Building R&D Capacity in Developing Economies

AIP took its industrial outreach efforts global last month, holding the 2012 Industrial Physics Forum (IPF) in Trieste, Italy—its first IPF held abroad. Organized in partnership with the Abdus Salam International Centre for Theoretical Physics (ICTP), this IPF was built around the theme “Capacity Building for Industrial Physics in Developing and Emerging Economies.” Approximately 120 participants and speakers came from over 30 countries to learn about a range of research areas, physics education, and science policy related to the theme.

The 2012 IPF was cosponsored by AIP and ICTP, with additional support from Institute of Physics, TWAS (the academy of sciences for the developing world) and Central European Initiative. Image copyright Roberto Barnaba, ICTP Photo Archives

The overall goal of the four-day forum was to increase the participants’ ability to lead efforts that strengthen the role played by physics in economic development in their home countries, and in particular, at their home institutions. The organizing committee presented a program that interwove technical, education, and policy threads. Technical sessions included topics which held local and global economic development implications, such as materials physics, solar energy and photovoltaics, renewable energy, nanotechnology, applications of microfluidics to applied problems, and optics.
Education sessions introduced participants to new pedagogies, technologies, and practices designed to make physics education more inquiry-based and student-focused. Indeed, a strong unifying philosophy was that any successful capacity-building effort will require institutions to assess the quality of their physics education at all grade levels and undertake reforms, where necessary, to ensure that education is aligned with the expectations and needs of a growing technical economy.

Policy sessions explored the policy implications of solutions to global and regional challenges, solutions which depend—at least partially—on strategic applications of industrial physics in areas such as energy and international development. William Colglazier, science advisor to Secretary of State Hillary Clinton, gave a superb keynote address.

AIP’s annual Industrial Physics Forum aims to build bridges between the industrial and academic physics communities and educate each about the needs and capabilities of the other. A particular focus is placed on the technical and workforce needs of industry.

Since 2007, AIP has partnered with one of its 10 Member Societies in order to enhance an annual Member Society meeting with content specifically geared toward industry. However, this year the IPF was hosted by a member organization of the AIP Corporate Associates. ICTP was founded in 1964, under the vision and leadership of Nobel Laureate Abdus Salam, becoming the world’s first and leading global scientific institution for fundamental research and development. Functioning under the umbrella of a tripartite agreement between the Italian government, UNESCO, and IAEA, ICTP hosts leading international scientists doing basic and applied research in a broad range of areas and annually runs more than 60 conferences, workshops, and schools that cover these topics. The center also assists science policymakers and scientists from developing countries in the creation of regional centers of excellence and active scientific networks. Through programs that provide excellent research conditions for developing country scientists through programmed long-term visits to its site, ICTP has helped top scientists from the poorest countries stay active in research, minimize their isolation, and contribute more efficiently to capacity building and development of their native land. ICTP’s fundamental mission of fostering the highest quality scientific research and knowledge in all corners of the world has not changed in over 47 years of existence, and through use of the universal scientific language, it provides a global and pioneering approach to address the problems of our time.
This 2012 Industrial Physics Forum concluded with an extended networking and planning session, which enabled participants to begin developing capacity-building action plans. Follow-up activity is underway. We hope that this first international IPF is the first of many to come.

For pictures, the final program, a list of participants, and other information, including the eventual posting videos of all the talks, visit the [IPF website](http://ipfwebsite.com). And finally, Jermey Matthews of *Physics Today* covered the IPF with a series of excellent blog posts in the online magazine's *Singularities* department.

### Publishing Matters

*AIP Advances* now indexed in Thomson Reuters databases

*AIP Advances*, the open access journal launched by AIP Publishing in 2011, will now be indexed in several Thomson Reuters databases. The databases cover content from the highest impact journals worldwide and serve as vital scholarly resources for the international research community. Thomson Reuters editors use a number of criteria to assess the scholarly merit of a journal being evaluated for inclusion in their databases, including timeliness of publication, quality of editorial content, international diversity of authors and editors, adherence to international editorial conventions, and the use of peer review.

*AIP Advances* will be indexed in Science Citation Index Expanded (also known as SciSearch) of Journal
Citation Reports/Science Edition and Current Contents/Physical Chemical and Earth Sciences, going back to volume 1, issue 1. The Science Citation Index Expanded database is included in Thomson Reuters' well-known research tool Web of Science, which is used by thousands of libraries and research institutions in more than 100 countries. See last week’s press release for more information.

**Physics Resources Matters**

**Congressional Visits Day**

AIP Government Relations staff participated in the 17th Annual Science-Engineering-Technology (SET) Congressional Visits Day held in late April. The event included about 200 scientists who conducted congressional visits to ask members and senators for strong support for research and development. AIP and several Member Societies—APS, AGU, OSA, AVS, and AAS—participated in the two-day event. The SET Working Group, which includes AIP and four of its Member Societies, is an informal network of professional and scientific societies, associations, and academic institutions who share a concern about the future vitality of the US science and engineering enterprise.

At the evening ceremony and reception, Senator Mark Udall (D-CO) and Rep. Randy Hultgren (R-IL) were awarded the George E. Brown Junior SET Leadership Award for their active leadership and strong public advocacy in support of government research as well as their actions to advance science, engineering, and technology policy. Rep. Michael Capuano (D-MA) spoke at a breakfast before the congressional visit day, reminding everyone, “If you don’t participate in your democracy, your issue will lose.”

**AIP presents at DC Lunch & Learn**

On April 17 several AIP and Member Society personnel attended one of the monthly Lunch & Learn sessions hosted by Association Media and Publishing. Titled “Social Media: How it’s Done,” the session presenters fleshed out real-world examples from their everyday experiences with social media. Tracy Schwab, communications coordinator for Society of Physics Students, spoke about reaching students via various social media websites such as Facebook, Twitter, Flickr, and YouTube. Charles Day, Physics Today’s online editor, shared an in-depth look at Physics Today’s Facebook footprint. Kate Ramsayer, a public information specialist at AGU, closed the panel presentations with the word of the day—blogosphere—and gave examples of AGU’s nine blog sites.
About 100 people attended the session, which was held at the National Guard Association in downtown Washington, DC.

**Around AIP**

**Flow & Fluctuation**


In the exhibit brochure, Curator Sarah Tanguy writes: “The Atmosphere Exposed” represents a selection of 44 photographs from the original juried exhibition held in conjunction with the 10th International Light and Color in the Open Air Conference at St. Mary’s College of Maryland in 2010.” International scientists, meteorologists, and amateur photographers depict in their images the interplay of light’s interaction with the Earth’s atmosphere and its landscape. “From crepuscular rays to a cartwheel rainbow, the images document a staggering array of interactions between light and the Earth’s atmosphere and landscape. All of the events are available to the naked eye, requiring no special equipment—just a passionate pursuit of atmospheric optics in the great outdoors. Some of these visual spectacles can be seen every day, while others occur once in a lifetime.”

Carol Brown Goldberg’s art is often inspired by physics. “Each of her cast bronze sculptures represents a unique time capsule that freezes a fleeting encounter of disparate elements . . . When making sculptures, [Goldberg] feels as though she were compressing time. In her mind, the objects are bumping into each other like particles colliding in an accelerator and resemble fundamental forces. Many of the sculptures include electrical, measuring, and communication devices.”
Coming Up

**May 30–June 1**
- Society of Scholarly Publishing Annual Meeting (Arlington, VA)

**June 4**
- SPS Summer Intern orientation

**June 10–14**
- AAS 220th Meeting (Anchorage, AK)