

OFF THE BEATEN PATH ASTROBIOLOGY OUTREACH: NOTABLE INFORMAL OUTREACH EFFORTS.

J. DeMarines^{1,2}, J. N. Casabona^{2,3}, D. H. Grinspoon⁴, A. H. Herman², R. K. Hicks^{2,5}, K. C. Yun⁶,
¹Atmospheric and Planetary Science Department, Hampton University, 23 Tyler St. Hampton, VA, ²Distant Vantage Media Labs (of Blue Marble Space), Westlake Ave N. Suite 1006, Seattle, WA, ³College of Electrical and Computer Engineering, University of Denver, 2199 S University Blvd, Denver, CO, ⁴Planetary Science Institute 1700 East Fort Lowell, Suite 106, Tucson, AZ, ⁵Department of Chemistry and CIRES, University of Colorado, Boulder, CO, ⁶Space Science Department, Denver Museum of Nature & Science, 2001 Colorado Blvd, Denver, CO.

Notable Astrobiology Outreach Efforts: Astrobiology, the search for life in the Universe, hopes to answer one of humanities fundamental questions: *Are we alone in the Universe?* Such a highly engaging subject deserves highly engaging outreach. Here, we present three 'off the beaten path' outreach efforts which stand out from typical informal outreach efforts to date. These are: Space in Your Face!, Urania, and *Life Out There*, (with Dr's David Grinspoon, Ka Chun Yu, and the House Band of the Universe).

Space in Your Face!: Space in Your Face! is a humorous and over-the-top seasonal Astrobiology outreach event, curated by Julia DeMarines, held in Denver, Colorado. Starting in February of 2012, Space in Your Face!, has become a collaborative effort leveraging Denver's talented art community, as well as the local scientific community including the nearby city of Boulder. Each two-hour event is organized around a common space-related topic. The format varies from event to event, but typically includes a guest speaker, a



short lecture, one or more comical skits (such as 'Getting to Know Uranus'), and space cover songs/raps. Events end with a quiz offering prizes for correct answers, promoting retention, and often a post evaluation is executed. The target audience is young adults and the average number of attendees per event is 25.

Urania: Named after the Greek muse of Astronomy, Urania is an innovative learning tool and a sturdy piece of urban art designed to aid in teaching children and adults a way of understanding the night sky. Urania is essentially a large naked planetarium which shows the ecliptic plane during the equinox and the solstices, (as seen in the image to the right), and currently in developmental stage and pending grant approval for completion. Both Space in Your Face! and Urania



are projects under the Blue Marble Space initiative called Distant Vantage Media Labs.

Life Out There: *Life Out There* brings art, visuals, science, and funk together. Take one part high definition digital planetarium graphics, one part psychedelic funk band (the Denver based House Band of The Universe), add in a sound engineer, and two scientists with a passion for outreach and visualizations (Grinspoon and Yu), mix well under a planetarium dome and



you've got *Life Out There!*

The concept of *Life Out There* came to fruition in 2008 as part of a NASA Astrobiology Education and Outreach

grant at the Denver Museum of Nature & Science, pertaining to the Astrobiology of Titan. Since its inception, 11 sold out shows have been played. Prior to the first shows in 2009, held at the museum's Gates Planetarium, *Life Out There* was put through in-house testing in 2008. Early post evaluation surveys overwhelmingly indicated that *Life Out There* met its educational goals of: raising awareness of Astrobiology, Titan content learning, and general increases in scientific interest [1]. These successes were echoed in future events at Gates Planetarium (2009, 2011), Jackson Hole, WY (2013), and finally, a NAI E/PO funded tour in 2014 (two shows in both Washington D.C. and Chicago, IL).

Post evaluations, and enthusiastic audience feedback from the later shows strongly suggest future shows will be equally successful and could be financed via ticket sales, even with minimal advertising [1]. Currently, *Life Out There* can be performed with any dome or screen that supports Uniview technology, and is being adapted for use with other dome technologies, such as Sky-Skan's Digital Sky [1].

References: [1] Yu K. C. (2014) *Planetarian*, 43:4, 22-28.

Additional Information: www.distantvantage.org
www.facebook.com/HouseBandoftheUniverse

All photos and images courtesy of Julia and DVML.