Media Invited: AVS 58th International Symposium And Exhibition

EurekAlert

Fading paintings; reversible adhesives; tenaciously clinging barnacles; and surfaces that rub but don't wear are just some of the intriguing topics that will be presented at the AVS 58th International Symposium & Exhibition.

The symposium will take place Oct. 30 - Nov. 4, 2011, at the Nashville Convention Center in Nashville, Tenn. AVS offers complimentary press registration to journalists; see details below. Journalists may also remotely access meeting information through AVS's online pressroom.

More than 1,200 talks will be delivered on cutting-edge issues associated with materials, interfaces, and processing in both the research and manufacturing communities. The event will also feature two evenings of poster presentations and an exhibition featuring related equipment and services. Symposium highlights include sessions on new energy frontiers, graphene and related materials, nanomanufacturing, printable electronics, and more.

Preliminary Meeting Highlights

MONDAY, OCTOBER 31

Redefining Clean: Plasma has the potential to deactivate dangerous biomolecules that stubbornly stick to medical equipment.
"Plasma Deactivation of Pyrogenic Biomolecules: Vacuum Ultraviolet Photon and Radical Beam Effects on Lipid A"

Hey, Bacteria, Get Off Of My Boat!: Materials can be engineered to brush off marine bacteria before they befoul underwater surfaces.
"Micro to Nanostructured Stimuli-Responsive Surfaces for Study and Control of Bioadhesion"

DNA Origami: Researchers have devised a way to "print" DNA building blocks and then fold them into unique nanoscale structures.
"DNA Origami from Inkjet Synthesis Produced Strands"

Cold Chemistry: Icy dust specks in the cold of space could provide an interstellar staging ground for the chemical reactions necessary to form complex organic molecules.
"Surface Science of Acetonitrile on Model Interstellar Ices and Grains"

TUESDAY, NOVEMBER 1

Aiming for Inexpensive Hydrogen Storage: Researchers demonstrate the unexpected potential of aluminum as an affordable substitute for the high-cost Noble-metal catalysts currently necessary for a key step in the hydrogen storage process.
"Turning Aluminum into a Noble-metal like Catalyst for Low Temperature Molecular Hydrogen Activation"

The Whole-Cell Picture: A novel scanning technique could show scientists the inner workings of cells suspended in liquid.
"Imaging Tagged Proteins in Whole Eukaryotic Cells in Liquid with Scanning Transmission Electron Microscopy"

Scarabs' Amazing Exoskeletons: The African Flower Scarab has a versatile outer shell that mineralizes where extra stiffness is required, but produces pliable proteins in regions that need elasticity.
"Probing Insect Tissue by NEXAFS Imaging: A Chemical Characterization of Cuticle from an African Flower Scarab"

A Painting's Gold Complexion Dims: Lead is rising to the surface of a turn-of-the-century painting, making "Autumn in Oschwand" appear lighter than the artist intended.
"An Investigation into the Aging of Paintings Using Surface Analysis Techniques"

Laboratory Gloves Shed Surface Particles: The ubiquitous laboratory glove is worn to keep hands, and the surfaces they touch, clean. But the gloves themselves can sometimes shed unwanted contaminants.
"Surface Characterization of Disposable Laboratory Gloves by X-ray Photoelectron Spectroscopy"

WEDNESDAY, NOVEMBER 2

Graphene Applications in Electronics and Photonics: Graphene's single-atom-thick, honeycomb-like structure may have applications in very fast electronics for wireless communications, security systems, imaging, and more.
"Graphene-based Electronics and Optoelectronics"

Going No Wear?: The frictional dynamics of buried, microscopic interfaces help explain why some ultra-low-wear systems rub, but don't wear.
"Going No Wear?"

Shaping a Stem Cell's Fate: By introducing designer biomaterials into a stem cell's environment, researchers may be able to control how the cell develops. This could speed the introduction of new regenerative medicine therapies and facilitate tissue engineering.
"Engineering Stem Cell Differentiation via Material Properties"

How Tangled Proteins Might Fog Memory: A misfolded protein associated with Alzheimer's disease may clump near negatively charged cell membranes in the brain, slithering its way underneath the cell surface and disrupting normal function.

"Interaction of Alzheimer's Disease Tau Protein with Model Lipid Membranes"

THURSDAY, NOVEMBER 3

A Safe Place to Store Nuclear Waste: Scientists study how radioactive elements might interact with underground geology.
"Plutonium Sorption and Reactivity at the Solid/Water Interface"

Waste Not, Want Not: Vacuums offer unique advantages in the recovery and recycling of semi-conductors and rare earth elements.
"Waste Not, Want Not"

Biologically Inspired Tape: A dry foil that mimics the hairy attachment systems found in nature can be repeatedly peeled off without losing its adhesive properties.
"Biologically-Inspired Reversible Adhesives: Where Are We Now?"

Blood Bath: A layer-by-layer application technique traps anti-blood-clotting compounds in a tissue scaffold to encourage the growth of blood vessels.
"Application of Layer-By-Layer Coatings to Tissue Scaffolds - A Novel Approach for Developing a Pro-Angiogenic Biomaterial"

Picking Up Good Vibrations: A nanomaterial-based mercury sensor powers itself with vibrational energy.
"Self-powered Environmental Sensor System Driven by Nanogenerators."

FRIDAY, NOVEMBER 4

Things Fall Apart: By studying material defects at the atomic level, researchers gain a better understanding of bulk material properties like strength and toughness.
"Recent Work on Magnetism, Actinides and Defects at ORNL"

Diamond nanowires: Etching tiny wires out of diamond allows for the investigation of their unique mechanical, optical, and electrical properties.
"Fabrication and Characterization of Structural and Electrical Properties of Ultrananocrystalline Diamond Nanowires"

Quantum Corrals: Tiny pores made of amino acid molecules can trap electrons on the surface of copper, opening the door for the development of novel nanosystems.
"Molecular Motion Confined to Self-Assembled Quantum Corrals"

MORE INFORMATION ABOUT THE AVS 58th INTERNATIONAL SYMPOSIUM & EXHIBITION

The Nashville Convention Center is located eight miles away from the Nashville International Airport at 601 Commerce St., Nashville, Tennessee, 37203.

USEFUL LINKS:

Main meeting website:

http://www2.avs.org/symposium/AVS58/pages/greetings.html [1]
Technical Program: http://www2.avs.org/symposium [2]
Housing and Travel Information:
http://www2.avs.org/symposium/AVS58/pages/housing_travel.html [3]

PRESS REGISTRATION

The AVS Pressroom will be located in the Nashville Convention Center. Your complimentary media badge will allow you to utilize the pressroom to write, interview, collect new product releases, review material, or just relax. The media badge will admit you, free of charge, into the exhibit area, lectures, and technical sessions, as well as the Welcome Mixer on Monday evening and the Awards Ceremony and Reception on Wednesday night. Pressroom hours are Monday-Thursday, 8-5 p.m.

To register, please complete the media registration form (available online at http://www.avs.org/pdf/pressinvite.pdf [4]) and fax or e-mail by October 15 to:

Della Miller, AVS
Fax: 530-896-0487
E-mail: della@avs.org [5]

SOURCE [6]

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