The International Society for Optical Engineering

Furthering Innovation in Optics and Photonics



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# 2005 Announcements

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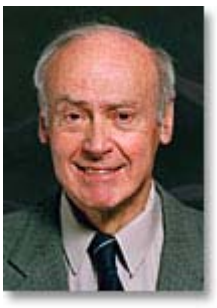
**Disaster Relief**

*Everyone is moved when they hear news that disaster has befallen a community. Here is information about **how you can help** in the aftermath of the South Asia Earthquake and Hurricane Katrina.*



**In memoriam: Emmett Leith**
*30 December 2005*



Holography pioneer Emmett Leith died suddenly on 23 December 2005 after suffering a stroke. He was born in 1927 and received the BS and MS in physics and the PhD in electrical engineering, all from Wayne State University, Michigan, and also an honorary Doctor of Science degree from University of Aberdeen. He had worked at the University of Michigan since 1952.

His research was in the areas of synthetic aperture radar, optical processing and holography. His work on optical information processing of synthetic aperture radar data led him to independently discover the principles of holography in the mid-1950s. Leith made this development unaware of the work of Dennis Gabor, who approximately eight years earlier had proposed "in-line" holography.

Numerous applications of holography developed from the work of Leith. In 1962, working with Juris Upatnieks, Leith produced the first three-dimensional laser transmission hologram, of a toy train and a bird.

Leith authored or coauthored about 200 papers. He was named a Fellow of SPIE in 1985. He received the Society's Gold Medal in 1990, and the Dennis Gabor Award in 1983. He was also a member of the National Academy of Engineering.

Charles M. Vest, professor of mechanical engineering and president emeritus of the Massachusetts Insitute of Technology, said that Leith was "one of the most inventive and unique individuals I have ever known. His scientific reasoning was based on an remarkable ability to visualize the physics of whatever he was working on in deceptively simple ways."

Vest recalled a meeting with Leith after the two had not seen each other for a long time. He mentioned an article of Leith's that he had seen published some years earlier on the history of the Willow Run Laboratory, and asked if it would be possible to get a copy of it sometime.

"Emmett said 'Sure,' reached into his pants pocket, pulled out a copy of the article and handed it to me."

Leith and Yuri Denisyuk were honored with the publication of a tribute volume entitled *The Art and Science of Holography* (H. J. Caulfield, editor) in 2004. In it, the late Steve Benton wrote that Leith was always "a generous supporter of display holography throughout the modern history of the field."

**Junhao Chu named academician by Chinese Academy of Sciences**
*16 December 2005*

*Junhao Chu with SPIE 2006 President Paul McManamon in front of the Shanghai city government buildings, during a presidential visit to China last month.*

SPIE Member Junhao Chu of the Shanghai Institute of Technical Physics has been named academician by the Chinese Academy of Sciences (CAS).

Chu has been an active member of SPIE and has published numerous papers at SPIE symposia over the past 10 years. He works in the area of infrared physics.

The 51 new academicians announced in Beijing today include eight mathematicians or physicists, nine chemists, 12 life scientists, seven geologists, six information scientists and nine engineers.

Lu Yongxiang, CAS president and chair of the governing body for CAS academicians, said, "The newly elected need to continue their research as well as provide advice to policy-makers on scientific research development and social advancement."

The CAS reviewed the research achievements and ethics performance of 295 candidates. The ceiling for the inductions, every two years, is 60 new academicians.

The CAS now has a total of 707 academicians.

**Industry shapes European photonics research**
*16 December 2005*

A high-level group of representatives of research and industry in Photonics as well as user industries and other stakeholders have released a document entitled "Photonics for the 21st century" (www.vdi.de/photonics21).


*The Executive Board of Photonics 21, including SPIE President Malgorzata Kujawinska, Warsaw University of Technology, in front.*

The Photonics21 technology platform is a strategic vision document for photonics in the upcoming Seventh Framework Program (FP7), the European Union's main instrument for the funding of research in Europe. This effort coordinates R&D investment at the European, the national and the regional levels. Under Photonics21, representatives from academia, research labs, and major industries in Europe have collaborated to plan the future of European photonics research and commercialization.

SPIE 2005 President Malgorzata Kujawinska (Warsaw University of Technology, Poland) is a member of the Executive Board of Photonics21. The larger Board of Stakeholders also includes several participants with SPIE affiliations, including Hugo Thienpont (Vrije Universiteit Brussel, Belgium, and SPIE Board of Directors) and Eugene Arthurs (SPIE Executive Director), as well as several other SPIE members contributing optics and photonics expertise.

"This represents unprecedented cooperation among countries with a market roughly comparable to that of the United States," said Arthurs. "Europeans hold technical leadership in many areas of photonics, lighting being one example. Photonics21 is an important effort and we will continue assisting its implementation."

The President of Photonics21 is the CEO of Jenoptik AG, Alexander von Witzleben. The emphasis will be on promoting research and innovation and building on the 2005 document "Consolidated European Photonics Research Initiative PHOTONICS FOR THE 21ST CENTURY". Photonics21 has only a short time to craft the strategic research agenda for photonics so that it will influence the Framework 7 Programme, but the group hopes to stimulate and guide European wide investment in photonics beyond that.

Karin Burger, Manager of SPIE Europe, noted the important catalytic role of face-to-face networking at the upcoming Photonics Europe in April 2006, and the strong ties of the technical program to the EU Frameworks.

**Sliney receives Schawlow Award from LIA**
*14 December 2005*

David H. Sliney, program manager for the U.S. Army Center for Health Promotion and Preventive Medicine Laser/Optical Radiation Program, APG, MD, received the 24 th Arthur L. Schawlow Award from the Laser Institute of America (LIA) during ICALEO 2005 in October. Sliney is a Fellow of SPIE.

The award is in recognition and appreciation of Sliney's extensive contributions as a pioneering leader in the field of laser safety. His work has been the driving force behind rational science-based laser safety standards both nationally and internationally. The safety levels found in contemporary standards resulted in part from his efforts as a member of the International Commission on Non-Ionizing

Radiation Protection (ICNIRP), the ANSI Z136 committee, and the IEC committees. Through his activities the resulting standards are in harmony and accepted throughout the world.

The award is also in recognition of Sliney's activity regarding the establishment of health and safety standards for protection of the eye and skin from lasers and high-intensity optical sources since 1965 where he proposed the first laser exposure limits for the Army Surgeon General's Office, and where he also played a key role in the development of the first threshold limit value exposure limits for laser radiation, for ultraviolet radiation and for visible and infrared radiation.

**Descartes Prize honors left-handed light research**
*2 December 2005*

Research teams in genetics, climate change, astronomy, social sciences and disease management, as well as innovative science communicators today received the prestigious EU Descartes Prize from the EU Commissioner for Science and Research, Janez Potocnik, at a ceremony in London. The €1,000,000 Descartes Research Prize was shared this year between five pan-European teams who achieved major scientific breakthroughs in key European research areas.

