



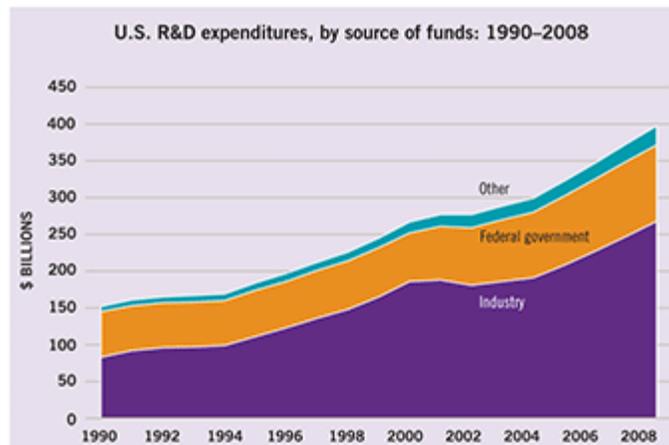
Director's Matters

By H. Frederick Dylla, Executive Director & CEO

Little "r," big "D"

The federal government's expenditure for R&D (\$147.6 billion the current fiscal year) has more than doubled in the past two decades, although that value reflects only a modest increase in buying power when taking inflation into account. A look at the [National Science Board's Science and Engineering Indicators: 2010](#) and a recent [NSF brief](#) on the 2008 Business R&D Innovation Survey show the importance of industrial R&D financing, which overtook federal R&D spending in the early 1980s and has grown steadily since. In 2008 the total investment in US R&D approached \$400 billion, and more than 67% (\$268 billion) came from industry. Most of industry's investment was directed at applied research and product development (\$256 billion).

Yet industry's share in the total US expenditures for basic research was only 6%. The academic scientific community and scientific professional associations should pay close attention to industry's contributions to the R&D enterprise and the scientists at the forefront of innovation. I will cite a few examples of how the AIP community reaches out to our R&D colleagues in industry.



SEI 2010: Sources of R&D Funding, Chapter 4.

AIP's primary industry focus group is the Corporate Associates Advisory Committee (CAAC). For more than 50 years, the group has planned the annual Industrial Physics Forum (IPF), a small conference for corporate R&D professionals. The IPF was traditionally hosted by an industrial laboratory and took on diverse themes, such as advances in the automotive, semiconductor, and aeronautic industries. Yet with the decentralization or demise of large central research labs, AIP began to hold the event in conjunction with Member Society meetings. That tack has proved to be a natural fit, since the IPF offers programming specifically targeted to attendees working on or interested in industrial applications. This October, OSA and AIP will co-host the 2010 IPF, themed "[Applications of Laser Technology](#)", in conjunction with the Frontiers in Optics/Laser Science meeting in Rochester, NY.



The 2011 IPF will commemorate the centenary of the discovery of superconductivity by Heike Kamerlingh Onnes and explore its industrial applications. The CAAC has teamed up with APS' Forum on Industrial and Applied Physics (FIAP) to plan the forum, to take place March 20–21 during the 2011 APS March Meeting in Dallas, TX. The CAAC is also working with AVS to plan a special conference—focusing on energy research and development—during the 2011 AVS International Symposium in Nashville, TN. AIP hosts smaller networking forums, such as the events held during the 2009 [SOR](#) and [AVS](#) meetings, to give the local industrial R&D community and interested academics from surrounding institutions an opportunity to connect with meeting attendees.

A few years ago, FIAP surveyed its members to find out what needs were not being met by professional societies. Near the top of the list was access to scholarly journals, particularly for individual entrepreneurs and industrial scientists at small companies. As a result, both [AIP](#) and [APS](#) introduced article packs to provide affordable access to journal articles to those who do not benefit from institutional subscriptions. AIP is currently experimenting with [DeepDyve](#), which allows readers to rent an article for 24 hours for just \$1. Finally, AIP has joined up with the largest scientific society in the world, IEEE, for a joint venture that provides access to all of the applied physics content from IEEE, AIP, and AVS. The marketing agreement was initiated earlier this year specifically to provide access to industrial customers who are not regular subscribers. More work will be done by AIP and our fellow publishing partners to meet the needs of this important class of researchers. A healthy economy depends on a healthy industrial R&D enterprise.

PUBLISHING MATTERS

The refactoring factor



In programming parlance, code refactoring is the process of altering a program's source code while retaining its outward functional behavior in order to improve aspects of the software or infrastructure. Continuous refactoring makes code easier to maintain and extend. Since [Scitation C³](#) debuted with AIP's 12 archival journals in March, the *Publishing Technology* branch has been judiciously monitoring and optimizing the nascent platform. The resultant refactoring effort is intended to provide maximum stability, flexibility, and extensibility for AIP, and for our publishing partners as they begin to migrate to C³. The two most significant changes, launched just last week, will

go a long way toward ensuring those goals.

First, the Volume/Issue Navigator and Issue Table of Contents have undergone a complete rearchitecture to create a new search-based (rather than browse-based) paradigm. They are now dynamically driven from the [MarkLogic](#) content server and rendered via the [Polopoly](#) web content management system. This arrangement enables improved navigation and better handling of different flavors of sorting rules for online content. Second, a C³ URL redesign allows for better publishing partners' branding and custom design. The redesign entailed splitting URLs into two functional components. The "partner branding" component gives partners the ability to customize for specific navigation and organization, such as grouping a family of journals based on a specific field of study, and it also provides for better navigation of non-journal content such as conference proceedings. The "partner resource" component protects our partners' online data sets by providing authentication and access control and will allow for changes in business models without requiring engineering modifications to the back-end management system.

These software improvements, designed and implemented by *Pub Tech* in collaboration with staff from *Online Services*, will substantially strengthen the growing C³ platform infrastructure for 2010 and beyond.

PHYSICS RESOURCES CENTER MATTERS

Career Network reports promising year so far

Physics Today Career Network is an AIP-managed partnership among five online job sites— *Physics Today* Jobs and those of AAPT, APS, AVS, and the IEEE Computer Society. Compared with the first half of 2009, the first half of 2010 showed significant increases in several key areas:



- Newly registered job seekers: up 49%
- Resumes posted: up 46%
- Online jobs posted: up 22%
- Online job posting revenue: up 26%

PTCN believes those jumps are due to a recovering economy, additional available funding to hire new personnel, and PTCN's consistent marketing efforts with partner site members. Staff members are optimistic that this trend will continue for the rest of the year and into 2011.

In addition, PTCN now lists job postings on AIP's [UniPHY](#) professional social networking site. Sign-up is free. To view job postings, click on "Jobs" once you are logged in. A collaborative effort between PTCN and AIP Publishing, job listings are updated daily and searchable by job category or location. Links bring users to the full job postings on the [Physics Today Jobs](#) website.

We invite your feedback to this newsletter via email to aipmatters@aip.org.

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