

AVS HOSTS MEETINGS IN SAN FRANCISCO

AVS, the Science and Technology Society (formerly the American Vacuum Society), will hold its 48th International Symposium in conjunction with the International Union for Vacuum Science, Technique, and Application (IUVSTA) 15th International Vacuum Congress and the 11th International Conference on Solid Surfaces.

More than 3000 participants are expected to attend the joint meetings, which will be held from 28 October through 2 November in San Francisco at the Moscone Convention Center and the San Francisco Marriott Hotel.

The topics for the divisional program sessions will include applied surface analysis, biomaterials, dielectrics, electrochemistry and fluid-solid interfaces, electronics, magnetic interfaces and nanostructures, microelectromechanical systems, manufacturing science and technology, nanometer structures, organic films, processing at the nanoscale, organic films, plasma science, semiconductors, tribology, and vacuum technology.

A plenary session on biomaterials and another session celebrating NIST's centennial year will be held during the afternoon on Sunday, 28 October. Four topical conferences are also scheduled during the week: advancing toward sustainability, magnetic recording, science and applications of nanotubes, and photonic materials.

The equipment exhibition, featuring more than 200 companies, will take place on Tuesday from 11 AM to 7 PM, on Wednesday from 9 AM to 5 PM, and on Thursday from 9 AM to 3 PM.

The awards ceremony, which includes awards given by AVS and IUVSTA, will be held on Wednesday, 31 October, at 6:15 PM in Salon 8 of the Marriott Hotel, and will be followed by a reception in Salon 9.

The Medard W. Welch Award will go to **E. Ward Plummer** "for the

development of novel instrumentation, its use to illuminate new concepts in the surface physics of metals, and the mentoring of promising young scientists." Plummer is a distinguished professor of physics at the University of Tennessee and a distinguished scientist in the solid-state division at Oak Ridge National Laboratory.

The IUVSTA Science Prize, given for outstanding, internationally acclaimed research, will go to **Kunio Takayanagi** for his "accomplish-

will receive the Albert Nerken Award "for the development of improved data, particularly electron inelastic mean free paths, for applications in quantitative Auger electron spectroscopy and x-ray photoelectron spectroscopy."

Samuel D. Bader will garner the John A. Thornton Memorial Award, "for his seminal contributions to the atomic-level understanding of surface and thin-film magnetism." Bader is a senior physicist and group leader of the magnetic films group in the materials science division at Argonne National Laboratory.

This year's Peter Mark Memorial Award goes to **Eli Rotenberg**, a staff scientist at Lawrence Livermore National Laboratory. He is being honored for "furthering our knowledge of nanophase and reduced dimensionality systems by creative use of angle-resolved photoemission."

Paul Lulai (photo unavailable) will receive the John L. Vossen Memorial Award for "developing a classroom demonstration experiment to determine work function using an electron tube." Lulai is a physics and physical science teacher at Saint Anthony Village High School in Minnesota.

The George T. Hanyo Award will go to **John Bultman** for his "sustained superior technical support in the areas of thin-film deposition, characterization, and performance evaluation." Bultman is a senior laser technician at the University of Dayton Research Institute in Dayton, Ohio.

The Nellie Yeoh Whetten Award, given to recognize and encourage excellence by women in graduate studies, will go to **Tanhong Cai** of Iowa State University.

This year's finalists for the Russell and Sigurd Varian Fellowship are **Jianwei Dong** of the University of Minnesota, **Jason Drotar** of Rensselaer Polytechnic Institute, and **Michael Schwartz** of the University of Wisconsin.

JUDY BARKER



PLUMMER



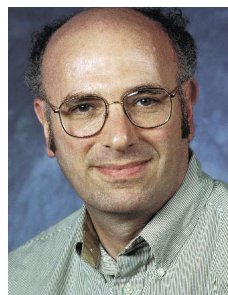
TAKAYANAGI



MÜNZ



POWELL



BADER



ROTENBERG



BULTMAN

ments in the structural determination and characterization of surfaces and nanowires at the atomic level through the development of unique ultrahigh vacuum transmission electron microscopy and diffraction techniques." Takayanagi is a professor of physics at the Tokyo Institute of Technology.