A team of European and U.S.-based researchers was honored for work in developing left-handed metamaterials, artificial composites that reverse the usual properties of light. The awards ceremony was held at the Royal Society in London.

Selected from a pool of 85 research teams from 22 countries, the five recipients of this year's top European Union prize for research are David R. Smith (USA), Sir John Pendry (Imperial College, UK), Eleftherios Economou (Foundation for Research and Technology - Hellas, Greece), Ekmel Özbay (Bilkent University, Turkey) and Costas Soukoulis (Institute of Electronic Structure and Laser, Foundation for Research and Technology, Greece). All five have been active with SPIE as authors and chairs, and Özbay is a member of the Society.

"It's great to receive this kind of recognition for our work," Smith said. "This group of people has collectively made many significant contributions to really establish this field. It's been a real collaborative effort." Smith is an associate professor at Duke University's Pratt School of Engineering. His earlier work was done while an associate professor at the University of California, San Diego.

In 2000, Smith demonstrated in *Physical Review Letters* the first realization of a left-handed metamaterial, a composite of copper rings and wires that reverses familiar properties of light. In the journal *Science* the following year, he reported the first experimental demonstration that a wedge-shaped metamaterial gives negative refraction, meaning that light bends at a negative angle with respect to the angle at which it enters the material.

In natural materials, light always refracts at a positive angle, Smith explained. "The novel properties of artificial metamaterials therefore bring a degree of design flexibility that was not possible before," Smith said.

The initially controversial finding was later confirmed by other groups and named one of *Science* Magazine's top 10 breakthroughs of the year in 2003.

Descartes Prize website
Duke University press release
University of California, San Diego press release

**Phipps honored by Beamed Energy conference**
*1 December 2005*

Claude Phipps, chair and organizer of SPIE's High Power Laser Ablation Symposium series since 1998, recently received an award "for distinguished achievements and lifetime contributions" from the 2005 International Symposium on Beamed

Energy Propulsion in Japan. The award was given at the November 16 ISBEP conference dinner in Nara, Japan by Prof. Takashi Yabe of the Tokyo Institute of Technology, the ISBEP conference chair (see photo).

Phipps is founder of Photonic Associates, LLC in Santa Fe, NM, and inventor of the Laser Plasma Thruster and of the "ORION" concept for using lasers to clear near-Earth space debris. He was co-originator of the Los Alamos laser effects study program in 1983 and since then has authored over 60 papers on laser interaction with materials and laser space propulsion, and is editor of a book on laser ablation and its applications.

"This is a great honor, and it makes the effort over the years worthwhile," Phipps said on accepting the award. "I want to compliment the spirit and the dreams represented by those of you attending this conference. Dreams of getting off the planet cheaply and routinely, in order to explore our vast universe. Since my first paper in our field of endeavor was published in 1987, I have tried very hard, as we all have, to advance studies in laser propulsion, but it has been one step forward and two steps back at times. So, persistence is required. I'm sure I don't need to tell you that. And, practical proposals that solve people's real problems at prices they are willing to pay. We must plan for the future in our daily work, working toward worthwhile goals as well as the big dreams."

**Bennett named director of EO Systems Lab at GTRI**
*3 November 2005*

SPIE member Gisele Bennett has been named director of the new Electro-Optical Systems Laboratory (EOSL) at the Georgia Tech Research Institute (GTRI) in Atlanta. The new lab was created to highlight GTRI's broad expertise and experience in electro-optical systems.

Director of GTRI's Logistics and Maintenance Applied Research Center (LandMARC) and a professor in Georgia Tech's School of Electrical and Computer Engineering, Bennett brings to the job an appreciation for GTRI's existing customers and a vision for developing new research areas where the lab can apply its expertise.

"EOSL has core research technologies that have high potential for growth," said Bennett. "We are going to continue to be the research resource for our existing customers in areas such as optical sensing and systems design, and for our future customers in such areas as medical imaging and optical communication. We'll continue to grow our work with the Department of Defense, and we'll have new customers at the National Institutes of Health, the National Science Foundation and industry."

Full story from GTRI

**Constantine receives Photomask award**
*31 October 2005*

At the 25th Annual SPIE Photomask symposium held earlier this month in Monterey, California, the 2005 BACUS Prize was presented to Chris Constantine of Unaxis USA, Inc., in recognition of his significant and continuing technical contributions to the photomask industry in the area of dry etch process and technology.

The symposium had a very successful year, with total attendance up approximately 20 percent. Fifty companies were represented at the well-trafficked two-day exhibition.

More information on Photomask awards and scholarships

**Defense fellowship program open**
*25 October 2005*

The 2005- 2006 application cycle to the National Defense Science and Engineering Graduate (NDSEG) Fellowship program is now open.

The NDSEG Fellowship program is sponsored by the Department of Defense with the goal of providing the United States with talented, doctorally trained American men and women who will lead state of the art research projects in disciplines having the greatest payoff to national defense requirements. The Fellowships are awards conferring high honors upon the recipients, three years of full support in pursuit of a doctoral degree in disciplines of military importance in science and engineering, and are portable, allowing the recipients to pursue their graduate studies at whatever U.S. institution they choose to attend.

The 2006-2007 NDSEG Fellowship competition will award approximately 200 new three-year graduate fellowships in April 2006. Fellows beginning tenure in 2006 receive a $30,500 annual stipend, $1,000 annual health insurance allowance, and full tuition and fees. NDSEG Fellows do not incur any military or other service obligation. The NDSEG program is open only to U.S. citizens and nationals, and is intended for students at or near the beginning of their graduate studies who intend to pursue their Ph.D. The application deadline is January 6, 2006. For more information, or to apply, visit www.asee.org/ndseg.

**In memoriam: Joseph Oberheuser**
*25 October 2005*

Joseph H. Oberheuser, 64, passed away 11 October 2005 in Fort Wayne, IN after a short illness.

Born in Pittsburgh, PA, he spent a distinguished career as an electro-optical aerospace engineer working for several prominent companies including Bausch & Lomb, Wollensak, Perkin-Elmer, and most recently, ITT Industries.

He holds several patents and has authored numerous papers. While his accomplishments were many, the one of which he was most proud was designing the optical system for the Hubble Space Telescope.

He was a member of SPIE and the Optical Society of America (OSA), serving as an editor and author, as well as chairing numerous committees for each organization, past member of the SPSE, a founding member, Director and former Chairman of the OEOSC setting national and international optical standards, voting member of I3A Standards Management Board and the former NAPM PH3 Standards Committee, past President of the SW Connecticut Section OSA, and Plant Rep of the Rochester Section OSA.

Survivors include his wife, Judith M. (Judie); son, Joseph H. (Lisa) Oberheuser, III of West Hartford, CT; daughter, Jennifer L. Oberheuser of Edmonds, WA; brother, Paul R. (Nancy) Oberheuser of Pittsburgh, PA; aunts, Alberta Mutschler of Pittsburgh, PA, Margaret Carney of Bethel Park, PA, and Alice (George) Lostetter of Coraopolis, PA; uncle, Anthony (Laura) Mutschler of Pittsburgh, PA; several nieces and nephews and grandnieces and grandnephews.

