JANNAF INTERAGENCY PROPULSION COMMITTEE
JOINT ARMY-NAVY-NASA-AIR FORCE

MEETING INVITATION

52nd Combustion (CS)

40th Airbreathing Propulsion (APS)

40th Exhaust Plume and Signatures (EPSS)

34th Energetic Systems Hazards (ESHS)

JOINT SUBCOMMITTEE MEETING

Programmatic and Industrial Base Meeting (PIB)

4-8 DECEMBER 2023 // SALT LAKE CITY, UTAH

Hilton Salt Lake City Center

U.S. Air Force Photo

Includes Registration & Hotel Info

Discounted registration deadline: **3 November**

Classified attendance registration deadline: **17 November**

last updated 12/7/2023

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YOU ARE INVITED TO ATTEND THE DECEMBER 2023 MEETING OF THE JOINT ARMY-NAVY-NASA-AIR FORCE (JANNAF) INTERAGENCY PROPULSION COMMITTEE.

This meeting will consist of the Joint Meeting of the 52nd Combustion, 40th Airbreathing Propulsion, 40th Exhaust Plume and Signatures, 34th Energetic Systems Hazards subcommittees and Programmatic and Industrial Base Meeting. The meeting will be held Monday through Friday, 4 - 8 December 2023, at the Hilton Salt Lake City Center in Salt Lake City, UT, and the Utah National Guard HQ in Draper, UT.

Attend and choose from over 400 presentations in 85 technical sessions, workshops, specialist sessions and keynote presentations!

The Program Chair for the meeting is Dr. Heather F. Hayden, Naval Surface Warfare Center-Indian Head Division, Indian Head, MD. A complete list of Program Committee Members can be found on pages 12-15.

The JANNAF Interagency Propulsion Committee coordinates fundamental research, exploratory development, and advanced developmental programs; standardizes procedures for nomenclature; promotes and facilitates the exchange of technical information; and accomplishes problem solving in the areas of joint agency interest on propulsion systems for missiles, rockets, boosters, spacecraft, satellites, and guns.

Johns Hopkins University Whiting School of Engineering Energetics Research Group (JHU WSE ERG) provides technical and administrative support to the JANNAF Interagency Propulsion Committee.

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MEETING SCOPE

JANNAF subcommittees focus their resources on technical issues of interest to the JANNAF agencies.

COMBUSTION SUBCOMMITTEE

The Combusion Subcommittee (CS) covers analytical modeling and experimental research on chemical combustion phenomena for solid, liquid, hybrid, and airbreathing missile, space, underwater, and gun propulsion systems.

AIRBREATHING PROPULSION SUBCOMMITTEE

The Airbreathing Propulsion Subcommittee (APS) addresses technical problems and issues associated with turbojet, ramjet, scramjet, and combined- or mixed-cycle engines.

EXHAUST PLUME AND SIGNATURES SUBCOMMITTEE

The technologies of concern to the Exhaust Plume and Signatures Subcommittee (EPSS) involve phenomena associated with exhaust plumes from rockets, ramjets, space, and gun propulsion systems as well as wakes and hypersonic flows. These phenomena can be divided into three technical areas: plume/wake/hypersonic flowfields, plume/wake/hypersonic signatures (to include electro-optical [EO], infrared [IR], and radio frequency [RF] radiation), and a broad area incorporating other plume/wake/hypersonic effects. In addition, the EPSS Signatures panel promotes technical interchange among members of the Electro-Optical/ Infrared (EO/IR) aircraft/missile signature community from both government and industry.

ENERGETIC SYSTEMS HAZARDS SUBCOMMITTEE

The Energetic Systems Hazards Subcommittee (ESHS) is concerned with hazards associated with energetic systems and how these vulnerabilities might degrade system performance and lethality. Included in this scope are hazard analyses for tactical and strategic missiles; small, medium, and large caliber gun systems; solid and liquid propellant systems; hazards encountered during loading and firing operations; and key technology areas identified from hazard analyses. Additionally, ESHS is involved with the development, standarization and application of meaningful computational / experimental methods for assessing vulnerability and performance of the energetic materials found in propulsion systems and munitions. Finally, the subcommittee is concerned with the identification and solution development for interagency problems associated with energetic system vulnerability and performance, the coordination of interagency sponsored programs, the establishment of nomenclature, and the promotion of technical information and data exchange.

