

February 19, 2013

Director's Matters

By H. Frederick Dylla, Executive Director & CEO



- » [Subscribe](#)
- » [Contact](#)
- » [Give Feedback](#)
- » [Archives](#)

Our windows on the world

Like many scientists, I enjoy the long-running NOVA series on the PBS network. Given the need to improve our citizen's basic knowledge and appreciation of science, I wish the program had a wider audience than people like me. Last week's showing on NOVA, "[Earth from Space](#)," was a spectacularly beautiful and fascinating show that deserves a broader audience. The two-hour program presented stellar images of our planet captured by the wide array of imaging satellites that circulate the globe to monitor the lands, oceans, atmosphere, and the sun's influence on our planet.

The captivating imagery was an amalgam of data and photos captured by the satellites combined with state-of-the-art, computer-generated imaging to produce whole earth images and sped-up time sequences. The viewer is typically put in the near-perfect position of seeing the earth perched in space so the globe fills our entire field of view. We watch as the world's weather, the ocean's currents, and the Aurora display their rhythmic patterns, interplay of chaotic textures, and full pallet of colors, with the viewer having the best seat in this cosmic theater.

To give you just a teaser—montages show continent-wide dust storms from the Sahara that deposit needed potassium in the form of dried-up plankton onto the Amazon rain forest; a time lapse of a full year of the world's forest fires and how this destruction begins to generate new plant life within weeks; globe-wide images of the lighting strikes that around the Earth average about 40 times per second; and breathtaking views of the Aurora that can only be "seen" from the perch of a high-altitude satellite.



If you were not able to catch the show during its scheduled showing on PBS last week, I urge you to watch it at your leisure by streaming the program from PBS's [website](#) onto to a high-definition monitor. And tell your friends and neighbors to watch it. In the current political climate where our citizenry and congressional representatives are debating and evaluating our public expenditures, this show is not only pleasing to the eye, but it is eye-opening to the value of sustained public investments in these versatile instruments and cameras in space. The satellites featured in the show were built by public investments made by NASA, NOAA, and the European Space Agency. However, the history of satellite design, construction, launching, and operations represents more than a half-century partnership between the government agencies who fund these ventures, and those from the private sector and the university/national laboratory community who often manage the projects. The projects take years in the making, from inception to research and discovery, to the release of the data in scholarly publications, and—with determination and support—to the public through quality reporting and

programming such as that brought to us by NOVA.

From AIP Publishing

Delving into biophysics



AIP Journal Managers Jennifer Simmerer and Dave Baker recently attended the [Biophysical Society's Annual Meeting](#), February 2-6 in Philadelphia, PA. The meeting drew more than 6,000 research scientists from around the globe and across a wide range of disciplines related to the interface between biology and physics. The journal managers represented *The Journal of Chemical Physics* and *AIP Advances*, as well as *Journal of Applied Physics* and *Applied Physics Reviews*. Most attendees with whom they spoke, while aware of those titles, did not know that they published a significant number of biophysics-related papers. *AIP Advances*, with its open-access, community-review philosophy, proved to be compelling for many of the attendees, as the bulk of their work often is submitted to PLOS ONE biology journals—Public Library of Science (open-access) journals. By actively participating in the Biophysical Society meeting and interacting with the Society's members, AIP Publishing aims to generate more journal content in the field of biophysics.

Physics Resources Matters

Science in the State of the Union



Science came into play many times during President Obama's 2013 State of the Union address of January 12. *FYI* #29 provides the excerpts of his speech that relate to science, in the areas of R&D funding, climate change, STEM education, and immigration reform. [Read the bulletin online.](#)

More from "The Hill": New House Science & National Labs Caucus

Congressman Randy Hultgren (R-IL) has announced formation of the [House Science & National Labs Caucus](#). Hultgren is joined by Congressmen Chaka Fattah (D-PA), Ben Ray Lujan (D-NM), and Alan Nunnelee (R-MS) as co-chairs of the new group. The new caucus will concentrate on reinforcing federal investment in research and the national laboratories, as well as raise awareness in and out of Congress about the role they play in long-term economic growth.

Neil deGrasse Tyson, Director of the Hayden Planetarium, headlined the caucus launch event on January 23. Tyson's inspiring speech showed how the space program created a major cultural shift toward environmentalism. He also detailed how the value of scientific discoveries and research funding may be realized long after the breakthroughs are made. For example, Michael Faraday was challenged about the value and potential applications of his research into electromagnetism and electrochemistry in

1854. Tyson noted, “When you innovate, you are responsible for birthing entire new economies that drive your nation’s wealth.”

Member Society Spotlight

Three OSA members elected to the National Academy of Engineering

Excerpt from the February 13 OSA press release: Three members of [OSA](#) were named new members of the US National Academy of Engineering (NAE). Being elected to the NAE is one of the highest professional honors in the engineering community. The three OSA members were among the 69 new members and 11 foreign associates elected by the NAE this year.



- **Weng Cho Chew** of the University of Illinois, Urbana-Champaign, was selected for his contributions to large-scale computational electromagnetics of complex structures.
- **Eric Fossum** of Dartmouth College was recognized for inventing and developing the CMOS active-pixel image sensor and camera on a chip.
- **Charles Kolb** of Aerodyne Research, Inc., was chosen for his work on instruments that advanced measurements of air pollution and aerosols.

See the full [release](#).

Off the Press

AIP partners with Sense About Science



To help the public make sense of research claims, Sense About Science has produced a peer review guide, "[I Don't Know What to Believe](#)." Initially launched in the UK, the publication made its official debut to US audiences this month. AIP has partnered with Sense About Science to help distribute the guide, which teaches people how to sift through the seemingly science-based headlines seen in the popular media, by considering whether or not the claims are based on peer-reviewed research.

Coming Up

Thursday, February 28

- AIP Development Board meeting (College Park)

March 1 - 2

- PRC Advisory Committee meetings (College Park)

- PRC Policy Committee meeting (College Park)

March 18 - 22

- APS March Meeting (Baltimore, MD)

+