In lieu of flowers, the family requests that donations be made to the University of Rochester, Attn: Joseph H. Oberheuser Memorial Fund, P.O. Box 270032, Rochester, NY 14627-0032.

**Poland Chapter stages successful Congress**
*10 October 2005*

Conference overview | Conference summary | Additional photos

By all accounts, the first International Congress on Optics and Optoelectronics (ICOO), was the biggest-ever SPIE event in this geographical region. Held 28 August - 2 September 2005 at the Warsaw University of Technology in Poland, ICOO was a significant success with close to 700 participants and 24 exhibitors, and with more than 700 papers to be published in 13 volumes of SPIE Proceedings (5947-5959). Forty-four countries from all six continents were represented by the participants. This Congress was sponsored in partnership between the SPIE Polish Chapter and SPIE Europe, with the Chapter volunteers assuming the bulk of the responsibility including the development of the technical program and all logistics.

*Hot Topic session at the Warsaw University of Technology.*

The Congress kicked off with a special Hot Topics program on Monday, August 29 in the historic Main Hall of the university with approximately 500 in attendance. In addition, 13 conferences ran throughout the week on liquid crystals, photonics applications in industry and research, nonlinear optics, photonic crystals and fibers, optical fibers (technology and applications), acousto-optics and photoacoustics, optical security, metamaterials, integrated optics, infrared photoelectronics, lasers and applications, and medical imaging. Best student paper awards were awarded within each conference, as well as for the top three student papers. These prizes were awarded to: Nataliya Polikarpova, Moscow State Univ. (Russia) (first prize), Dusan Lorenc, International Laser Center (Slovak Republic) (second prize), and Katarzyna Szaniawska, Warsaw Univ. of Technology (Poland) (third prize).

*The Congress banquet delighted approximately 500 guests who listened to a special piano recital by maestro Waldemar Malicki.*

During the banquet, Malgorzata Kujawinska, 2005 SPIE President and Honorary Congress Chair, commemorated the 50th anniversary of SPIE, while Ryszard Romaniuk spoke about 20 years of Polish participation in SPIE. Tomasz R. Wolinski, Poland Chapter President and Congress Chair, recognized Dr. Jan Wojcik, a pioneer in optical fibers technology from Maria Curie Sklodowska University (Lublin, Poland) with the first Professor Maksymilian Pluta Award.

**Nicolau elected to Academy of Romanian Scientists**
*6 October 2005*

Dan V. Nicolau, professor at Swinburne University of Technology (Hawthorn, Australia) was inducted into the Academy of Romanian Scientists on 30 September. The Academy of Romanian Scientists is an academic society covering all areas of physical sciences and engineering, established in 2000.

Nicolau, a chemical engineering graduate of the "Politehnica" University of Bucharest (1979 and 1992) and of the Academy of Economic Studies (1990), is an authority in the design, fabrication, and operation of static and dynamic biodevices.

His technical work includes design and fabrication of optically active systems based on protein molecular motors, and demonstration of "smart" surfaces for micro- and nanoarray applications. He has chaired and co-chaired 14 SPIE conferences over the last five years, taught several short courses, and published 45 papers in SPIE Proceedings. He is chair of the BioMEMS and Nanotechnology II conference at the SPIE Microelectronics, MEMS, and Nanotechnology symposium (Brisbane, Australia, 11-14 December 2005). He also chairs the annual Imaging, Manipulation and Analysis of Biomolecules, Cells, and Tissues conference at Photonics West (San Jose, CA).

**Lakshminarayanan honored by Optical Society of India**
*28 September 2005*

The Executive Council of the Optical Society of India (OSI) has decided to honor Vasudevan Lakshminarayanan's contributions in the field of Optics by awarding him the OSI Award. The award will be presented at the ICOL 2005 conference in December at Dehradun, India.

Lakshminarayanan is an Associate Professor of Optometry and Associate Professor of Physics and Astronomy at the University of Missouri - St. Louis. This year he became a Fellow of SPIE.

He conducts both experimental and theoretical studies in Vision Science and Classical Optics. Current projects include studies of motion perception, visual attention (with emphasis on reading disabled children), as well as studies of the Horopter and binocular space perception. Other areas of interest include visual and opthalmic optics and mathematical modelling of visual/perceptual phenomena. In Classical Optics, he is interested in novel mathematical methods to analyze wave propagation in various media such as optical fibers, optical system design optimization using neural networks, genetic algorithms, etc.

**SPIE and OSA invite applications for the 2006/2007 Congressional Fellowship Program**
*14 September 2005*

The SPIE-OSA Congressional Fellow works in the office of a U.S. Senator or Representative or with a congressional committee to gain first-hand knowledge of congressional operations, contribute to the policymaking process through his/her technical expertise, and forge links between the engineering, scientific, and public policy communities. Fellows gain a perspective that enhances their industrial, academic or government careers as well as the optics community's ability to more effectively communicate with Congress. Application deadline is 31 January 2006. More information (PDF file)

**Sustainable development topic of conference**
*22 September 2005*

The World Conference on Physics and Sustainable Development will take place in Durban, South Africa, from October 31 through November 2 as part of the World Year of Physics celebration. The World Conference will give the physics community the chance to begin to focus on how we can work with colleagues in the developing world to bring more benefits to their world.

UNESCO, the Abdus Salam International Centre for Theoretical Physics (ICTP), the International Union of Pure and Applied Physics (IUPAP), and the South African Institute of Physics (SAIP) have joined together to sponsor the World Conference on Physics and Sustainable Development.

More information is available on the conference website at www.wcpsd.org

**Winter College on Optics application deadline approaching**
*12 September 2005*

The Winter College on Quantum and Classical Aspects of Information Optics, which will be held 30 January-10 February 2006 in Trieste, Italy, is soliciting applications due 30 September.

The Winter College is organized by the Abdus Salam International Centre for Theoretical Physics (ICTP), in collaboration with the International Commission for Optics, SPIE--The International Society for Optical Engineering, the Optical Society of America, and the International Society on Optics Within Life Sciences.

The College will expose the participants to modern issues of both classical and quantum optics in the processing, transmission and storage of information. The programme consists of lectures by international experts, group discussions and laboratory demonstrations. The aim is to provide the background needed to follow the most advanced literature.

The main topics of the Winter College include:

- Optical coherence: the classical insight
- Angular momentum properties of light beams
- Characterization of classical optical beams
- Basic experiments in classical information optics
- Fundamentals of holographic data storage
- Digital processing of information and digital holography
- Optical manipulations with quantum information
- Quantum repeaters and quantum computing
- Introduction to photonic quantum information
- Introduction to multi-photon quantum logic

Scientists and students from all countries that are members of the UN, UNESCO or IAEA can attend the College. As a rule, travel and subsistence expenses of the participants are borne by the home institutions. However, limited funds are available for some participants from developing countries, who will be selected by the Organizers. Such financial support is available only for those who attend the entire activity. As scarcity of funds allows travel to be granted only in a few exceptional cases, every effort should be made by candidates to secure support for their fare (or at least half-fare) from their home country. There is no registration fee to attend the College.

