High Temple 2027

RENAISSANCE MOBILE RIVERVIEW PLAZA HOTEL
MOBILE, ALABAMA
PRELIMINARY AGENDA (as of 5 November 2026)

MONDAY, FEBRUARY 22, 2027

3:00PM - 5:00PM **Workshop Registration**

TUESDAY, FEBRUARY 23, 2027

7:00AM-8:15AM **Workshop Registration**

8:15AM-8:30AM **Opening Remarks**
Kaitlin Rigitano, University of Dayton Research Institute

8:30AM-10:00AM **Session 1: Government Overviews**
Chair:

Overview of US Army High Temperature Composite Efforts
Andrew Littlefield, US Army DEVCOM AC, Benét Laboratories

Overview of US Navy High-Temperature Polymer Work
Matthew Laskoski, Naval Research Laboratory

Overview of High Temperature PMC Activities at AFRL
Hilmar Koerner, Air Force Research Laboratory

10:00AM-10:30AM **Break**

10:30AM-12:00PM **Session 2: OEM Overviews**
Chair: Dan McCray, University of Dayton Research Institute

GE Aerospace Overview
Greg Gemeinhardt, GE Aerospace

Pratt & Whitney Overview
Xiaomei Fang, Pratt & Whitney

Boeing Overview
Tom Tsotsis, Boeing

12:00PM-1:00PM **Lunch (provided)**

1:15PM-1:30PM **Group Picture**

TUESDAY, FEBRUARY 23, 2027 (continued)

1:30PM-3:00PM **Session 3: High Temperature Materials for Ablative Applications – I**
Chair: Jacob Monzel, Air Force Research Laboratory

Introduction to Military ablatives: brief history, current issues and path forward
Jeremy Breen, DCMA Industrial Analysis Group

Phthalonitrile (PN) and Custom Hybrid-Fiber Preforms for Ablative Composites
Michael Rauscher, Textum

Next-Generation Phthalonitrile Resins and Composites for Advanced Ablative Systems
Matthew Laskoski, James Sitter, Loren Brown, Naval Research Laboratory

3:00PM-3:30PM **Break**

3:30PM-5:00PM **Session 4: High Temperature Resins & Composites - I**
Chair: Hilmar Koerner, Air Force Research Laboratory

High-Performance Polymers for Rapid Manufacturing of Composite Parts
Theo Dingemans, University of North Carolina at Chapel Hill

NAWC Abstract
Natalie Vest, Cameron Locke, Benjamin Harvey, Naval Air Warfare Center Weapons Division

Polyimide Dynamic Polymers Based on Diketoenamine Linkages
Yoan C. Simon, Arizona State University

5:00 PM **Adjourn**

WEDNESDAY, FEBRUARY 24, 2027

8:00AM-10:00AM **Session 5: High Temperature Materials for Ablative Applications – II**
Chair: Mike Rauscher, Textum

Characterization and Aerothermal Evaluation of TC1810 Carbon-Fiber-Reinforced Polysiloxane Ablatives
Chantel Camardese, Toray Advanced Composites

Thermoplastic Polyphenylene Composites for Ablative Applications: Enabling rapid and automated manufacturing
Matthew Jackson, Syensqo

MG Resin and Ablative Thermal Protection Systems
Ryan Toivola, Evan Sjostedt, Rachel Potratz, Jon Ossowski, Charles Davis, Andrew Hollcraft, Matthew Suarez, Karman Space & Defense

High-Rate Manufacturing of High-Temperature Composite Structures for Ablative Applications
Jacob Minnema, Hybron, Inc.

WEDNESDAY, FEBRUARY 24, 2027 (continued)

10:00AM-10:30AM **Break**

10:30AM-12:00PM **Session 6: Manufacturing of High Temperature Resins and Composites**
Chair: Andrew Littlefield, US Army DEVCOM AC, Benét Laboratories

TC890 Polyimide with T1100 Fibers Using Automated Fiber Placement vs. Hand Layup via Autoclave Curing
Errick Robles, Ravi Patel, Upul Palliyaguru, Waruna Seneviratne, Rachael Andrulonis, Wichita State University, National Institute for Aviation Research
Chantel Camardese, Don Osment, Toray Advanced Composites

Modified Automated Tape Laying and Single-Cycle Densification of C/C Heatshields
Zachary Tobin, Textron Systems

High Temperature Composites for Portable Pressure Vessels
David Alfano, US Army DEVCOM AC, Benét Laboratories

12:00PM - 1:30PM **Lunch (provided)**

1:30PM - 3:00PM **Session 7: High Temperature Resins & Composites - II**
Chair: Greg Gemeinhardt, GE Aerospace

Recent Innovations in BODA and Phthalonitrile Commercial Products for Advanced PMC and C/C Composite Technologies
Tyler Richardson, Ernesto Borrego, Dennis Smith, Gustavo Munoz, HAND Technologies, Inc.

Tunable Crosslinking of Thermoplastic Polymers for Ablative Performance
Roopak Mitra, Mantis Composites
William Higginson, MR&D

High Tg Prepreg and Film Adhesives with a Snap Cure
Henry Sodano, Trimer Technologies, LLC

3:00PM-3:30PM **Break**

3:30PM-5:00PM **Session 8: High Temperature Resins & Composites - III**
Chair: Ben Harvey, Naval Air Warfare Center

Intramolecular Crosslinking in Poly (Aryl Ether Ketones) for Complex Carbon-Carbon Composite Matrices
Joseph Previte Jr., Jeffrey Wiggins, University of Southern Mississippi

Molecule-to-Product Design of a Sprayable Phthalonitrile Coating for High-Temperature Composite Applications
Alexander Lonnecker, Cambium Biomaterials Inc.

Full-Field Shear Strain of AS4 V-notched Specimens at Elevated Temperature
Travis Whitlow, University of Dayton Research Institute

6:00PM **High Temple Social Hour**

7:00PM **High Temple Dinner Banquet**

THURSDAY, FEBRUARY 25, 2027

8:00AM-10:00AM **Session 9: Modeling of High Temperature Resins and Composites**
Chair: Andy Guenthner, Cambium

Predicting Graphitizability of High-Temperature Resins with Reactive Molecular Dynamics
Joshua Bauer, Jacob R. Gissinger, Stevens Institute of Technology

First-Principles Bond Strength for Composite Failure
Lanie Leung, Andrew Guenthner, Cambium Biomaterials

Void Creation and Mobility during Simulation of Resin Injection into CT-Imaged Fiber Tows
John Kelly, AeroVironment Inc.
Matthew Grasinger, Air Force Research Laboratory

Polyimide Off-Gassing Simulation and Detection Project Update
Brian Coxon, Curtis Hickmott, Kara Jackson, Convergent Manufacturing Technologies US, Inc.

10:00AM-10:30AM **Break**

10:30AM-12:00PM **Session 10: Fabrics for Ablative Applications**
Chair:

LR1406™ Carbon Cloth Phenolic – The proven domestic solution for High Temp environments
Charlie Burton, Stephen Liu, Barrday Corporation

Syensqo T300LC Carbon Fiber: A Domestic Alternative Fiber for Ablative Composites
Matthew Jackson, Syensqo

Supply Chain Resiliency for Ablative Applications: Rayon-Alternative Carbon Fiber with Phthalonitrile and Phenolic Matrices
Jim Wood, Cambium Biomaterials

12:00PM **Adjourn**