comparison with
low albedo asteroids.
4:15 p.m.  Kammer J. A.  Sparks D. W.  Tice M. M.  
*Molecular Hydrogen Evolution in Small Icy Planetesimals* [#2690]
We evaluate the availability of hydrogen to potential biospheres in subsurface oceans of icy planetesimals in the early solar system. Much of the hydrogen produced is lost due to the rapidity of serpentinization and the low solubility of hydrogen.

4:30 p.m.  Capria M. T. *  Marchi S.  De Sanctis M. C.  Coradini A.  
*The Activity of Main Belt Comets* [#1207]
Main belt comets are active objects orbiting in the main belt. We estimate the average time of formation of a crater and apply a model to investigate the dependence of activity on mantle thickness and how long the activity can last.