



www.asminternational.org/meddevices
 800-336-5152 ext. 0 440-338-5151 ext. 0



"Achieving next-gen implants requires dialogue between experts. We're bringing clinicians and engineers together, not only as participants, but as presenters."

– **Shuvo Roy, Ph.D.**, conference co-chair
 Cleveland Clinic, Lerner Research Institute

"Based on today's successes and failures, we can anticipate the challenges that will shape the next generation of implants."

– **Dana Medlin, Ph.D.**, conference co-chair
 South Dakota School of Mines and Technology

"Surgeons and engineers need to speak each other's language. Dialogue is essential to developing new advances in medical devices."

– **Edward C. Benzel, M.D.**
 Cleveland Clinic
 Chairman, Department of Neurosurgery
 Director, Center for Spine Health

"We learn from our failures as much as we learn from success. The last day of the conference will feature actual case studies and real-world outcomes."

– **Brad James, Ph.D., P.E.**
 Exponent Failure Analysis Associates



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CONFERENCE

Opportunities for Next-Generation Implants

Materials and Processes for Medical Devices™ Conference

August 5-7, 2008 • Conference and Product Showcase

August 4, 2008 • Education Short Courses

InterContinental Hotel • Cleveland, Ohio

ASM International
 9639 Kinsman Road
 Materials Park, OH 44073-0002

CEMD0803

Is it the material, the design or the technique?

Learn about implant successes – and failures – from clinicians, surgeons, engineers and materials researchers.



For details visit
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 Cleveland, Ohio USA

Hosted by



With the support of



A multidisciplinary event for innovators

Surgeons, clinicians, biomedical engineers, device designers, materials scientists and engineers will gather in Cleveland this August for a unique forum hosted by Cleveland Clinic and ASM International, the world's leading materials society.

The study of biomaterials and medical devices necessitates dialogue between experts from a wide range of disciplines. Learn about implant successes – and failures – from the innovators who envision, create and apply devices for:

- Cardiovascular
- Orthopaedic
- Neurological
- Pulmonary

Surgeons and clinicians understand today's challenges as they strive to improve patient care through less invasive procedures and superior device quality and performance. They will provide their perspectives and specific clinical examples of cardiovascular, orthopaedic, neurological and pulmonary devices and implants.

Engineers who know where medical devices are going will answer questions from their knowledge of new technological developments regarding materials and processes. They will describe the design and manufacturing challenges involved in the selection and applications of materials and coatings, including issues like manufacturability, reliability and affordability.

Education Short Courses

Offered on **Monday, August 4** prior to the conference, these courses provide "what you need to know" about materials.

Nitinol for Medical Devices

Instructor: Scott Russell, Founder and President, Benchmark Nitinol Device Technologies, LLC; Cofounder and CTO, Confirmed LLC

The unique properties of Nitinol -- including superelastic qualities, biocompatibility and fatigue resistance -- have led to many transformational innovations, including self-expanding stents, percutaneously delivered heart valves, kink-resistant guidewires, and self-locking orthopaedic devices.

Stainless Steels, Cobalt-Chromium and Titanium Alloys for Medical Devices

Instructor: Phillip J. Andersen, Ph.D., Consultant, Andersen Metallurgical LLC

Only a few metal alloys have the necessary attributes for successful, long-term use in the human body. Learn about the alloys that are the point of initiation for successful implant product development.

BioMEMS for Medical Devices

Instructors: Shuvo Roy, Ph.D., Co-Director, BioMEMS Laboratory, Department of Biomedical Engineering, Cleveland Clinic Foundation, and Colin K. Drummond, Ph.D., MBA, Business Development Director, Emerging Technologies, ASM International

Biomedical applications of microsystem (MEMS and Nanotechnology) devices have moved beyond lab-on-a-chip and microarray applications, gaining acceptance for implantable devices and other in vivo applications.

