

GEST is a consortium of scientists and engineers, led by the University of Maryland, Baltimore County (UMBC), to conduct scientific research in Earth and information sciences and related technologies in collaboration with the NASA Goddard Space Flight Center (GSFC). The consortium members of GEST include UMBC, Hampton University, Howard University, Caelum Research Corporation, and Northrop Grumman Corporation.

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Focus on Frostic



Image courtesy of NASA/Goddard Space Flight Center

"I didn't plan on making a film about puffins when I arrived in Iceland," explains Maria Frostic in the opening of Jefferson Beck's webshort, *The Puffin-Satellite Connection*. The webshort is available for viewing on NASA Goddard's Scientific Visualization Studio website, as well as on YouTube, just one example of how Goddard's Multimedia group is utilizing various popular websites to increase public access to Goddard research. Ms. Frostic's 2007 film *The Plight of the Puffins* focuses on a particular chain of events: the increase in sea surface temperatures causes a decrease in phytoplankton, the basis of the marine food chain, which in turn affects the survival of the puffins. The global view of phytoplankton levels is acquired via satellite data from SeaWiFS (Sea-viewing Wide Field of View Sensor), one of NASA's many Earth Observing Satellites. According to the SeaWiFS webpage, "Subtle changes in ocean color signify various types and quantities of marine phytoplankton." *Puffins* has been screened nationally on PBS as well as at film festivals: as a finalist at the American Conservation Film Festival in West Virginia in 2008 and in May 2009 at the 32nd International Wildlife Film Festival in Montana. Says Ms. Frostic, "I think people are struck by seeing how the impact of climate change is truly reaching every corner of our planet."

In the webshort, Ms. Frostic explains that she "is interested in communicating science stories." Nature documentaries seem to have a mass appeal, evidenced by the recent release of *Earth* in IMAX theaters nationwide and the huge success of the documentaries *Blue Planet* and *Planet Earth*. Different risks and skill levels are necessary to capture what can be beautiful but brief moments on film. Ms. Frostic points out she was fortunate that the Icelandic weather cooperated; however, getting to the puffins was hard work: "We had to haul our gear up the cliffs, using the same ratty old ropes the puffin hunters use year after year." Even as an experienced mountain climber, she was slightly unnerved. The clifftops provided uneven terrain, and she'd been warned about lice in the puffin burrows. However, this did not compare to previous harrowing experiences, such as tracking cougars in Yellowstone. According to Ms. Frostic, "While this path is not for the faint of heart, it is tremendously rewarding, and at the end of the day, it's so much fun."

Going forward, Ms. Frostic is lead multimedia producer for NASA's upcoming Glory mission, which launches next year and will study two of the least understood forcings on climate, atmospheric aerosols and total solar irradiance. Ms. Frostic is also currently editing a video podcast series she developed to support the Glory mission (more information can be found at <http://glory.gsfc.nasa.gov>). Someday, she hopes to return to Iceland, to hike the northwestern fjords, to visit perhaps with the puffin biologist she worked with, and ideally to find plenty of puffins.

BELLA GAIA

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As part of NASA's Earth Day 2009 celebration, Goddard's Digital Learning Network (DLN) presented Kenji Williams, a composer and musician, who has created an amazing audio-visual experience called *Bella Gaia*, which means "beautiful Earth." This event was broadcast live via webcast on April 22nd at 10am EST and again at 2pm EST, providing students, teachers, and the public at large views of the planet from an astronaut's perspective accompanied by Mr. Williams' violin performances. Participants were able to discuss the event and other aspects with Mr. Williams. **Marci Delaney** led the event, **Helen-Nicole Kostis** was on hand to explain the Earth visualizations, which were provided by NASA's Moderate Resolution Imaging Spectroradiometer (MODIS) satellite, and **Ryan Fitzgibbons** was behind-the-scenes as producer of the show.

CONGRATULATIONS

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Timothy Stubbs and **Dick Hartle** are two members of the DREAM team whose proposal "The Dynamic Response of the Environment at the Moon" was selected by the NASA Lunar Science Institute in January 2009. Research began in April and will continue for four years. Studies will encompass exploring how the sun and moon interact, especially focusing on how certain reactions can create serious hazards to unprotected astronauts. The DREAM investigators will be able to support and participate in the examination of data from lunar missions such as the Lunar Reconnaissance Orbiter (LRO), which is expected to launch in late 2009. By learning more about the lunar environment, the researchers will be better able to identify and address potential problems. Says Dr. Stubbs, "Modeling with data from LRO and other missions will be essential for our return to the moon." (Dr. Stubbs' lunar dust research was also highlighted in GEST Newsletter/Summer 2006.)

In February 2009, for his co-invention titled "Global Precipitation Radar (GPM) space and ground radar comparison software", **Liang Liao** received a NASA Space Act Software Release Award of \$500. This award is given to inventors whose software will further the government's or general public's needs.

Michael Kurylo was honored in March 2009 by the American Chemical Society as the recipient of the 2008 Hillebrand Award. At the Chemical Society of Washington's dinner meeting, Dr. Kurylo presented a seminar titled "From the Laboratory to the Stratosphere: Constructing a Bridge Between Science and Policy."

And, on April 1, 2009, **Raymond Hoff** celebrated a milestone: 10 years with UMBC! (No foolin'!)

TRANSITIONS

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Since our last newsletter, GEST has wished several individuals well in their new adventures, among them Bryan Duncan, Joseph Eastman, Jin Young Kim, Tom Low, Karen Mohr, Judit Pap, Mary Russ, Phillip Webb, and Tomohito Yamada. GEST has also welcomed new faculty members **Ritesh Gautam, Johannes Loschnigg, Will McCarty, Rennie Selkirk, Jennifer Shoemaker, Fabien Stalport, Silvia Stoyanova, Dominique Tobler, Michelle Williams, Teppei Yasunari, and Zhibo Zhang.**

GEST is also happy to announce a new member of its Administrative Staff, **James (Jim) Citro**, who will be assuming the duties associated with staffing, including both faculty and staff hires. Jim is located in the GEST/JCET office in Building 22 and can be reached at 301-286-4226. Jim has a long history at UMBC having worked for the last 19 years in UMBC's Financial Services Division where he most recently held the title of Administrative and Operational Services Director. Jim has been a member of numerous search committees at UMBC and brings his interviewing expertise as well as his contacts with UMBC's Office of the Provost, the Human Resources Department, and the Office of International Education Services to this position. Jim has a Bachelor of Science in Accounting/Management from The Johns Hopkins University and held several accounting and financial administration positions prior to coming to UMBC. Welcome, Jim!