

Platinum sponsor



2026 Implant Polymers:

UHMWPE & PEEK Conference

**Wednesday & Thursday,
June 17 – 18, 2026**

**Bosson Research Enterprise Center,
Drexel University, Philadelphia, USA**

Hosted by Drexel University and the University of Turin



CONFERENCE PROGRAM



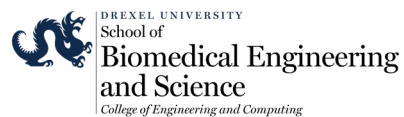
Additional Sponsors:



Mitsubishi Chemical Advanced Materials GmbH



Organizers:



UNIVERSITÀ DI TORINO

2026 Implant Polymers: UHMWPE & PEEK Conference

Wednesday & Thursday, June 17-18, 2026

Bossone Research Enterprise Center,
Drexel University, Philadelphia, USA

Hosted by Drexel University and the University of Turin

The purpose of the meeting is to bring together engineers, scientists, regulators, and clinicians from academia, industry, and government to present leading edge research on advancements in medical-grade UHMWPE, PEEK, and the rapidly growing field of polymer implant additive manufacturing technology. In addition to UHMWPE and PEEK, the Combined Meeting will also broadly showcase point-of-care additive manufacturing of implantable polymers.

Scientific and Organizing Committee and Invited Speakers:

Co-Presidents: Pierangiola Bracco, Ph.D. & Steven Kurtz, Ph.D.
Organizer: Hannah Spece, Ph.D.

Invited Speakers: Matthew Di Prima, Ph.D.
Ryan Roeder, Ph.D.

**Panel Moderator
& Members:** Ryan Siskey, M.S.
Alan Porporati, Ph.D.
John Bowsher, Ph.D.
Ruth Heckler, M.S.
Raelene Cowie, Ph.D.

Sponsorship

We are grateful for Celanese's Platinum Sponsorship of the 2026 Combined Meeting, as well as Silver Sponsorship from Gyroid LLC and Bronze Sponsorships from Invibio, Orthoplastics, Mitsubishi Chemical Advanced Materials, and CeramTec. Stryker Orthopaedics and Exponent sponsor our coffee breaks.

Interested in sponsoring our 2028 edition?
Please contact Steve Kurtz - skurtz@drexel.edu.



2026 Implant Polymers: UHMWPE & PEEK Conference

Wednesday, June 17, 2026 | Day One

Time	Subject	Presenter
7:00 AM	On Site Registration Opens, Breakfast Available	
8:00 AM	Opening Remarks	Steven Kurtz, Ph.D.
8:10 AM	Welcome	Amanda Dresch, B. A., Celanese

SESSION I: Clinical Performance of UHMWPE

Session Moderator: Steve Kurtz, Ph.D.

8:15 AM	Podium Talk 1: Innovation in Medical Implants Across Polymer Families	Victoria Black, B.S., Celanese
8:30 AM	Podium Talk 2: Volumetric Wear of Highly Cross-linked Polyethylene Sockets in Total Hip Arthroplasty Differs Across Brands: A Retrieval Study	PD Dr. med. Peter Wahl, University of Basel; University of Bern; Birshof Hospital, Muenchenstein
8:45 AM	Podium Talk 3: Spectroscopic Studies of UHMWPE Hip and Knee Explants Using XRD, UV-Vis, FT-IR, and ESR Techniques	MD Farhan Azim, B.S., University of Memphis
9:00 AM	Podium Talk 4: Polyethylene Wear in Reverse Total Shoulder Arthroplasty: Is Osteolysis at the Horizon?	Robin Pourzal, Ph.D., Rush University
9:15 AM	Podium Talk 5: From UHMWPE to Vitamin E-Stabilized HXLPE: Material-Driven Evolution and Clinical Survivorship of the Isoelastic RM Monoblock Acetabular Cup	Frank Eitel, M. Sc., Enovis
9:30 AM	Podium Talk 6: Nitrided Bearings Against Polyethylene	Michael Kurtz, Ph.D., Drexel University
9:45 AM	Morning Coffee Break	

SESSION II: UHMWPE in Alternative Bearing Pairs

Session Moderator: Ryan Siskey, M.S.