The closing date for requesting participation is **30 September 2005**.

For more information on applying, see the Winter College website.

**SPIE Directors' resolution affirms Women in Optics**
*10 August 2005*

*Last week at a meeting in San Diego, the SPIE Board of Directors passed a resolution affirming the role of women in optical science and technology. The text of the Board resolution:*

In this, the 50th year of the Society, SPIE publicly reaffirms its commitment to increasing the participation of women in the fields of optical science and technology (OST). Throughout history, women have made significant contributions to the advancement of OST and of the Society, often in the face of daunting professional and social barriers to success. In light of recent discussions suggesting that women have less aptitude in these highly technical disciplines we urge strong efforts to derive maximum societal benefit from the intellectual capacity of the entire spectrum of talented individuals. The goal of increasing participation of women is consonant with the Society's belief that global benefits and innovation are maximized by the collaborative efforts of the broadest possible segment of the scientific community, unlimited by age, race, religion, appearance, gender, nationality, or political view. Therefore the Society will continue to support efforts to increase the participation of women in the global OSE workforce.

**Ralph James honored by IEEE**
*9 August 2005*

Ralph James, Associate Laboratory Director of Brookhaven National Lab, has been awarded the IEEE 2005 Radiation Instrumentation Outstanding Achievement Award for "experimental and theoretical contributions leading to the

development of semiconductor radiation detectors and innovative field-portable instrumentation." This award is given every two years in recognition of outstanding and enduring contributions to the field of radiation instrumentation. The prize, consisting of $2,000 and a plaque, is awarded at the 2005 IEEE Nuclear Science Symposium and Medical Imaging Conference.

James is a Fellow of SPIE and serves on the Society's Board of Directors.

**Longxia Li receives R&D 100 Award**
*15 July 2005*

*R&D Magazine* will award SPIE member Longxia Li and Yinnel Tech, Inc. (South Bend, IN) with an R&D 100 Award for the development of a crystal growth process useful for producing better gamma-ray detectors. Yinnel Tech's discovery is one of the top 100 technical advances of 2004, as judged by a panel of experts in science and technology for *R&D Magazine.*

The awards banquet will be held in October at the Museum of Science and Industry in Chicago, and will include some 500 winners and guests from the leading science and technology centers around the United States.

The winning device is based on cadmium zinc telluride (CZT). Yinnel Tech developed a unique process to grow large single crystals of CZT with the desired electrical properties. This technique turned out to be just the answer for a new device design invented by faculty at Kansas State University. Using Yinnel Tech's crystals and Kansas State's detector design, Brookhaven National Lab was able to fabricate detectors for use in smart radiation sensors with extraordinary performance.

**In memoriam: James G. Baker**
*6 July 2005*
View a brief clip from an interview with Dr. James Baker:
QuickTime | Windows Media

James G. Baker, optical engineering pioneer, died 30 June at the age of 91.

Baker designed optics for astronomy, such as the Super-Schmidt Meteor Camera and the Schmidt-Cassegrain astronomical telescope, as well as some of the U.S. Air Force's earliest space surveillance systems, such as the Baker-Nunn tracking cameras developed to follow Sputnik.

While working on his PhD in astronomy and astrophysics (which he would receive in 1942) at Harvard College Observatory, Baker directed a group known as the Observatory Optical Project. The team produced many aerial cameras and lenses for the U.S. Army and Navy during and after World War II.

After the war, Baker worked for the Air Force Photographic Laboratory, Perkin-Elmer Corporation, Eastman Kodak, and the Boston University Optical Research Laboratory. During the mid-1950s, he and Edwin Land, of Polaroid, were instrumental in convincing President Dwight Eisenhower to build the U-2 spyplane, and Baker himself designed the lenses and most of the camera systems used in the U-2.

He also designed the lenses and camera systems for the Air Force Samos satellite program, a modified version of which was used to photo-map the surface of the Moon.

"He told me that he considered himself an astronomer first, and that whenever he could, he designed such systems with an eye to later astronomical use," says Kenneth J. Launie, of Polaroid. "For example, the 40-inch (focal length) f/5 aerial lens he designed during WWII has virtually zero distortion over a 20-inch diameter

field, not as necessary for wartime use as its extremely (200 lp/mm) high resolution, but for astrometry on the other hand … ."

In addition to his many optical design breakthroughs, Baker was also the first person to use a computer in optical design.

"Not just a theorist, he was an active glass pusher and telescope maker who personally figured many of the complex aspheres that he designed," says Launie. "In the basement workshop at his home is a 15-inch aperture four-element super-apochromatic refractor objective that he designed and was fabricating."

Baker received the Gold Medal of the Society in 1978 from SPIE.

Read more about Baker at the Air Force Space and Missile Pioneers website.

**Reminder: SPIE Election Deadline Approaches**
*5 July 2005*

As a member of SPIE you have the opportunity to participate in the selection of the leadership of your Society. Please take a few moments to voice your opinion by voting in this year's election. The deadline for casting your ballot is 11:59 pm CDT, 15 July 2005.

If you are a member, you should have received an email invitation to participate in the election. If so, please visit the official election site and refer to your email for your election passcode. If you did not receive or have misplaced this email, please contact Stacey Crockett via email (staceyc@spie.org) or by phone 360-676-3290.

Once at the election site you will find biographical information on each of the candidates. You will also find the Annual Meeting Notice required by our bylaws. If you are not planning to attend the Business Meeting of the Society on Tuesday 2 August 2005 during the Annual Meeting in San Diego, please complete and return the proxy as well. This will enable the Society to conduct necessary business without your presence.

Voting is easy. It's also important. Remember, the deadline for casting your ballot is 11:59 pm CDT, 15 July 2005.

Thank you for participating in SPIE's 2005 election!

**In memoriam: Jed Durrenberger**
*28 June 2005*
View a brief clip from an interview with Jed Durrenberger:
QuickTime | Windows Media

**J. E. "Jed" Durrenberger**, SPIE founder and long-time Fellow, died 25 June.

Durrenberger grew up in New York, and after service in World War II, earned a degree in mechanical engineering at New Mexico State University in Las Cruces. In 1951 he went to work at White Sands Proving Ground, and helped found the SPIE White Sands Chapter in 1959. He served in several roles in SPIE leadership throughout the 1960s, including SPIE Secretary in 1964-65, and was known as the "unofficial historian" of the Society, as well.

"Jed's love for SPIE never ended, and I think he never missed any of our major functions," says Robert Woltz, founder and 1958-59 SPIE President.

Durrenberger received the Alan Gordon Memorial Award in 1960, the Governors' Award in 1970, and the Albert M. Pezzuto Award in 1971. He retired from White Sands in 1980.

In recent years, Durrenberger, along with long-time SPIE member Austin Vick, maintained the White Sands Missile Range Photo-instrumentation Museum. In 2004, Durrenberger was inducted into the White Sands Missile Range Hall of Fame.