PROGRAMMATIC AND INDUSTRIAL BASE

The Programmatic and Industrial Base (PIB) areas of interest include integrated program plans and key decision points; industrial base assessments; risks and opportunities with respect to skills, knowledge, and experience; identification of commonality, innovative acquisition, and partnership opportunities; integrated assessments to identify rocket propulsion industrial base (RPIB) rationalization opportunities; special actions from senior agency, department, or Executive Office of the President (EOP) leadership; and information provided to decision makers for either situational awareness or policy decisions.

HOTEL INFORMATION

All unclassified sessions will be conducted at the Hilton Salt Lake City Center in Salt Lake City, Utah. The hotel is conveniently located within a short walk of numerous options for dining, sightseeing, entertainment, and shopping. It is also 15 minutes from the Salt Lake City International Airport and 20 minutes from the Draper Headquarters of the Utah National Guard, where classified sessions will be held.

The discounted JANNAF room rate for all attendees is $139 per night (GSA FY 2024 per diem rate) for single or double occupancy. Applicable state and local taxes are currently 13.82%.

These discounted rooms are limited and will be held for JANNAF attendees until the reservation deadline of Monday, 13 November at 11:59 p.m. MST, or until they sell out—whichever comes first. Each individual is responsible for their own reservation. Reservations may be made either on the Web (recommended) or by telephone.

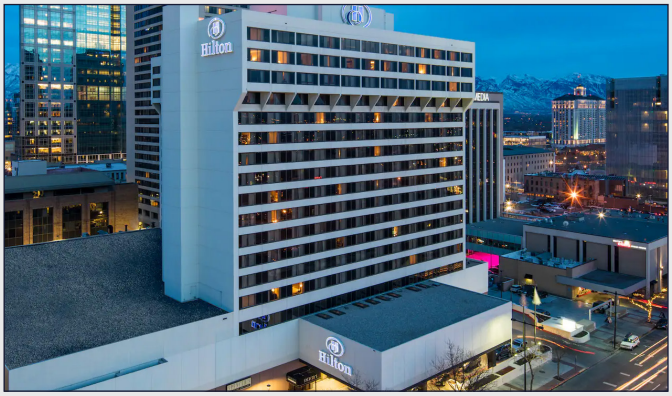
Note that the JANNAF discounted room rate is offered beginning Sunday, 3 December through the night of Friday, 8 December, until rooms in the JANNAF block are sold out. Based upon availability, the hotel will honor the JANNAF discounted rates for up to three days pre- and post-meeting for those who wish to extend their stay.

Please be sure to utilize the reservation link provided on the Location/Hotel page of the website when booking your reservation. Not only does this ensure that you receive the applicable discounted rate, but it also helps JANNAF to meet its obligation to the hotel, avoid penalties, and keep meeting costs down.

MAKING RESERVATIONS

Click on the reservation link on the Location/Hotel page of the meeting website to make your reservation. Using this link will give you direct access to the JANNAF room block. For additional reservation assistance, please call 1-800-HILTONS or 801-328-2000. When calling, be sure to mention that you will be attending the JANNAF Conference, and are eligible for the December 2023 JANNAF Conference discounted rate.

Need to cancel or change your reservation? Policies pertaining to room reservation cancellation and early departure are provided on the Location/Hotel page of the meeting website and in your reservation confirmation email.



TRANSPORTATION & PARKING

The Salt Lake City International Airport is less than 15 minutes from the hotel. Ground transportation costs between the airport and hotel range from $2.50 each way for the TRAX/Light Rail Service to approximately $25 for cab fare. Rideshare services and rental cars are also available. More information can be found on the airport's website. Discounted hotel parking information and shuttle bus transportation details (if attending classified sessions at the Draper Headquarters of the Utah National Guard) can be found on the Transportation page of the meeting website. Note that parking is not available at the classified session location, so those attending classified sessions must ride the provided shuttle transportation as scheduled.

JANNAF MEETING INVITATION - DECEMBER 2023

UNCLASSIFIED MEETING SITE

Unclassified sessions will be held at the Hilton Salt Lake City Center in Salt Lake City, Utah. For attendance at Unclassified sessions only, please see the Security/Attendance Requirements on this page and Registration instructions on page 7.