The IUVSTA Technology Prize, given for outstanding, internationally acclaimed achievements in technology and instrumentation, goes to **Wolf-Dieter Münz**, a professor of surface engineering at Sheffield Hallam University in Sheffield, UK. Münz is being recognized for "pioneering advances in vacuum-based technology of material coatings which impact a wide range of products used worldwide today."

Cedric Powell, a NIST Fellow,

Sessions with Invited Speakers

Sunday, 28 October

afternoon

Biomaterials plenary session. *de Gennes, Wagner, Schwartz*
NBS/NIST centennial. *Kendall, Madey*

Monday, 29 October

morning

Molecular recognition. *Sasaki*
Science and technology of microplasmas and MEMS processing. *Bogart*
Diagnostics I. *Sadeghi*
Magnetic devices. *Tehrani, Tondra*
Surface processes in electrocatalysis. *Koper*
Aerosol and related chemistry. *Lu*
Metal clusters. *Heiz*
Thin-film sensors. *Hitchman*
Band-engineered electronic materials. *Tu*
Sealed and insulating vacuum systems. *Della Porta*
Ferroelectric. *Ishiwara*
Metrology and inspection for manufacturing. *Barry, Venkatesan*
Nanocomposites, multilayers, and nanostructured materials. *Voevodin*
Atomic/nanoscale manipulation. *Vettiger, Berndt*
Quantitative analysis and data interpretation I: SIMS. *Gilmore*

afternoon

Role of water in biological systems. *Tobias, Jarvis*
Plasma-surface interactions I. *Kessels*
Nanomagnetics. *Ralph, Kent*
Electrochemical control of surface structure: Growth and dissolution. *Magnussen*
Innovations in surface science. *Marsi*
Molecular interactions with oxide surfaces. *Noguera*
Nanophase and multilayered thin films. *Spiller, Kish*
GaN surfaces, interfaces, and devices. *Myers, Vogl*
Dry, cryo, and other forms of pumping. *Chew, Missimer*
High-*k* dielectrics. *Yu*
Manufacturing technologies for the information industry. *Shahidi, Bohr, Re, O'Brien, Allara*
Surface engineering I: Graded, multicomponent, and complex coatings. *Lévy*
Nanostructures from 0 to 3 dimensions. *Alivisatos, Fan*

Tuesday, 30 October

morning

Bio-MEMS and microdevices. *Abbott, Desai*
Diagnostics II. *Nakano*
Emerging applications of plasmas. *Cheung, Bouchoule, Squire*
Spintronics I: Magnetization dynamics and new materials. *Koch, Bailey, Chien*
Climate change, sustainable energy, and industry. *Hutchinson, Slanina, Baltensperger*
Poirier memorial session: Self-assembled monolayers I. *Tarlov, Scoles, White*
Water at surfaces. *Borjesson*
Optical thin films. *Minami*
Semiconductor interfaces and thin films. *Pelz*
Turbomolecular, molecular drag, and similar pumps. *Mathes, Hablanian*
High-*k* dielectrics II. *Zollner*
Process integration and factory productivity. *Podlesnik, Spanos, Butler, Ibbotson*
Surface engineering II: Cleaning, modification, and finishing. *Münz*
Nanotubes: Growth and characterization. *Iijima*
High spatial resolution and imaging. *Kiskinova, Wandelt*

afternoon

Non-fouling surfaces and theoretical concepts. *Liedberg, Netz*
Dielectric etch I. *Tachi*
PECVD/IPVD. *Granier, Shimogaki*
Spintronics II: Spin injection and transport. *Tanaka, Fert*
Sustainable climate-friendly semiconductor manufacturing. *Beppu*
Poirier memorial session: Self-assembled monolayers II. *Nuzzo, Zhu*
Metal oxides: Structure and photocatalysis. *Ollis*
Growth and properties of thin films. *Was*
Semiconductor heterojunctions. *Shiraki, Sakai, Ploog*
In-line and in situ process control. *Hopkins*
Hard and superhard coatings. *Schneider*
Novel surface nanoprobes. *Takayanagi, Blügel*
Depth profiling I. *Wee, Simons*