Medical Device Failure Analysis

Instructors: Brad James, Ph.D., P.E. Principal Engineer, Exponent Failure Analysis Associates and Jennifer Hoffman, Ph.D. Managing Engineering, Exponent Failure Analysis Associates

Determining why and how a medical device has failed provides important lessons for design. Learn about common failure modes for metal and plastic materials and how to determine the root cause of a failure using a systemic approach.

For more information and to register for courses, visit www.asminternational.org/meddevices or call John Cerne at 440-338-5151, ext. 5637 or 800-336-5152, ext. 5637.

Perspectives from a world-renowned faculty

Participants for the upcoming conference include the following faculty. Please visit our website at www.asminternational.org/meddevices for an updated listing.

TUESDAY, AUGUST 5, 2008

ORTHOPAEDIC

Edward Benzel, M.D.
Chairman
Cleveland Clinic Spine Institute

Specialty Interests
Spine biomechanics, cervical spondylosis and spinal neoplasms.

Wael Barsoum, M.D.
Orthopaedic Surgery
Cleveland Clinic

Specialty Interests
Reconstructive surgery of the hip and knee joints including arthroscopy, primary and revision joint replacements.

Dana Medlin, Ph.D.
Associate Professor
South Dakota School of Mines and Technology

Specialty Interests
A leading materials expert who was previously principal engineer for Zimmer, Inc., Medlin will describe major trends in minimally invasive surgical (MIS) procedures.

Jeremy Gilbert, Ph.D.
Professor, Associate Dean for Research and Doctoral Programs
L.C. Smith College of Engineering and Computer Science
Syracuse University

Specialty Interests
Novel bone cements, electrochemical phenomenon associated with metallic implant materials, material-biological environment interaction, orthopaedic implant design and degradation mechanisms.

Joshua J. Jacobs, M.D.
Midwest Orthopaedics
Rush University Medical Center

Specialty Interests
Biomaterials, joint reconstruction, hip and knee replacement; President of the Orthopaedic Research Society.

WEDNESDAY, AUGUST 6, 2008

NEUROLOGICAL

Peter Rasmussen, M.D.
Director Cerebrovascular Center
Cleveland Clinic

Specialty Interests
Endovascular and microsurgical management of cerebral aneurysms, AVMs, fistulas, spinal cord vascular malformations, carotid endarterectomy, carotid and intracranial angioplasty and stenting.

Sanjay Shrivastava, Ph.D.
Director of Research
EV3 Neurovascular
Irvine, CA

Specialty Interests
Plaque excision systems, PTA balloons, stents, embolic protection, thrombectomy, embolization coils, liquid embolics, occlusion balloons.

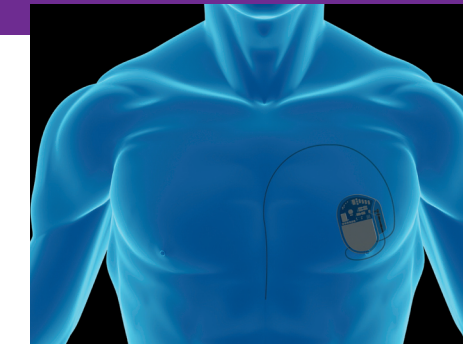
PULMONARY

Thomas Gilede, M.D.
Medical Director, Center for Major Airway Disease
Department of Pulmonary, Allergy, and Critical Care Medicine
Cleveland Clinic

Specialty Interests
Advanced diagnostic and therapeutic bronchoscopy, interventional pulmonary medicine, lung volume reduction, lung transplantation, Alpha-1 antitrypsin deficiency.

Michael Machuzak, M.D.
Pulmonary Medicine
Cleveland Clinic

Specialty Interests
Pulmonary medicine.



WEDNESDAY, AUGUST 6, 2008

CARDIOVASCULAR – STENTS, VALVES, PACEMAKERS

Bruce Wilkoff, M.D.
Cardiovascular Medicine
Cleveland Clinic

Specialty Interests
Cardiovascular implantable electronic devices, transvenous lead extraction and complications of implantable electronic device therapy (infectious, lead problems, vein occlusion).

