Howard University

Astrobiology science conference 2010

EVOLUTION AND LIFE: SURVIVING CATASTROPHES AND EXTREMES ON EARTH AND BEYOND

April 26–29, 2010 • League City, Texas

Program

LUNAR AND PLANETARY INSTITUTE

9:15 a.m. Grinspoon D. H. *
Astrobiology Research, Outreach and Education from Commercial Reusable Suborbital Spacecraft **[#5626]**
Commercial human spaceflight will soon be a reality. In this presentation I will review opportunities for astrobiology research and education from suborbital flights.

9:30 a.m. Lewis A. Johnson P. Jejelowo O. A. Sodipe A. Shishodia S.
The Prospective Function of Curcumin Against the Negative Effects of Microgravity **[#5488]**
Microgravity has several deleterious effects on cells. These cells may exhibit an up-regulation or down-regulation of their gene expression. We are investigating the effects of the phytochemical curcumin on microgravity-induced deleterious effects.

9:45 a.m. Cumbers J. * Rothchild L.
BISRU: Synthetic Microbes for Moon, Mars and Beyond **[#5672]**
Synthetic biology and genomics will bring a new range of designer organisms into being and give us new tools for the manipulation and control of these organisms. BISRU or biological *in situ* resource utilization is the use of such genetically modified organisms in space.

10:00 a.m. BREAK

DIVERSITY IN ASTROBIOLOGY RESEARCH AND EDUCATION
Monday, 8:00 a.m. Crystal Salon C

This session shares a diverse group of researchers' astrobiology experiences and explores topics such as institutional support, student interest, and models for sustaining or expanding opportunities for diversity in the field.

Chairs: **Leigh Arino de la Rubia**
Todd Gary

8:00 a.m. Cavosie A. J. *
'Impact' of the NAI-MIRS Program on Astrobiology Research at a Minority Institution: Connecting Univ. of Puerto Rico to South Africa to Univ. of Wisconsin to NASA **[#5422]**
This abstract describes the outcome of the research and student-related activities at the University of Puerto Rico that resulted from the NAI-MIRS award I received in 2009.

8:15 a.m. Melchiorre E. B. * Lopez A. Velasquez C. M.
Stable Isotope Astrobiology at Hispanic Serving Institutions: Si Se Puede! **[#5366]**
A "crawl-walk-run" strategy has been used to create a strong, sustainable program in stable isotope geochemistry with an emphasis on astrobiology. The result was the creation of a vibrant program addressing the record of early life on Earth.

8:30 a.m. Misra P. * Garcia R. Mahaffy P. R.
Gas Chromatography and Mass Spectrometry Measurements and Protocols for Database and Library Development Relating to Organic Species in Support of the Mars Science Laboratory **[#5195]**
An organic contaminant database and library has been developed for use with the Sample Analysis at Mars (SAM) instrumentation utilizing laboratory-based Gas Chromatography-Mass Spectrometry measurements of pyrolyzed and baked material samples.

8:45 a.m. Mendez A. *
Studying Planetary Habitability After a NASA Astrobiology Institute MIRS Sabbatical **[#5606]**
The NASA Astrobiology Institute Minority Institution Research Support (NAI-MIRS) opened an opportunity for professors and students to study planetary habitability at the University of Puerto Rico.