

**Friday, March 11, 2011**  
**EARLY SOLAR SYSTEM RESERVOIRS AND PROCESSES III:**  
**VOLATILES IN NEBULAR MATERIALS AND THE SOLAR WIND**  
**8:30 a.m. Waterway Ballroom 4**

**Chairs: Eric Quirico**  
**Joseph Nuth III**

- 8:30 a.m. Marty B. \* Chaussidon M. Jurewicz A. J. G. Wiens R. C. Burnett D. S.  
[\*The Lowest  \$^{15}\text{N}/^{14}\text{N}\$  End-Member of the Solar System is the Sun\*](#) [#1870]  
 We have measured with a new ion probe the nitrogen isotopic composition of the solar wind sampled by the Genesis spacecraft and found the lowest  $^{15}\text{N}/^{14}\text{N}$  value known for solar system objects. We shall discuss its cosmochemical implications.
- 8:45 a.m. Huss G. R. \* Nagashima K. Jurewicz A. J. G. Burnett D. S. Olinger C. T.  
[\*Isotopic Composition of Solar Wind Nitrogen in a Genesis Bulk Solar Wind Collector\*](#) [#1650]  
 We present a new determination of the  $^{15}\text{N}/^{14}\text{N}$  ratio in the solar wind. The Sun is ~30% depleted in  $^{15}\text{N}$  compared to Earth's atmosphere, in agreement with results by the Nancy group. We also present data on the fluence of nitrogen in the solar wind.
- 9:00 a.m. Vogel N. \* Baur H. Burnett D. S. Maden C. Wieler R.  
[\*Argon, Krypton, and Xenon in Three Solar Wind Regimes as Collected by Genesis\*](#) [#1767]  
 We present new heavy noble gas fluxes and elemental compositions ( $^{36}\text{Ar}/^{84}\text{Kr}$ ,  $^{84}\text{Kr}/^{132}\text{Xe}$ ) for the fast, slow, and CME-related solar wind as collected by Genesis in order to rule on element fractionation processes during solar wind formation.
- 9:15 a.m. Meshik A. P. \* Hohenberg C. M. Pravdivtseva O. V. Allton J. H.  
 Jurewicz A. J. G. Burnett D. S.  
[\*Isotopic Composition of Solar Wind Krypton in Aluminum Genesis Collectors\*](#) [#2703]  
 Our first successful measurements of isotopic composition of solar wind krypton are in good agreement with solar wind Kr analyses of regolith soils, indicating little, if any, temporal isotopic variations in solar wind krypton.
- 9:30 a.m. Crowther S. A. \* Gilmour J. D.  
[\*Solar Wind Xenon Composition Measured in Silicon Collector Targets from the Genesis Mission\*](#) [#1969]  
 We report a preliminary xenon isotopic composition for the present day solar wind, as sampled by the Genesis mission.
- 9:45 a.m. Alexander C. M. O'D. \* Howard K. T. Bowden R. Fogel M. Bonal L.  
[\*The Origin and Evolution of Chondritic Water\*](#) [#1869]  
 Bulk CM H abundances and isotopes are inversely correlated and both correlate with alteration indices. The estimated initial water composition ( $\delta\text{D} \leq -450\text{‰}$ ) shows that most formed in the inner nebula, but  $\leq 20\%$  could have come from the outer nebula.
- 10:00 a.m. Bonal L. \* Alexander C. M. O' D. Huss G. R. Nagashima K.  
[\*Hydrogen Isotopic Composition of the Water in CR Chondrites\*](#) [#1287]  
 The H-isotopic compositions of hydrous silicates were measured *in situ* in CR chondrites to better constrain the composition, evolution, and origin of asteroidal water.

- 10:15 a.m. Floss C. \* Le Guillou C. Stadermann F. J. Brearley A. J.  
[Coordinated NanoSIMS and TEM Analyses of C- and N-Anomalous Phases in the CR3 Chondrite MET 00426](#) [#1455]  
TEM/NanoSIMS study of C- and N-anomalous phases in MET 00426 shows that all grains consist of amorphous C with variable morphologies. Formation likely occurred under variable conditions, with isotopic fractionations inherited from simpler precursors.
- 10:30 a.m. Quirico E. \* Orthous-Daunay F.-R. Beck P. Bonal L. Briani G. Bourot-Denise M. Montagnac G. Dobrica E. Engrand C. Charon E. Rouzaud J.-N. Gounelle M.  
[Pre-Accretion Heterogeneity of Organic Matter in Types 1 and 2 Chondrites](#) [#2372]  
This study deals with the structure and composition of insoluble organic matter from type 1 and 2 chondrites by Raman, IR, and S-XANES microscopes. Preaccretion heterogeneity of IOMs or short-duration heating is proposed to account for measurements.
- 10:45 a.m. Le Guillou C. \* Remusat L. Bernard S. Brearley A. J.  
[Redistribution and Evolution of Organics During Aqueous Alteration: NanoSIMS-STXM-TEM Analyses of FIB Sections from Renazzo, Murchison and Orgueil](#) [#1996]  
What is the *in situ* spatial distribution and environment of organic grains in carbonaceous chondrites matrices? They seem to evolve physically and chemically during aqueous alteration and show relationship with phyllosilicates and carbonates.
- 11:00 a.m. Monroe A. A. \* Pizzarello S.  
[The Soluble Organic Composition of a Pristine Bells Fragment](#) [#1086]  
A pristine Bells fragment was analyzed for its soluble organic compounds and revealed a distinct composition. This meteorite is rich in O-containing and hydrocarbon molecular species but depleted in N-containing ammonia, amines, and amino acids.
- 11:15 a.m. King A. \* Henkel T. Chapman S. Busemann H. Rost D. Guillermier C. Lee M. R. Franchi I. A. Lyon I. C.  
[Amorphous Carbon Grains in the Murchison Meteorite](#) [#2604]  
We have located a series of micron-sized amorphous carbonaceous grains in size and density separations of Murchison matrix. We argue that the grains lost their crystalline structure through ion irradiation by the solar wind in the proto-solar nebula.
- 11:30 a.m. Nuth J. A. III \* Johnson N. M. Elsila-Cook J. Kopstein M.  
[Carbon Isotopic Fractionation During Formation of Macromolecular Organic Grain Coatings Via FTT Reactions](#) [#1167]  
Measurements of the temperature dependent carbon isotopic fractionation between input CO gas and carbonaceous grain coatings show that the coatings are light for temperatures above 600 K but may be heavy for lower temperatures.
- 11:45 a.m. Mercer J. A. \* Sharp Z. D. Jones R. H.  
[The Chlorine Isotope Composition of Chondrites](#) [#2463]  
Bulk chlorine isotopic analyses of C and O chondrites give  $\delta^{37}\text{Cl}$  values that range from -2.0 to +0.5‰, which is 7‰ less than previously reported values.