CLASSIFIED MEETING SITE

Classified sessions will be held at the Utah National Guard Headquarters in Draper, Utah. Scheduled shuttle bus transportation will be provided as parking is **not** available at the UTNG facility. Check-in at the JANNAF registration desk at the Hilton Salt Lake City Center is required prior to attending classified sessions. If attending one of the morning classified sessions (Wednesday through Friday), pick up your registration materials and badge no later than the day before to ensure that you have the credentials to board the shuttle bus the following morning. Please reference the detailed Security/Attendance Requirements on this page, as well as registration instructions specific to attendance at BOTH Classified and Unclassified sessions, located on page 7.

The deadline to register for Classified session attendance is 17 November 2023.

Follow instructions on page 7 applicable to your organization type.

SECURITY/ATTENDANCE REQUIREMENTS

THE OVERALL SECURITY CLASSIFICATION OF THIS MEETING IS SECRET.

To qualify to attend this meeting, all attendees must be U.S. citizens employed by a DoD, DoE, or NASA facility, or with a DoD, DoE, or NASA contractor facility eligible for receipt of militarily-critical technical data. No foreign nationals will be permitted to attend.

In addition, CLASSIFIED SESSION attendance is restricted to U.S. citizens who possess, at minimum, a SECRET U.S. Security Clearance with a need-to-know in the areas of rocket, missile, space, or gun propulsion.

Questions concerning attendance eligibility should be directed to Mionna Sharp at (410) 992-7300, ext. 224 or msharp@erg.jhu.edu.

ATTENTION DoD

Based on current conference guidance and consultation with various service conference POCs, there is no longer a need for DoD meeting approval. U.S. Government organizations should follow their organization's internal guidance with respect to meeting attendance. Please note JANNAF functions are accomplished consistent with the approved JANNAF Charter (available on the December meeting website). Questions concerning this should be directed to the TEC Chair, Drew DeGeorge, at drew.degeorge@us.af.mil.

Register on or before 3 November for the lowest rate.

Follow instructions above and on page 7.

REGISTRATION STEPS

To register, you must *first* have a JANNAF Secure Portal account. Please visit the Registration section of the meeting website for additional information and important links.

If attending UNCLASSIFIED SESSIONS ONLY, registration for this JANNAF meeting is a two-part process; to complete this process:

1. Complete the registration form for the meeting (login to your JANNAF Secure Portal account is required).
2. Pay the registration fee (Portal account NOT required).

If attending BOTH UNCLASSIFIED AND CLASSIFIED sessions, complete both of the steps above, *and in addition*:

- DoD Employees ONLY: Submit a Visit Authorization Request (VAR) via DISS. Please use SMO Code: 0W2X85
- All OTHER attendees: Complete and submit the Security Clearance Certification Form (link also provided on Registration Steps page of website)
- Required documentation MUST be submitted NO LATER THAN 17 November to attend Classified sessions. This is a **firm** deadline. Please complete your registration and submit the documents on or before 17 November.

Go to the Registration Steps page for links to complete your meeting registration, and for additional information.

REGISTRATION FEE

Register and pay the registration fee by Friday, 3 November at 11:59 p.m. MST to take advantage of the lowest fee. For details of what the registration fee includes, please go to the Registration Fee page of the meeting website. Please reference the registration fee chart below to determine the amount applicable to your registration. The dates noted below are based on payment being *received*.

Payment Received	Regular Attendee	Student*
on or before 11/3/23	$1,200.00	$250
11/4/23 or later	$1,350.00	$250

**A discounted registration fee is offered for full time students, interns, and cooperative education students.* Students must meet the security/attendance requirements noted on p.6 as well as the additional requirements on the University Registration Information page.

Registration payment is recommended by credit card (VISA, MasterCard, American Express) using the Registration Payment site available online. Go to the Registration Steps page of the meeting website, and click on "Registration Payment." Alternative forms of payment include check payable to JHU WSE Energetics Research Group, or purchase order (government only).

Payment of the registration fee may be completed as soon as permitted, but should be completed on or before Friday, 3 November 2023 to obtain the lowest registration fee. Credit card payments made electronically via the Web will be charged immediately; a receipt will be sent to you via email from meetings@erg.jhu.edu. To facilitate delivery of this and other meeting-related communication, you are urged to add "@erg.jhu.edu" to the list of accepted email domains in your email client.

CANCELLATION POLICY

Please note our cancellation policy.

