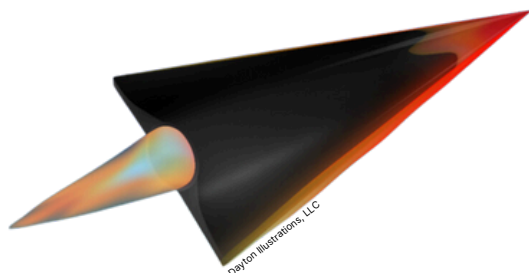


Hypersonic Workshop in Washington, D.C. Outline

October 29, 2025 | Washington, D.C.

Time	Module/Topic
9–9:45 a.m.	Module 1, History of Hypersonic Flight and Design: This introductory module will be used to help motivate the current interest in hypersonic flight as we focus on what has been accomplished in the past 70 years.
9:45–10:30 a.m.	Module 2, Hypersonic Aerothermodynamics: This may be the most important module as it provides an overarching connection between all the materials topics discussed in the remaining modules. It will provide the necessary vocabulary to understand hypersonic flight and the technical problems associated with it. This section will be used to point to materials solutions and remaining gaps of knowledge in UHTCs, CMCs, C/C while discussing thermal protection systems (TPS). Candidate materials are discussed (parts of Module 3). Some background on refractory metals is provided.
10:30–10:40 a.m.	Break: 10 minutes
10:40–11:25 a.m.	Module 2 continued
11:25 a.m.–12:10 p.m.	Module 4, Introduction to Mechanical Properties of Ceramics: Focuses on the fundamentals of mechanical testing and data distribution manipulation and provides context for understanding motivation to make ceramic composites.
12:10–1 p.m.	Lunch: 50 minutes
1–2 p.m.	Module 6, Applications of Thermal and Mechanical Properties: This section links the mechanical properties and thermal properties with a focus on thermal shock, ablative coatings, and the space shuttle TPS.
2–2:15 p.m.	Break: 15 minutes
2:15–3:15 p.m.	Module 8, Ceramic Matrix Composites (CMCs): Focuses on composites including carbon/carbon and ceramic matrix composites and their manufacture. Comparison of CMC properties to monolithic ceramics (Module 4) is also discussed.
3:15–3:30 p.m.	Break: 10 minutes
3:30–4:30 p.m.	Module 7, Materials for RF and IR Performance for Hypersonic Applications: Discusses the development of the key requirements and materials properties for RF and IR windows.
4:30–4:45 p.m.	Review: Class Wrap Up



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