A memorial service will be held at a later date.

For more about Durrenberger, read his profile from the 50 Years of SPIE website.

**Deadline approaching for EU Galileo Masters competition**
*23 June 2005*

The Galileo Master competition is looking for innovative ideas utilizing satellite technology for a prize worth €50,000. Submissions close at 2300 (UT) on 30 June 2005.l

The purpose of the competition is to stimulate and identify new applications and technologies through the capabilities of Galileo, the European Satellite Systems. It is supported by various European regions active in satellite technologies. Among the benefits to the winners:

- A European prize for the "Galileo Master" worth €50,000 of incubation support and expertise to develop your idea, along with exposure across Europe and internationally thorough press coverage that the competition attracts.
- A route to a marketplace estimated to be worth over Δ10 Billion by 2010, with over 5 Billion users by 2015.
- In addition, a UK Prize including support in Technology Transfer from Innovation Relay Centres, entry to unique and challenge market places with the Design Council, taking an idea to concept at the Centre for Entrepreneurial Learning summer school and support from sponsors and UK associations.

Registration and submissions information for the UK can be found at www.galileomasters.co.uk. For the rest of Europe: www.galileo-masters.com.

**New U.S.-China student visa agreement announced**
*15 June 2005*

Scientific and engineering organizations, including SPIE, have been successful in their quest for better visa options for Chinese students. The U.S. embassy in Beijing announced today that the United States and China have reached a new reciprocity agreement for student visas that extends the visa period from the current six months to 12 months.

The agreement also permits multiple entries under a visa, compared to two entries permitted under the previous agreement. The reciprocity agreement, which applies to student visas (F-1/F-2), exchange visas (J-1/J-2), and vocational training visas (M1/M2), will take effect on June 20.

Today's embassy announcement says that the new agreement follows a similar expansion agreement in January, 2005 for business and tourist visas. The statement says, "The longer validity will mean student travelers will not have to renew their visas so frequently, saving time and money and facilitating holiday visits home and emergency travel. This agreement is a sign of the United Statesv continuing interest in attracting talented students from China and elsewhere to American campuses."

The announcement also notes that the numbers of Chinese student applications and visas have gone up this year. In May 2004, the embassy and four consulates issued 1,518 student visas and 309 exchange visitor visas. In May 2005, those figures had risen to 2,314 and 617, respectively.

The embassy press release is available at: www.usembassy-china.org.cn/press/release/2005/061405vis.html.

**Knight, knighted**
*13 June 2005*

Peter Knight of Imperial College (UK) was named a "Knight Bachelor" by the Queen of England for "services to optical physics." Knight is Head of the Physics Department at Imperial College London and leads a large research group within the Quantum Optics and Laser Science (QOLS) Group working on the theory of quantum information and quantum optics. Sir Peter was president of the Optical Society of America in 2004.

Sir Peter's work focuses in particular on quantum optics and strong field physics, an area largely shaped by the properties of laser light. He was the first to predict that atoms driven by intense laser fields would radiate high harmonics and he developed a model successfully explaining the behaviour of multi-electron atoms, allowing a detailed analysis of how atoms are stabilised in super-intense laser fields.

"Quantum optics gives us a different tool with which to analyse matter," explains Sir Peter.

"As we discover more about how perturbing atoms with this strong light field affects electrons, we can move on to using lasers to manipulate matter at a quantum level. This opens all sorts of exciting possibilities in terms of steering chemical reactions," he says.

His other main interest is in understanding how information can be stored, transmitted and processed in different ways using quantum physics, as part of a large programme at Imperial on quantum computing and information processing.

More from Imperial College website

List of Knights Bachelor from Times Online

**Raytheon honors two SPIE members**
*8 June 2005*

Two members of SPIE are among 12 new Engineering Fellows announced by Raytheon Space and Engineering Systems (Goleta, CA). The Engineering Fellow classification recognizes outstanding technical achievement and enterprise behavior.

**Eric Johnson**, lead system engineer was honored for providing technical direction to the system engineering sub-IPT on the Visible Infrared Imaging Radiometer Suite (VIIRS) instruments for the National Polar-orbiting Operational Environmental Satellite System (NPOESS).

**Jinxue Wang**, technical director, Active Sensors and Remote Sensing, Raytheon Santa Barbara Remote Sensing Group. He currently leads the spaceborne Doppler winds lidar and other active sensors pursuits at SBRS. Wang is a former Technical Director for SPIE.

**In memoriam: Gargi Vishnoi**
*8 June 2005*

Gargi Vishnoi, Assistant Professor in the Department of Instrumentation at the Indian Institute of Science, Bangalore, died unexpectedly in April at the age of 35.

She was top rank holder during her B.Sc. study (Physics, Kanpur University), as well as her M.Sc. (Physics, IIT Roorkee), and M.Tech/PhD (Applied Optics, IIT Delhi). During her brief professional career as a teacher and researcher in the areas of Physics and Biomedical Optics/Non-invasive Diagnostics at IIT Guwahati (2000-01), IIT Bombay (2001-2004) and the Indian Institute of Science Bangalore (2004-05) she left behind a

legacy of excellence and efficiency. She was recipient of the Young Scientist and Young Teacher Awards (both prestigious national level awards) besides funding for her research from Indian and foreign sources. She leaves behind a large group of research collaborators the world over -- in India, Europe, the US, and Japan.

**SPIE members elected to NAE**
*23 May 2005*

Four members of SPIE are among those elected to the National Academy of Engineering for 2005. They will be inducted later this year. They are:

**Joseph M. DeSimone**, William R. Kenan Jr. Distinguished Professor, department of chemistry, University of North Carolina, Chapel Hill. For the development of environmentally friendly chemistries and processes for the synthesis of materials, especially new fluoropolymers.

**Marc D. Levenson**, editor in chief, MicroLithography World, Campbell, Calif. For the introduction of phase-shifting methods to improve optical lithography and for contributions to quantum spectroscopy.

**Frances S. Ligler**, senior scientist for biosensors and biomaterials, Naval Research Laboratory, Washington, D.C. For the invention and demonstration of portable, automated biosensors for fast, onsite detection of pathogens, toxins, pollutants, drugs of abuse, and explosives.

**Andrew J. Ouderkirk**, corporate scientist, 3M Film and Light Management, St. Paul, Minn. For the development and commercialization of multilayer polymer films with unique optical properties.

A total of 74 new members and 10 foreign associates makes up the group for 2005. This brings the total U.S. membership to 2,195 and the number of foreign associates to 178.

Election to the National Academy of Engineering is among the highest professional distinctions accorded an engineer. Academy membership honors those who have made outstanding contributions to "engineering research, practice, or education, including, where appropriate, significant contributions to the engineering literature" and to the "pioneering of new and developing fields of technology, making major advancements in traditional fields of engineering, or developing/implementing innovative approaches to engineering education."