10:15 AM	Podium Talk 7: Regulatory Challenges in Predicting Wear Performance of Novel Bearing Surfaces for Orthopedic Devices	John Bowsher, Ph.D., U.S. Food and Drug Administration (FDA)
10:30 AM	Podium Talk 8: Evaluation of a Modern TiN-Coated Femoral Component: from Bench to Bedside	Ahmad Faizan, Ph.D., Stryker
10:45 AM	Podium Talk 9: Preservation of UHMWPE Wear Performance by ADLC-Coated Titanium Glenspheres Under High Demand Reverse Shoulder Conditions	Ruth Heckler, M.S., Enovis
11:00 AM	Podium Talk 10: Third Body Wear of an All-Polymer Total Knee Replacement	Raelene Cowie, Ph.D., University of Leeds

Wednesday, June 17, 2026 | Day One

Time	Subject	Presenter
11:15 AM	Podium Talk 11: Polyethylene Wear in Combination with Ceramic Femoral Components in Total Knee Replacement Under Standard and Abrasive Conditions	Alan Porporati, Ph.D., CeramTec
11:30 AM	Podium Talk 12: Abrasive Damage in Orthopedics: Test Methods Past, Present, and Future	Ryan Siskey, M.S., Exponent
11:45 AM	Panel Discussion: Abrasive Wear Test Methods for UHMWPE in Alternative Bearing Pairs	Moderator: Ryan Siskey Participants: Alan Porporati, John Bowsher, Ruth Heckler, Raelene Cowie
12:15 PM	Rapid Fire Talks: 3-minute presentations of selected UHMWPE posters	
12:30 PM	Lunch and Poster Discussions	

SESSION III: Oxidation in UHMWPE

Session Moderator: Pierangiola Bracco, Ph.D.

1:45 PM	Podium Talk 13: The Oxidation Resistance of UHMWPE Containing a Chemically Bonded Vitamin E Analog	Anuj Bellare, Ph.D., Polymerix Technologies
2:00 PM	Podium Talk 14: A Solution to Potentially Eliminate Oxidative Degradation and Enhance the Functional Performance of UHMWPE Liners in Artificial Joints	Prof. Dr. Rizwan Gul, University of Engineering and Technology, Peshawar, Pakistan
2:15 PM	Podium Talk 15: Free Radical Persistence and Oxidative Aging in Conventional and Vitamin E-Stabilized UHMWPE	Afsana Sharmin, M. S., University of Memphis
2:30 PM <i>Virtual</i>	Podium Talk 16: Lipid Peroxidation-Derived Aldehydes: A Novel Oxidation Pathway in UHMWPE Orthopedic Implants	Javier Poves, M.S., University of Zaragoza
2:45 PM	Podium Talk 17: Failure of Sequentially Annealed Highly Cross-linked UHMWPE Inserts – Is It Related to Oxidation?	Therese Bormann, Ph.D., Heidelberg University Hospital
3:00 PM	Podium Talk 18: Oxidation Study of Super Crosslinked Gradient UHMWPE	Zhangtao Zhang, Ph.D, b-ONE Ortho Corp
3:15 PM	Afternoon Coffee Break	

2026 Implant Polymers: UHMWPE & PEEK Conference

Wednesday, June 17, 2026 | Day One

Time	Subject	Presenter
3:15 PM	Afternoon Coffee Break	
SESSION IV: UHMWPE Properties, Processing, and Testing		
Session Moderator: Anuj Bellare, Ph.D.		
3:45 PM <i>Virtual</i>	Podium Talk 19: Wear Properties of Bupivacaine/UHMWPE Blends	Nicoletta Inverardi, Ph.D., Harris Orthopaedics Laboratory, Massachusetts General Hospital; Harvard Medical School
4:00 PM	Podium Talk 20: Annealing's Impact on the Microstructure and Mechanical Behavior of Vitamin E Containing Highly Crosslinked UHMWPE	Daniel Weller, Ph.D., Stryker Orthopaedics
4:15 PM	Podium Talk 21: A Novel Method for Measuring Residual Stress in Consolidated Implantable Grade UHMWPE	Katie Schindler, B.S., Mitsubishi Chemical Group
4:30 PM	Podium Talk 22: Thickness-Driven Normalization of UHMWPE Small Punch Test Results for Expanded ASTM F2977 Usability	Michael Tartaglia, B.S., Stryker Orthopaedics
4:45 PM	Podium Talk 23: Gentamicin Eluting UHMWPE as a Durable, Antimicrobial Spacer Material for Two Stage Revision Arthroplasty	Mehmet Asik, Ph.D., Harris Orthopaedics Laboratory, Massachusetts General Hospital; Harvard Medical School
5:00 PM	Podium Talk 24: Novel Spectroscopic Approaches for Oxidation Index Assessment in UHMWPE Implants	Azita HassanMazandarani M.S., Temple University
5:15 PM	Day 1 Meeting Adjourns	
7:00 PM	Gala Dinner at Reading Terminal Market	

