



Workshop on Coatings for the Medical Device Industry

Sponsored by ASTM Committee F04 on Surgical and Medical Materials and Devices.

November 6th, 2018
Washington Hilton
Washington, DC

Workshop Chair: Gary Fischman (Corresponding Chair)
Ryan Siskey
Parimal Bapat
Byron Hayes
Kevin Tingey
Jill Baxter
Hany Demian
Hani Haider

Tuesday, November 6th, 2018

8:00AM

Session 1 – Opening Remarkst and Introduction to ISO 17327

Gary Fischman, Future Strategy Solutions

8:05 AM

ISO 17327 – 1 “Implant Coating” – Purpose, application and Path Forward

Ulrich Lembke, DOT Coating, Rostock, Germany

8:30 AM

Soft and Cardiovascular Tissue Coatings

Ryan Siskey, Exponent; Kevin Tingey, WL Gore

Session 2 Cardiovascular and Soft Tissue Coatings

8:32 AM

Introduction 1A – AN Industry Perspective: A Review of Cardiovascular Implant Coatings and Addressing ISO 17327-1

Brian Choules, Embry Riddle Aeronautical University, Prescott, Arizona, USA

8:45 AM

Introduction 1B – A Regulatory Perspective: Challenges for Particulate Generation Assessments of Vascular Medical Devices

Nikki Goodsell, Eleni Whatley, US Food and Drug Administration, Silver Spring, MD, USA

9:00 AM

Evaluation of Coating Performance on Guidewire Surrogates from *in-vitro* Abrasion Testing

Nandini Duraiswamy, US Food and Drug Administration, Silver Spring, MD, USA

9:15 AM

Characterization of Coatings for Active Implantable Medical Devices

Joyce Lin, US Food and Drug Administration, Silver Spring, MD, USA

9:30 AM

Panel Discussion

10:00 BREAK

Session 3 Hard Tissues – Coatings

Parimal Bapat, Orchid Orthopaedic Solutions; Jill Baxter, Depuy - Synthes

10:15 AM

Quantifying the Enhanced Osseointegration Rate of Nano-texturized Biomimetic Surface Treatments

Justin Daniel, Nanovation Partners, LLC

10:27 AM

The bactericidal activity from Gallium in the Chitosan based orthopedic implant coatings against *Staphylococcus epidermidis* and *Staphylococcus aureus*

Arash Ghalayani Esfahani, UCLA.

10:39 AM

Single-phase, Antibacterial Tri magnesium Phosphate Hydrate Coatings on Polyetheretherketone (PEEK) Implants by Rapid Microwave Irradiation Technique

Sarit Bhaduri, University of Toledo.

10:51AM

Developing test methods for ultrathin hydroxyapatite coating

Per Kjellin, Promimic.

11:03 AM

Coatings on Orthopaedic Devices - Utilization and Development of Standards

Limin Sun, FDA

11:15 AM

Panel Discussion

11:40 AM LUNCH

Session 4 – Hard Tissue Coatings continued

Parimal Bapat, Orchid Orthopaedic Solutions; Jill Baxter, Depuy Synthes

12:45 PM

Titanium Particle Coating on UHMWPE

Reto Lerf, Mathysmedical

12:57 PM

Novel surface texture for ceramic implants in direct contact to bone - an issue with test standards

Roman Preuss, Ceramtec

1:09 PM

Titanium Plasma Spray Coating onto UHMWPE for Medical Implants

Armando Salito, Orchid Orthopedic Solutions

1:21 PM

Controlling and Creating Novel Bioactive implant Material Surfaces via Aerosol based additive Manufacturing

Ranganathan Gopalkrishnan, University of Memphis

1:33 PM

Complementary Methods are Necessary to Characterize Surface-Hardened Joint Replacements

Hugh Jones, Institute of Orthopedic Research & Education

1:45 PM

Characterization of Nano Structure of a Roughened, Porous Titanium Interbody

Charles Wing, Aesculap Implant Systems, LLC

Mechanical Impaction Testing of two stage Titanium Plasma Spray Coated PEEK Implant - Analysis of particulate created under Extreme in vitro Parameters.

Schilling C, PhD, Aesculap Implant Systems, LLC

2:00 PM

Panel Discussion

2:30 PM

Antimicrobial Properties of a Novel Titanium Anodization Process

Scott Williamson, University of Mississippi Medical Center

2:42 PM

Cleanliness Aspects of Coated Orthopaedic Devices

Boopathy Dhanapal, ZimmerBiomet

2:54 PM BREAK

3:10 PM

Surface modification/coating for biomedical implants: Clinical concerns, tribocorrosion testing and bio-functionalization

Mathew T. Mathew, PhD, University of Illinois College of Medicine at Rockford

3:22 PM

Boride coating on titanium alloys for application in devices for hard tissues

Silvia Spriano, Politecnico di Torino

3:34 PM

Keratin nanofibers as coating for titanium transmucosal implants

Silvia Spriano, Politecnico di Torino

3:46 PM

Why Coating Technologies for Hip Replacement Systems, and the Importance of Testing Them in Vitro

Hani Haider, University of Nebraska Medical Center

3:52 PM BREAK

4:00 PM

Panel Discussion

Session 5 – Path Forward

Hany Demian, US Food and Drug Administration; Jill Baxter, Depuy-Synthes; Hani Haider, University of Nebraska Medical Center

4:30 PM

Facilitated Discussion