**SPIE promotes visa reform**
*19 May 2005*

SPIE and 40 engineering, scientific and academic associations have issued an updated list of recommendations for enhancing the U.S. visa system, urging the government to accelerate its effort to reform the visa process for international students, scholars, and researchers. Six recommendations were made for reducing or eliminating barriers that cause undue hardship. PDF of statement

Building on the joint visa statement issued in May 2004, the group noted that progress had been made during the past year, but emphasized the fact that additional steps were needed to dispel the misperception that the U.S. does not welcome international visitors. Appreciation was expressed for significant recent improvements to the U.S. visa system but considerable barriers remain.

Dr. Eugene G. Arthurs, Executive Director of SPIE, states "SPIE leadership recognizes the value of the free flow of appropriate technical knowledge. The relationships built through international meetings and scientific exchange programs are beneficial not only to science, but to global understanding. We are pleased that the improvements in the U.S. visa issues since our earlier statement of 2004 have made the interchange of knowledge easier, but as described in our joint statement, more needs to be done. The U.S. science and engineering community welcome scientists and engineers from all corners of the globe, and are eager to gain knowledge from our foreign colleagues."

Articles from Financial Times

**In memoriam: Lloyd W. Hillman**
*9 May 2005*

Lloyd W. Hillman, chair of the Physics Department at the University of Alabama in Huntsville, died on May 2 at age 50. The son of the late Dr. Harry F. Hillman III and Nancy W.G. Hillman, he received a bachelor of science degree in engineering physics from the University Arizona and continued his education at the University of Rochester with a PhD in optical physics. After graduation, he worked for Eastman Kodak in Rochester, NY, for two years. He began his teaching career at Cornell University in New York and in 1989 accepted a position at the University of Alabama in Huntsville. He was promoted to physics department chair in 1999.

He was a member of SPIE, the Optical Society of America, the Honor Society of Tau Beta Pi and Sigma Xi. He was recently awarded the 2005 Huntsville Chapter of the Sigma Xi Researcher of the Year Award with Dr. Richard Lieu. Dr. Hillman was involved in the community and in his children's activities. He served many years as Scoutmaster of Troop 757 and attended the National Scout Jamboree in 2001 as an Assistant Scoutmaster. He coached his children's soccer and baseball teams. A wrestler in high school and college, he served as a wrestling referee for neighboring high schools.

He is survived by his wife, Sharon, and his children Lloyd Jr., Jonathan, Nicholas and Katelynn. Donations can be made to the Dr. Lloyd W. Hillman Sr. and Dr. Harry F. Hillman III Memorial Scholarship Fund at the University of Alabama in Huntsville, AL 35899.

Article: UAH physics professor true 'servant leader' from the Huntsville Times.

**U of Arizona establishes College of Optical Sciences**
*2 May 2005*

The Arizona Board of Regents has recognized a new college on the University of Arizona campus: the College of Optical Sciences. This recognition affirms the value of optics education to the State of Arizona and the international reputation of the optics schoolvs educational and research programs.

Professor James C. Wyant, dean of the new college, said, "Our new name, The College of Optical Sciences, is a reflection of our commitment to provide the world's highest-quality graduate and undergraduate education in the optical sciences."

Since its inception more than 40 years ago as the Optical Sciences Center, the College of Optical Sciences has expanded its educational programs to include a rigorous Bachelorvs degree program in association with the UA College of Engineering, video classes leading to a Mastervs degree or graduate professional certificate, and an optical sciences minor. Beginning in August 2005, in conjunction with the UA Eller College of Management, The College of Optical Sciences will offer a new program called the MS + MBA: a challenging three-year program leading to both a Master of Science in Optical Sciences and a Master of Business Administration.

Wyant said, "Our educational programs have been very well received, so in addition to formally becoming the College of Optical Sciences, we are preparing to expand our physical facility to accommodate our growing numbers of students, faculty members, and programs. We are in the process of completing construction on a large, technology-intensive addition to our building that will give us state-of-the-art classrooms and teaching laboratories to complement our educational and research programs."

Student enrollment at the College of Optical Sciences is international and includes more than 500 students in Bachelorvs, Mastervs, Doctoral, and Graduate Professional Certificate programs. The Collegevs 75 teaching and research faculty members include two Nobel laureates, professional society presidents, members of boards of directors, successful entrepreneurs and industrialists, and recipients of

awards from local, national and international governments.

**Newport Spectra-Physics boosts funding for international students**
*2 May 2005*

Recognizing the contribution of international students to the growing optics and photonics industry, Newport Spectra-Physics has increased funding of the Research Excellence Award to allow international students to attend major SPIE Events. These travel grants are now open to any student who has an accepted paper for presentation at Photonics West or Optics & Photonics.

More information about the travel grants

**Thai researcher receives ICTP-ICO Prize**
*13 April 2005*

The ICTP-ICO Prize for the year 2005 was recently awarded to Dr. Sarun Sumriddetchkajorn a researcher from the National Science and Technology Development Agency of Thailand's Ministry of Science and Technology.

*Pictured at the ICTP-ICO Prize ceremony in Trieste: Maria Yzuel (Univ. Autonoma de Barcelona), Gallieno Denardo (director of the ICTP Winter College in Optics), Sarun Sumriddetchkajorn prize winner), and Maria Calvo Univ. Complutense de Madrid), ICO Secretary.*

The prize was awarded at the International Center for Theoretical Physics (Trieste, Italy) for Sumriddetchkajorn's achievements in applying photonics and micromechanics to biomedical devices and telecommunications. His commitment to promoting interest in optics and photonics in Thailand also received a special mention.

After the award ceremony, Sumriddetchkajorn delivered an invited lecture and explained his most remarkable achievements, including the development of an optical digital sensor, based on confinement of light in a planar waveguide, to be used as reference signal reception-emission for blind people.

**Career Awards will support postdoc research**
*30 March 2005*

The Burroughs Wellcome Fund invites applications for funding under its Career Awards at the Scientific Interface program. This program awards grants for the early career development of researchers whose work addresses biological questions and who are dedicated to pursuing a career in academic research. Awards of $500,000 over five years are made to support up to two years of advanced postdoctoral training and the first three years of a faculty appointment. During the postdoctoral and faculty periods, grants are made to degree-granting institutions in the U.S. or Canada on behalf of the award recipient. Candidates must hold a Ph.D. degree in one of the fields of mathematics, physics, chemistry, computer science, statistics or engineering and have completed 6-48 months of postdoctoral research. Applications are due May 2, 2005. For more information, visit:
http://www.bwfund.org/programs/interfaces/career_awards_main.html

**UK government solicits R&D proposals**
*21 March 2005*

The DTI has published details of the latest call for Collaborative R&D proposals in its Technology Programme, with opportunities for UK optics and photonics companies in a variety of areas. A key aim of DTI support is to help improve the UK's innovation performance. The goal is to raise the UKvs total private and public sector in research

and development, as a proportion of national income, from its current 1.9% to 2.5% by 2014.

Some £100M will be available in eight priority areas: Advanced materials; biopharmaceutical processing; advanced manufacturing/direct writing; emerging energy technologies; micro- and nanotechnology manufacturing; next-generation lasers in manufacturing, healthcare and security; meeting the challenge of zero emission enterprise; validation of complex systems.