Chris Jenney, Ph.D.
St. Jude Medical
Sylmar, CA

Specialty Interests
Silicone-polyurethane co-polymer insulation created specifically for cardiac lead use.

Ming Wu, Ph.D.
Advanced Materials and Technologies
Edwards Lifesciences
Irvine, CA

Specialty Interests
Development, manufacturing and applications for Nitinol and other shape memory alloys.

Alan Pelton, Ph.D.
Research Fellow
Nitinol Devices and Components
Fremont, CA

Specialty Interests
A co-founder of the International Organization for Shape Memory and Superelastic Technologies, Pelton's interests include corrosion and fatigue of Nitinol medical devices.

THURSDAY, AUGUST 7, 2008

FAILURE ANALYSIS

Brad James, Ph.D., P.E.
Principal Engineer
Exponent Failure Analysis Associates
Menlo Park, CA

Specialty Interests
A specialist in failure analysis, metallurgy, fracture, fatigue, corrosion and material degradation issues, James has conducted hundreds of medical device failure analysis investigations.

Jennifer Hoffman, Ph.D.
Managing Engineer
Exponent Incorporated
Menlo Park, CA

Specialty Interests
Characterization and testing of polymeric materials and has performed research in the area of structure-property relationships of thermoplastics, thermosets, polymer composites and rubber materials.

Michael Helmus, Ph.D.
Consultant
Medical Devices, Biomaterials, Drug Delivery, and Nanotechnology
Boston, MA

Specialty Interests
Helmus brings years of experience at Boston Scientific, Edwards Lifesciences, Baxter CVS, Pfizer and Arthur D. Little to provide insight into identification and acquisition of new technologies, and implementation and management of R&D programs.

Alan Pelton, Ph.D.
Research Fellow
Nitinol Devices and Components
Fremont, CA

Specialty Interests
A co-founder of the International Organization for Shape Memory and Superelastic Technologies, Pelton's interests include corrosion and fatigue of Nitinol medical devices.

Lisa Ferrara, D.Eng.
OrthoKinetic Technologies, LLC

Specialty Interests
Evaluation of orthopedic and neurosurgical implants.

Robert Urban, M.D.
Rush Medical College

Specialty Interests
Implant pathology/in vivo materials testing.

Sponsorships show your commitment to advancing medical device technology

LIMITED AVAILABILITY MEANS MAXIMUM VISIBILITY.

ASM International and the Cleveland Clinic have assembled world-renowned surgeons and research clinicians for this conference.

The single unifying reason why surgeons and clinicians are participating is to voice their requirements for next-generation implanted devices, and to engage the engineers and executives of medical device firms to work together to achieve necessary advances.

Show your company's commitment to their goals — and your support for improved patient outcomes — through your sponsorship of conference tracks and social breakouts.

Your company's participation as a Sponsor facilitates:

- Development of new clinical-corporate relationships that will shape the next generation of medical devices
- Visibility for your company's efforts to develop new materials and design solutions
- Awareness and respect for your brand's position and commitment to scientific investment in the medical community

A small number of Corporate Sponsorships have been established for device companies and materials producers. In addition, a Product Showcase area will provide tabletop display space for only 25 companies to present their products or demonstrate their technologies.

Further details about these exclusive opportunities may be obtained by contacting Kelly Thomas at 440-338-1733 or e-mail kelly.thomas@asminternational.org.

These opportunities for enhancing your corporate visibility are limited, so please act quickly.



Download floor plans, complete exhibit information, space contracts and sponsorship details at www.asminternational.org/meddevices.

PRODUCT SHOWCASE TIMES:

- Tuesday, August 5, 2008, 5 - 6 p.m.
- Wednesday, August 6, 2008, 8 a.m. - 6 p.m.
- Thursday, August 7, 2008, 8 a.m. - Noon

For additional information and to reserve your space, contact Kelly Thomas, National Account Manager, at 440-338-1733.

FACULTY

EDUCATION

SPONSORSHIPS