Thursday, June 18, 2026 | Day Two

Time	Subject	Presenter
8:00 AM	On Site Registration Opens, Breakfast Available	
SESSION V: PEEK Bioactivity and Use in Devices		
Session Moderator: Steve Kurtz, Ph.D.		
9:00 AM	Invited Talk 1: Making PEEK Great Again: A HAPPE Journey from Concept to Commercialization	Ryan Roeder, Ph.D., University of Notre Dame; HAPPE Spine
9:30 AM	Podium Talk 25: BMSC Extracellular Matrix Formation on PEEK Lattices and a Collagen Membrane Interface	Fedra Zaribaf, MEng, Ph.D., Invibio Ltd, UK
9:45 AM	Podium Talk 26: Commercial Approval of a Fully Polymeric Surgical Mitral Valve	Ryan Stanfield, P.E., Ph.D., University of Utah; Foldax, Inc.
10:00 AM	Podium Talk 27: Is Point of Care 3D Printing of PEEK Triflange Cups Feasible for Revision THA?	Steve Kurtz, Ph.D., Drexel University
10:15 AM	Podium Talk 28: CFR-PEEK in Orthopaedic Implants: What the Clinical Evidence Supports, What It Still Can't Answer, and How Evidence is Translated Into Use	Sherri Gambill, B.S., Invibio
10:30 AM	Rapid Fire Talks: 3-minute presentations of selected PEEK posters	
10:45 AM	Morning Coffee Break and Poster Discussions	
SESSION VI: 3D Printing at the POC and Characterization of 3DP PAEKs		
Session Moderator: James Smith, Ph.D.		
11:30 AM	Invited Talk 2: 3D Printed PAEK Implants and the Road to Point of Care Printing	Matthew Di Prima, Ph.D., U.S. Food and Drug Administration (FDA)
12:00 PM	Podium Talk 29: The Road Towards Establishing Clinical Services to Develop and Produce Patient-Specific PAEK Implants in and by the Healthcare Facility at Point-of-Care: the Singapore General Hospital Experience	Mark Tan Bangwei, MBBS, MRCS, FRCR, Singapore General Hospital
12:15 PM	Podium Talk 30: Evaluating the Static Mechanical Performance of Fused Filament Fabricated Anterior Lumbar Interbody Fusion PEKK and PEEK Devices	Abigail Tetteh, Ph.D., Drexel University; Exponent Inc.
12:30 PM	Podium Talk 31: What Drives the Protein Adsorption of 3D Printed PAEK Polymers?	Paul DeSantis, M.S., Drexel University
12:45 PM	Podium Talk 32: Optimization of FFF Process Parameters for Compressive Properties of Solid and Porous Si3N4-PEEK	Tabitha Derr, M.S., Drexel University
1:00 PM	Closing Remarks and Meeting Adjourn	Steven Kurtz, Ph.D.

2026 Implant Polymers: UHMWPE & PEEK Conference

Poster Presentations | UHMWPE | Day One

Title	Presenter
Effect of Chlorine Dioxide Terminal Sterilization on the Mechanical and Chemical Properties of UHMWPE Used in Total Joint Arthroplasty	Michael Tartaglia, B. S., Stryker Orthopaedics
Inflammatory Responses to Fine Wear Particles from Conventional and Highly Crosslinked Polyethylene Inserts	Robin Pourzal, Ph.D., Rush University
Influence of Terminal Sterilization Modality on Oxidative and Mechanical Properties of Crosslinked UHMWPE	Ruth Heckler, M.S., Enovis
Design of Hydroxyapatite Whisker Reinforced Polyetheretherketone Scaffolds for Bone In-Growth and Mechanical Integrity in Orthopedic Devices	Luis Vega Lugo, B.S., University of Notre Dame
In Vitro Apatite-Forming Ability of Hydroxyapatite Whisker Reinforced Polyetheretherketone	Elizabeth O'Connell, B.S., University of Notre Dame



POSTER PRESENTATIONS

Poster Presentations | Peek | Day Two

Title	Presenter
Computational Modeling to Assess the Influence of Geometric Variations on the Axial Compressive Performance of PEKK and PEEK Lumbar Spinal Cages	Abigail Tetteh, Ph.D., Drexel University; Exponent Inc
Using Sulfonation to Alter Surface Properties of 3D Printed PAEK Polymers	Paul DeSantis, M.S., Drexel University
Fatigue Strength of Additively Manufactured PEEK and Si3N4-PEEK Cervical Cages	Tabitha Derr, M.S., Drexel University
Effects of Hydrothermal Aging on the Flexural Properties of PEKK and LM-PAEK	Jasmine Johnson, B.S., Drexel University
Biomechanical Evaluation of Carbon Fiber-Reinforced Polyether Ether Ketone (CFR-PEEK) versus Titanium Plates for Fixation of High Tibial Osteotomy	Sherri Gambill, B.S., Invibio



SPECIAL THANKS

to all the sponsors & attendees
at the 2026 Conference!

Platinum Sponsor: Celanese

Silver Sponsor: Gyroid LLC

Bronze Sponsors:

Orthoplastics

Invibio

Mitsubishi Chemical Advanced Materials

CeramTec GmbH

Coffee Breaks: Exponent and Stryker Orthopaedics

Interested in sponsoring our 2028 edition?