The deadline for registering a proposal is 13 June, and for submitting outline proposal is 20 June.

For complete information about the solicitation, visit the Technology Programme website: http://www.dti.gov.uk/technologyprogramme/open_comps.html.

**Giacconi receives National Medal of Science**
*15 March 2005*

Johns Hopkins University astrophysicist Riccardo Giacconi is one of eight recipients of the 2003 National Medal of Science, the United States' top scientific recognition, and received his award at the White House Monday.

Co-recipient of the 2002 Nobel Prize in physics, Riccardo Giacconi is considered the father of X-ray astronomy, research that exploits the X-ray portion of the electromagnetic spectrum. His research opened a new window on scientific understanding of the universe, from its evolution to its component black holes, neutron stars, galaxy clusters and quasars.

More than 40 years ago, Giacconi led the team that discovered the faint, uniform phenomenon known as the cosmic X-ray background. Since then, his work has helped define that background and determine its origin. A long-time leader in astrophysics, Giacconi has been responsible -- in a series of administrative posts -- for the construction and operation of some of the world's most important astronomical observatories.

"The National Medal of Science is our country's highest recognition of scientific achievement. Through his pioneering work in astronomy and his leadership of the Hubble Space Telescope, Dr. Giacconi has advanced our science, our university, our city and our country," said Jonathan Bagger, physics and astronomy professor and department chair at Johns Hopkins.

See the full release

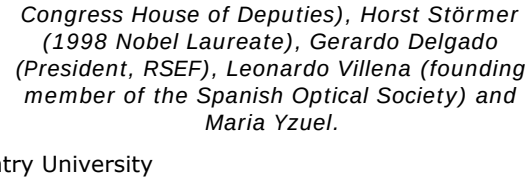
**Yzuel addresses Spanish parliament**
*3 March 2005*

SPIE Fellow Prof. Maria J. Yzuel addressed the Spanish House of Deputies last month as part of a ceremony observing the International Year of Physics (IYP).

The three-hour event at the Spanish parliament was organized by the Royal Spanish Physical Society (RSEF) and the Spanish Research Council (CSIC). Besides Yzuel, Professor at the Autonomous University of Barcelona, the speakers included

- Manuel Marin, President of the Parliament
- Gerardo Delgado, President

*Left to right: Carlos Martinez (President of CSIC), Pedro Echenique(Prince of Asturias Prize winner and Professor of Basque Country University), Manuel Marin (President of the*


*Congress House of Deputies), Horst Störmer (1998 Nobel Laureate), Gerardo Delgado (President, RSEF), Leonardo Villena (founding member of the Spanish Optical Society) and Maria Yzuel.*

of the RSEF
- Horst L. Störmer, 1998 Nobel laureate in Physics, Columbia University
- Pedro M. Echenique, Prince of Asturias Prize winner and Professor at the Basque Country University
- Antonio Moreno, General Director in the Ministry of Education and Science
- Carlos Martinez, President of the CSIC.

The IYP in 2005 celebrates the 100th anniversary of Einstein's three important papers published in 1905, related to the theory of relativity, Brownian motion, and the photoelectric effect. Speakers used the example of Einstein's profound influence on research to encourage additional funding for science education and research in Spain. They also emphasized the need to increase the time spent on science in school, and the need to increase young people's interest and involvement in science.

In her talk, Yzuel described how physics has contributed to the development of other parts of science and technology, and asked for an increase in the budget for research, not only for applications and development but also for basic research. She also described the involvement of women in physics in Spain. Yzuel is a former member of the Board of Directors of SPIE, and has been involved in SPIE's Women in Optics Working Group since its inception.

**SPIE participates in Mexico metrology symposium**
*2 March 2005*

SPIE 2005 President Malgorzata Kujawinska gave welcoming remarks and presented several papers while attending the 8th International Symposium on Laser Metrology, held in Merida, Mexico in mid-February. The meeting kicked off with an opening ceremony of 150 participants, including many local dignitaries and local and state press agencies. The event was organized by CIO -- Centro de Investigaciones en Óptica, A.C., co-organized by IMEKO -- The International Measurement Confederation, Technical Committee on Measurement of Geometrical Quantities, and sponsored by SPIE, ICO (International Commission for Optics) and CLAF -- Centro Latinoamericano de Fisica, and supported by many other national and international organizations.

Full meeting report

**James Grote honored for AFRL work**
*28 February 2005*

James Grote, senior research scientist with Air Force Research Laboratory Materials and Manufacturing Directorate, has been selected to receive a 2005 Outstanding Scientist and Engineer Award from the Affiliate Societies Council of Dayton, Ohio. He received the award for his pioneering research on theory and materials processing of nonlinear optic, polymer-base, electro-optic devices.

"Dr.Grotevs research has advanced the fundamental understanding, design, development, assessment and performance of electronics to enable the Air Force to meet its performance goals for high bandwidth and low operating voltage in a relatively short time," Dr. Barry L. Farmer, AFRL/MLvs chief scientist said.

Grote is a Fellow of SPIE and serves on the Society's Membership, Education, and Strategic Planning committees.

Complete news release

**UK studentship in novel optical structures**
*28 February 2005*

Applications are invited for a CASE PhD studentship, funded by QinetiQ, and based at the University of Bristol. The aim of the project will be to investigate novel optical structures to increase the performance of a wide range of optoelectronic devices

being developed at QinetiQ. These include LEDs, detectors and single photon sources based on narrow gap semiconductors.

Industrial CASE Studentships are three-year postgraduate awards allocated to companies, Faraday Partnerships and Regional Development Agencies. The awards are administered by The Engineering and Physical Sciences Research Council (EPSRC), the UK Government's leading funding agency for research and training in engineering and the physical sciences. Their aim is to enable companies to take a lead in defining, and arranging, projects with an academic partner of their choice. The company provides a substantial financial contribution to the project and the student must spend at least 3 months, during the period of the award, at their premises.

Informal enquiries can be made to either Dr. Martin Cryan (Tel: 0117 954 5176, e-mail m.cryan@bristol.ac.uk, http://www.bris.ac.uk/eeng/research/oph/) or Dr Geoff Nash (Tel: 01684 897468, e-mail grnash@QinetiQ.com). For more information about the studentship program, visit http://www.epsrc.ac.uk/PostgraduateTraining/IndustrialCASE/

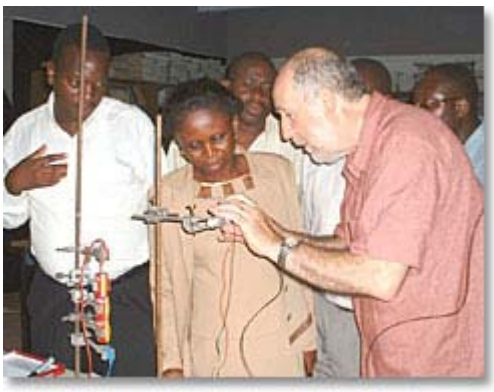
**SPIE Cosponsors the Third Annual Engineering R&D Symposium**
*21 February 2005*

SPIE, in collaboration with 14 other engineering organizations, is a cosponsor of the Third Annual Engineering R&D Symposium scheduled for 5-6 April 2005 in Washington, D.C. Approximately 200 engineers from the cosponsoring societies are expected to attend the invitation-only event, which will be held on Capitol Hill. This symposium brings together leaders from the engineering community for an intensive, two-day meeting to gain firsthand knowledge of the administration's R&D priorities and the potential impact of the President's fiscal year 2006 budget request on the science, engineering, and technology community. For additional information, visit www.engineeringpolicy.org.

