



EPOESS Selects Casasanto's *Bella Gaia* Proposal

Valerie Casasanto, most known for her ongoing work as Program Coordinator of the Student Summer Programs, has teamed up with Kenji Williams and other collaborators for a grant proposal that revolves around Mr. Williams' mesmerizing presentation known as *Bella Gaia Live (Beautiful Earth)*. The Education & Public Outreach for Earth & Space Science (EPOESS) selected this proposal along with 21 others, out of 91 submitted. Williams has performed *Bella Gaia* at several venues, such as the Gates Planetarium at DMNS in Denver, CO, NASA's Tiros satellite 50th anniversary celebration at the Congressional Auditorium (May 2010), GSFC Digital Learning Network (DLN) Earth Day celebrations in Greenbelt, MD, Earth Day events on the National Mall in Washington, DC, a Smithsonian Folklife Festival, also in DC, Maryland's Place in Space in Baltimore, MD (May 2009), and at events in Europe and Asia. Called "an astoundingly moving multimedia presentation", *Bella Gaia* is a combination of stunning images from satellite datasets such as TERRA and AQUA, as well as various images from NASA's Scientific Visualization Studio, set against the music of Williams' violin. Williams was first inspired in 2006 when he was in Kazakhstan to witness a rocket launch to the ISS. Astronauts at the launch relayed stories to him of the "Overview Effect", referring to the intense feeling astronauts get when they first see their home planet from space. These stories stayed with Mr. Williams and developed into *BG/BE*, his program that provides audiences with a unique perspective of the planet Earth.

Most artists create in order to express themselves and inspire feelings; it is by feeling a connection to the planet they live on that young students may be more inclined to pursue further learning. The *BE* program aims to excite and engage students and the public in Earth Science with *BG Live* presentations; provide a deeper educational experience through workshops with NASA Scientists; entice the younger generations to pursue careers in STEM and at NASA; publicize the social and scientific value of NASA research; and reach out to underserved communities such as Native Americans and others.

Along with Casasanto (PI) and Williams (Co-I), the *Beautiful Earth* project's team includes **Ana Prados** (JCET), who will provide training to teachers and students on the use of the NASA Earth Science data, many collaborators who are educators with diverse backgrounds, evaluators of the effectiveness of the *BE* program, and managers of venues where the program will be presented and hands-on sessions will occur. NASA websites, NASA Twitter pages, and other social media platforms will publicize and deliver information on the *BE* workshops. The first show will be held at the MOST Museum in Syracuse, NY in collaboration with the Onondaga Nation School with the theme "The Water of Life".

To view a short clip of the show that will include education modules, please visit <http://www.youtube.com/watch?v=dMsJsePo6OI>. To learn more about *Bella Gaia*, visit www.bellagaia.com.



Kenji Williams plays the violin against the backdrop of a satellite image of Earth from a *Gaia Live* presentation at DMNS (photo credit: Sean Malloy, Denver Museum of Nature & Science).

Georgieva & the ASCENDS Mission

After spending two weeks installing their instrument in a NASA DC-8 in Palmdale, California at NASA Dryden Aircraft Operations Facility this past spring, **Elena Georgieva** and other members of Dr. William Heaps' Goddard team were flying over various sections of the western U.S. testing Heaps' broadband lidar, studying its usage from the DC-8 to capture information regarding the variations and distribution of carbon dioxide measurements in the atmosphere over various land surfaces. During the course of the experiment, the DC-8 was flown for two 4-hour flights, over the ocean, the desert, and mountains. The measurements acquired from the lidar instrument resulted in global carbon dioxide maps to track the absorption of CO₂ in the atmosphere. By testing this instrument in such a plane as a DC-8, scientists can get a good idea of how the lidar would function on a satellite. Heaps was quite satisfied with its performance and is hoping it is selected to fly on the upcoming ASCENDS satellite mission (Active Sensing of Carbon dioxide Emissions over Nights, Days and Seasons).



Above: Wen Huang and Elena Georgieva test the performance of the laser in the DC-8.

Photo credit: W. Heaps, NASA/GSFC

Staffing Changes

Over the past few months, we have had several changes to our JCET roster. The cooperative agreement of our sister center, GEST, concluded in May 2011, and some of GEST's faculty members remained with UMBC and became part of the JCET team: **Timothy Berkoff, Huisheng Bian, Allen Chu, Marcianna Delaney, Shin-Chan Han, Susan Hoban, Matthew Hoffman, Dongchul Kim, Chung-Lin Shie, Christopher Shuman, Michael Studinger, Michael Wilson, and Zhibo Zhang.**

Some faculty members were with us all too briefly. Dr. Kim accepted a new position in late July. Dr. Hoffman, who was out on the ice for most of his time with JCET, participating in the ROGUE project (Real-time Observations of Greenland's Under-ice Environment), accepted a Research Associate position with Los Alamos National Laboratory in New Mexico.

Hoffman's work with the ROGUE project can be seen at the following website: <http://earthobservatory.nasa.gov/blogs/fromthefield/category/rogue/>. And, Dr. Zhang will continue as a Fellow with JCET, as he has accepted a position with UMBC's Physics Department as an Assistant Professor.

Congratulations!

One of our GSSP students from 2010, Robert Valerde, whose mentor was Dr. Santiago Gasso, recently defended his thesis and has been awarded his Ph.D. from the University of Texas at El Paso. Dr. Valerde's dissertation was titled "Evaluating suspended dust particulate matter from anthropogenically-altered lands". He is currently seeking career opportunities with DOE, DOD, DHS and NASA, just to name a few. We congratulate him on this achievement.

Next JCET All-Hands Meeting:
Wednesday, September 14, 2011
9:00 a.m. in UMBC's UC Room 312

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