Written (email) cancellations submitted on or before 3 November 2023 will receive a full refund minus an administrative fee of $75.00. Cancellations made after 3 November 2023 will not be refunded. Substitutes are welcome as long as the request for substitution is from the original attendee; attendance eligibility is appropriately met by the substitute; and the original and substitute attendee are from the same organization to facilitate transfer of registration funds. Please contact Shelley Cohen via email (scohen@erg.jhu.edu) to transfer or cancel your registration.

ON-SITE REGISTRATION / CHECK-IN

The JANNAF Registration desk will be located on the 2nd floor of the Hilton Salt Lake City Center. Photo identification is required upon registration or check-in. The desk will be open:

Sunday	5:00 p.m.	-	7:00 p.m.
Monday	7:00 a.m.	-	5:00 p.m.
Tuesday	7:00 a.m.	-	5:00 p.m.
Wednesday	7:00 a.m.	-	5:00 p.m.
Thursday	7:00 a.m.	-	5:00 p.m.
Friday	7:00 a.m.	-	5:00 p.m.

HEALTH AND SAFETY

The health of attendees and staff remains our top priority. If you are registered to attend but feel unwell, please stay home or in your hotel room and contact ERG for further guidance. Participants opting to wear face masks are asked to bring their own masks to use throughout the meeting. All attendees are asked to be respectful of their colleagues' decision with regard to masking.

ATTIRE

There is no official dress code for JANNAF meetings; however, business or business casual attire is suggested. When packing, keep in mind that it can be difficult to regulate the temperature in meeting rooms to everyone's liking, and any changes may not be noticeable quickly, so it is best to bring a light sweater or jacket and dress in layers.

WHY ATTEND A JANNAF MEETING?

Attendees of recent in-person JANNAF meetings were surveyed to determine what they find to be the most valuable benefits of JANNAF meeting attendance. Their responses included:

- The opportunity to present limited distribution papers to a technical audience including government, industry, and academia
- The ability to engage in valuable discussion with peers
- Networking opportunities with other experts in the propulsion community outside of their usual sphere
- New members of the community have the ability to obtain priceless experience, knowledge, and community connections
- Technical interchange that allows them to stay abreast of community trends and innovations

DINING

Approximately one and one-half hours for lunch has been built into the program each full day. A variety of dining options are within a 5-10 minute walk of the hotel. Additionally, the hotel has three restaurants: Spencer's for Steaks & Chops is open for lunch and dinner; Starbucks is open until 12:30 p.m. daily; and Trofi is open daily for breakfast only. Resources have been provided on the December meeting website and will be available in the JANNAF registration area.

NETWORKING ROOM

Grand Ballroom C in the hotel will serve as the JANNAF networking area; light morning refreshments, a mid-morning coffee break, and light mid-afternoon refreshments will be served at the times stated in the Schedule at a Glance on pages 18 - 22. This area will be open each day of the meeting. Please note that scheduled breaks are included in the session agendas where time permits.

NETWORKING RECEPTION

Plan to attend the networking reception on Wednesday, 6 December from 6:00 p.m. - 7:30 p.m. to connect with other attendees in an informal and relaxed environment. The reception aims to encourage interaction amongst peers and forge lasting relationships between both seasoned attendees and newcomers within the community.

There is no charge for meeting attendees to participate in the reception. Attendees simply wear their badge for access. Attendees wishing to bring a guest to the reception may purchase guest tickets as part of pre-registration or in the JANNAF Registration area for $70 (admission is free for children five and under) until 5:00 p.m. Monday, 4 December. Guest tickets will be collected at the door.

EARLY CAREER WORKING GROUP

There will be a meeting of the new JANNAF Early Career Working Group (ECWG) on Sunday, 3 December, from 6:00 p.m. – 7:00 p.m. in the Seminar Theater (2nd floor of hotel). Check-in early at the registration desk (opens at 5:00 p.m. on Sunday) to get your badge and then take advantage of the opportunity to meet and network with other early career attendees. There will be a quick primer on JANNAF as an organization, followed by discussions regarding participant expectations for the group. Topics of interest for discussion include the structure and historical perspectives of JANNAF, mentorship, leadership, and connecting young professionals.

READING ROOM

Pre-publication copies of unclassified papers that are publicly releasable, DoD Distribution Statement C, or CUI/FEDCON, will be available to read in both the virtual and on-site Reading Room. Meeting attendees may access both Reading Rooms beginning at 9:00 a.m. on Monday, 4 December. The schedule for both Reading Rooms for the remainder of the week is noted in the Schedule at a Glance on pages 18 - 22. You are encouraged to bring your own device for convenient 24/7 access to papers via the Virtual Reading Room during the meeting until 2:00 p.m. Friday. More details will be provided in the Final Program. Reproduction of Reading Room papers is not permitted.