**SPIE Cosponsors African Optics and Photonics Workshops**
*14 February 2005*

SPIE has recently become a cosponsor of the "Active Learning in Optics and Photonics" project, which is being implemented by an international working group through UNESCO (United Nations Education, Scientific, and Cultural Organization).

According to Minella C. Alarcon, physics and mathematics program specialist at UNESCO, the project aims to train secondary and university physics teachers in developing countries, therefore better equipping them to teach the optics portion of their introductory physics courses using active learning and hands-on techniques and by drawing examples from local research activities.



*Alex Mazzolini, director of the Centre for Imaging and Applied Optics at the Swinburne University of Technology, at the workshop in Cape Coast, Ghana.*

"Active learning seems better than lectures or book work to capture and excite young minds, and SPIE is delighted that Dr. Minella Alarcon of UNESCO is leading a team to develop active learning programs and materials for optics," says SPIE Executive Director Eugene Arthurs.

The first active learning workshop was held last November at the University of Cape Coast in Ghana, and the second workshop will be held 26 March through 4 April at the University of Tunis, Tunisia.

A special $5000 SPIE education grant will contribute to the purchase of local equipment and supplies for the workshops.

**IS&T names new executive director**
*10 February 2005*

The Board of Directors of the Society for Imaging Science and Technology (IS&T) appointed Suzanne E. Grinnan to the position of executive director, effective January 1, 2005. Grinnan replaces Calva Leonard, who has retired after leading the organization for more than 18 years.

For the past six years Grinnan has been with the American International Health Alliance (AIHA), serving first as publications manager and then as director of publications and media relations. Prior to that, she was employed by the Optical Society of America where she held the positions of production manager and managing editor for Optics & Photonics News. Grinnan pursued an MS in graphic arts publishing from the School of Printing at Rochester Institute of Technology (RIT). While at RIT she held various research and lab instruction positions that focused on the areas of color theory, image reproduction, digital photography, and color measurement and materials.

"IS&T's Board of Directors is delighted that Ms. Grinnan has joined the organization," stated James C. King, president of IS&T's board and principal scientist at Adobe Systems, Inc. "She brings with her a wealth of managerial experience, particularly in the areas of publications and communications, as well as a unique set of skills that will be an asset as IS&T works to expand its programs, membership, and marketing strategies in the future."

SPIE would like to thank Calva Leonard, who recently retired as executive director of IS&T for her 18 years of service and dedication to the imaging community. IS&T and SPIE are joint sponsors of the Journal of Electronic Imaging and the Annual Symposium Electronic Imaging Science and Technology. Calva's leadership in this collaboration was instrumental to accomplish the goal of serving the rapidly evolving field of electronic imaging.

**NIH announces medical research award competition**
*17 January 2005*

The National Institutes of Health announces the 2005 NIH Director's Pioneer Award, a key component of the NIH Roadmap for Medical Research. The award supports scientists of exceptional creativity who propose pioneering approaches to major challenges in biomedical research.

The program is open to scientists at all career levels who are currently engaged in any field of research, interested in exploring biomedically relevant topics, and willing to commit the major portion of their effort to Pioneer Award research. Women, members of groups that are underrepresented in biomedical research, and individuals in the early to middle stages of their careers are especially encouraged to nominate themselves. Awardees must be U.S. citizens, non-citizen nationals, or permanent residents.

In September 2005, NIH expects to make 5 to 10 new Pioneer Awards of up to $500,000 in direct costs per year for five years.

Complete award information

**Deadline for submissions to Einstein centennial conference**
*10 January 2005*

Two days remain to submit a 250-word Poster Abstract for the IOP-sponsored conference: Physics 2005, a century after Einstein. The conference will be held at the Warwick University Arts Centre (Warwick, UK), on 10-14 April 2005.

Poster abstracts may be submitted under one of the four main themes -- Relativity & Cosmology, Physics in Biology, Light & Matter and Quantum Physics -- or under a

separate "General" category which is open to all.

Instructions and a template are available at www.physics2005.iop.org/submission.htm. Deadline is Wednesday 12 January.

(Over 100 student bursaries of up to £300 each are available, on a discretionary basis, to bona fide postgraduates whose posters are accepted by the Programme Committee -- full details on the website.)

**Photonics Technology Access Program links researchers, devices**
*5 January 2005*

NSF and DARPA have established the Photonics Technology Access Program (PTAP) to foster interaction between researchers in advanced photonics technology and device providers. PTAP obtains pre-commercial photonics devices, or has devices fabricated to researcher specifications. It then provides these devices to researchers for device and system level research, as well as teaching. In this way PTAP reduces the time and technology risk to research institutions of using novel and custom photonics devices.

The Optoelectronic Industry Development Association (OIDA) was designated as the intermediary for PTAP transactions. OIDA is now soliciting proposals from academic, government, or not-for-profit research institutions that have well-defined device requirements and are interested in participating in PTAP. PTAP cannot supply devices to private businesses.

The current solicitation closes on 4 February 2005. For complete information, visit the PTAP website. PTAP will be exhibiting at the SPIE Photonics West symposium (25-27 January) with information about the program available at the booth (number 3034).

**Stanley Rogers receives engineering awards**
*29 December 2004*

Stanley Rogers, a research scientist, engineer and photonic technology manager at the Air Force Research Laboratoryvs Sensors Directorate (Wright-Patterson AFB, OH), has been selected for the 2005 Career Achievement in Government Black Engineer of the Year Award and the 2005 Distinguished Engineer National Society of Black Engineers Award.

Rogers chaired a conference at SPIE's Great Lakes Region Photonics Symposium in 2004, and has been active with SPIE conferences in the area of MEMS/MOEMS.

Read the Wright-Patterson release.

**NIH grant for shared instrumentation**
*21 December 2004*

NIH invites applications for funding under the Shared Instrumentation Grant Program. This program provides for the acquisition or updating of expensive shared-use instrumentation not generally available through other NIH mechanisms. Types of instrumentation supported include, but are not limited to, nuclear magnetic resonance systems, electron and confocal microscopes, mass spectrometers, protein and DNA sequencers, biosensors, x-ray diffractometers and cell sorters. Applications are limited to instruments that cost at least $100,000 per instrument or integrated instrument system. The maximum award is $500,000. For purposes of eligibility, a major user group of three or more investigators must be identified. Eligible are domestic public or private nonprofit organizations. Applications are due March 22, 2005.

More information



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