

Confocal Raman Imaging

Atomic Force Microscopy



Automated Raman-AFM System alpha500

Confocal Raman Microscope alpha300 R



Raman stress and AFM topography images recorded automated at three different areas of a Si-device.

The WITec Ultrasensitive Optical System

- Capability of detecting signals from extremely small material concentrations or volumes
- Application of lowest laser power
- Ultrafast Raman Imaging

WITec Modularity

- Combination of Raman, AFM and/or SNOM
- Correlate chemical and surface structural information
- Achieve more comprehensive material characterization

Confocal . Raman . AFM
Fluorescence . SNOM

WITec
focus innovations

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for the council and “would only encourage that the [NSTC committee] be strongly engaged in executing this recommendation.”

Current benchmarking

White House science adviser and OSTP director John Holdren agreed that international benchmarking in key fields is useful, and he noted that the President’s Council of Advisors on Science and Technology is currently reviewing the National Nanotechnology Initiative, which involves more than two dozen federal research and regulatory agencies. Holdren said PCAST’s review will report on how the US is doing relative to other major economies as measured by R&D investments, patents, publications, and other benchmarks.

Science agencies often contract with outside organizations, such as the World Technology Evaluation Center, that perform benchmarking, Holdren said. In recent years WTEC has carried out agency-sponsored international assessments in a broad range of S&T areas, including flexible hybrid electronics, simulation-based engineering and science, and the brain-computer interface. The government also works with consulting firms that offer regional expertise, such as the Asian Technology Information Program, which assesses research and technology trends and policies in the Far East. Although agencies often initiate such benchmarking efforts on their own, Holdren said, “OSTP staff will advocate for these efforts when we believe they are needed.”

David Kramer

news notes

Stats on physicists.

Physics bachelors who apply to medical and law school are among

the highest scorers on the MCAT and LSAT, respectively. The number of degree-granting physics departments in the US has kept stable over the past 10 years. In 2007 women made up 19% of entering students in physics PhD programs and 24% in master’s programs. The number of physics bachelor’s degrees conferred is on the rise, with 58% more in 2007 than eight years prior. These highlights are from recent reports by the Statistical Research Center of the American Institute of Physics.

One of the new reports, the *Size of Undergraduate Physics Programs*, presents data about US physics departments. It aims to show where the departments fit into the national context and, when necessary, help them persuade university or state administrations to keep them open. Among the findings are that two-thirds of departments that offer only bachelor’s degrees have 6 or fewer faculty members, while PhD-granting departments range from fewer than 10 faculty members to more than 60. And, although PhD-granting departments represent a quarter of all physics departments, they employ 60% of faculty members and confer 52% of the nation’s physics bachelor’s degrees.

The other new reports are titled *Astronomy Faculty*; *Physics Graduate Enrollments and Degrees*; *Physics Undergraduate Enrollments and Degrees*; and *MCAT, LSAT and Physics Bachelor’s*. They can be downloaded at <http://www.aip.org/statistics/catalog.html>. TF ■

web watch

To suggest topics or sites for Web Watch, please visit <http://www.physicstoday.org/suggestwebwatch.html>. Compiled and edited by Charles Day

<http://www.ieeeeghn.org>

From the IEEE comes the **IEEE Global History Network**, an extensive website

devoted to preserving and describing the history of electrical, electronic, and computer technologies. Among the physicists whose oral histories are preserved are Nobel laureates Charles Kao, Edward Purcell, and Norman Ramsey.



<http://www.epa.gov/radiation/understand/calculate.html>



The US Environmental Protection Agency has built an online tool called **Calculate Your Radiation Dose**. The tool takes into account your location, air travel, proximity to power plants, and exposure to other natural and manmade sources of radiation.

<http://www.union.ic.ac.uk/scc/100women100visions>

The online exhibition **100 Women—100 Visions** features dramatic photographic portraits of female scientists and engineers at Imperial College London. The women come from all career stages and from all the university’s science and engineering departments.