Wednesday, 31 October

morning

Biological interface and surface science. *Knoll*
Modeling. *McKoy*

Magnetic recording: Tribology and integration. *Granick, Dallas, Tyndall, Hiller*
Spintronics III: Ferromagnetic semiconductors. *Dietl*
Surface diffusion. *Frenken*
Surface reactions on metals. *Winterlin*
Si surface dynamics and reactions. *Altman*
Gas sorption phenomena I. *Fremerey*
Atomic layer deposition for silicon devices. *Leskela*
Fundamentals of tribology and adhesion. *Harrison*
Nanotubes: Nanoelectronics. *de Heer*
Biomaterials and polymers. *Mathieu, Pireaux*

afternoon

Surface characterization. *Somorjai*
Nanobiology. *Spatz*
Plasma-surface interactions II. *Shiratani, Maroudas*
Magnetic recording: Heads and media. *Kryder, Fullerton, Sun*
Chemistry of semiconductor etching and cleaning. *Hines*
New opportunities in surface microscopy. *Ho*
Adsorption on metal surfaces. *King*
Electronic structure I. *Plummer, Petek*
Nucleation and growth. *Barna, Liu*
Semiconductor growth. *von Känel*
Gas sorption phenomena II. *Dobrozemsky*
Low-*k* dielectrics. *Ho*
Nanotribology. *Maboudian*
Molecular electronics and patterning. *Pantelides, Williams*
Depth profiling II. *Harris*

Thursday, 1 November

morning

Protein-surface interaction. *Hartley, Hoffman*
Conductor etch and damage. *Cunge*
Magnetic imaging and spectroscopy. *Soulen, Wyder, Schuetz, Bode*
Interaction of hydrogen and organics with silicon. *Zimmermann, Sugawara*
Photonic materials: Studies on the nanoscale. *Hwang, Hessman, Wessels*
Quasicrystals. *Rotenberg, Thiel*
Electronic structure II. *Hasegawa*
Bioactive and organic/inorganic thin films. *Chilkoti, Gorman*
Quantum electronics. *Clark, Linke*
Pressure and flow measurement instruments and their calibration. *Chung*
Characterization of MEMS materials. *Sharpe*
Tribological surface engineering for lubrication and wear resistance. *Seitzman*
Nanotubes: Growth, functionalization, and sensors. *Zettl*
Oxides and oxidation. *Ichimura, Watts*

afternoon

Cell-surface interaction. *Fromherz*
Feature profile evolution. *Vahedi*
Magnetic thin films and surfaces I. *Bader, Zabel*
Semiconductor surface structure. *Abukawa*
Photonic materials: Applications and processing. *Mino, Peyghambarian, Kimerling*
Catalysis on model systems. *Iwasawa*
Nucleation and growth. *Ernst*
Emerging thin-film techniques. *Helmersson*
In situ semiconductor characterization. *Richter*
Total and partial pressure gauges and their calibration. *Taylor*
Fabrication and integration processes for MEMS. *Soh*
Electronic properties of organic thin films. *Kahn*
Quantum dots and single electronics. *Springholz, Tarucha, Tiwari*
Adhesion and corrosion. *Nardin, Isaacs*

Friday, 2 November

morning

Biosensors. *Saavedra*
Diagnostics III. *Kono*
Magnetic thin films and surfaces II. *Ijiri, Kirschner*
Growth and epitaxy of semiconductors. *Ichimiya*
Dynamics of metal surfaces. *McCarty*
Gas-solid dynamics: Theory and experiment. *Tully*
ULSI metallization and interconnects. *Harper*
Semiconductor and functional coating systems and processes. *Harra, Hughes, Gu*
New frontiers in MEMS: NEMS and bio-MEMS. *Blick, Roy*
Laser processing of surfaces. *Stuke*
Accelerators technology, fusion machines, and gravitational wave detectors. *Ozaki*
Nanotubes: Field emission. *Bernholc*
Catalysis and surface reactivity. *Haber*