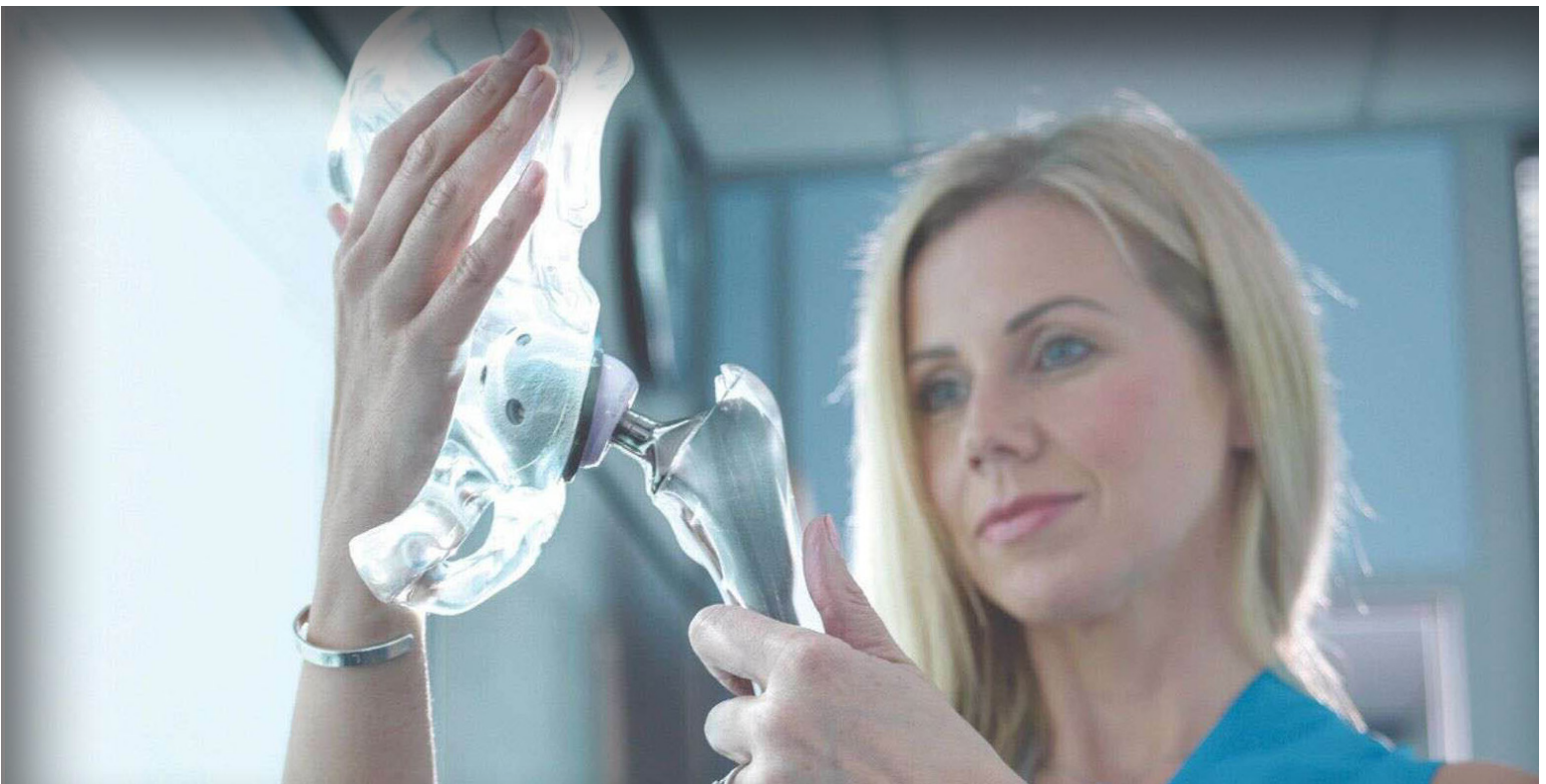
Please contact Steve Kurtz - skurtz@drexel.edu.



GUR[®] UHMWPE

Material of choice to help improve patient outcomes

For more than 50 years, GUR[®] UHMWPE has been the material of choice among orthopedic surgeons for joint replacements. Our durable and abrasion resistant UHMWPE improves patient comfort, and delivers excellent impact strength and lubricity.



GUR[®] UHMWPE benefits:

- Low wear
- Excellent lubricity
- Exceptional impact strength
- High energy absorption
- High purity
- Biocompatible
- ASTM F648, ISO 5834-1 approval
- FDA compliant
- Drug and device master file listed
- PFAS*-free alternative to PTFE

Implant applications:

- Hip, knee and shoulder arthroplasty
- Other joint replacements
- Spine applications and replacements



* GUR[®] UHMW-PE contains no intentionally added PFAS

Scan & Learn more