SIDE MEETINGS

A limited number of small meeting rooms are available for JANNAF-related side meetings. Audiovisual equipment will not be provided. Please contact Shelley Cohen at scohen@erg.jhu.edu to reserve a room as soon as possible. Requests may also be made on-site during the meeting, if space is available. Rooms must be reserved and will be assigned on a first-come, first-served basis.

PROGRAM CHANGES

Printed meeting programs will be distributed to attendees upon registration/check-in on-site. The most current version of the Final Program, reflecting changes made throughout the week of the meeting, can be accessed online by scanning the QR code printed on the inside cover of the printed program and posted throughout the meeting space. Changes to the Final Program will also be posted on touch screen monitors in the Registration area. Attendees should regularly check for program updates. Final Programs are CUI and Distribution Statement C and should be secured when not in your possession.

MEETING PROCEEDINGS

Proceedings from this meeting will be published by the JHU WSE Energetics Research Group. Papers and presentations will be provided complimentary to attendees of this meeting who have paid the full registration fee. Attendees will have access to these materials beginning approximately 12 weeks following the meeting via the JANNAF Digital Online Collection (JDOC) Database accessible through your account on the JANNAF Secure Portal. This benefit is not available for student attendees.

QUESTIONS

Questions concerning this program and/or payment of the registration fee should be directed to Shelley Cohen at (410) 992-7302, ext. 215 / scohen@erg.jhu.edu or Atashia Allen at (410) 992-7302, ext. 204 / aallen@erg.jhu.edu.

Questions that pertain to obtaining a JANNAF Secure Portal account (registration pre-requisite) should be directed to Mionna Sharp at (410) 992-7300, ext. 224 / msharp@erg.jhu.edu.

UPCOMING JANNAF MEETINGS

52nd Combustion

40th Airbreathing Propulsion

40th Exhaust Plume and Signatures

34th Energetic Systems Hazards

Joint Subcommittee Meeting

Programmatic and Industrial Base Meeting

4 - 8 December 2023
Salt Lake City, UT

71st JANNAF Propulsion Meeting

Programmatic and Industrial Base Meeting

18th Modeling and Simulation

14th Liquid Propulsion

13th Spacecraft Propulsion

Joint Subcommittee Meeting

6 - 10 May 2024
Oklahoma City, OK

49th Structures and Mechanical Behavior

45th Propellant and Explosives Development and Characterization

34th Safety and Environmental Protection

2nd High Temperature Material Applications

Joint Subcommittee Meeting

Programmatic and Industrial Base Meeting

9 - 13 December 2024
Location TBA

VISIT HTTPS://WWW.JANNAF.ORG/MTGS/2023DEC/PAGES/INDEX.HTML

PROGRAM COMMITTEE MEMBERS

Program Chair

Dr. Heather F. Hayden
Naval Surface Warfare Center-Indian Head Division
Indian Head, MD

Combustion Subcommittee

Combustion Subcommittee Chair

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Mr. Peyton Nanney
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Mission Area I: Ignition and Combustion of Gun Propellants

Dr. Michael J. Nusca
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Aberdeen Proving Ground, MD

Dr. Eugene Rozumov
DEVCOM Armaments Center
Picatinny Arsenal, NJ

Mr. Michael A. Bonanno
Naval Surface Warfare Center-Indian Head Division / Indian Head, MD

Mission Area II: Solid Propellants and Combustion

Dr. Jonathan T. Essel
Naval Air Warfare Center Weapons Division
China Lake, CA

Mission Area III: Explosive Performance / Enhanced Blast

Dr. Benjamin R. Wilde
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Mission Area IV: Airbreathing Combustion

Dr. Mark R. Gruber
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Wright-Patterson AFB, OH

Mr. Matthew R. Gazella
Air Force Research Laboratory
Wright-Patterson AFB, OH

Mission Area V: Combustion Diagnostics

Dr. Jeffrey S. West
NASA Marshall Space Flight Center
Huntsville, AL

Mission Area VI: Liquid, Hybrid and Novel Propellants Combustion

Mr. Joel W. Robinson
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Huntsville, AL

Mr. A. Paul Zuttarelli
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Ms. Claire Shamul
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Mission Area I: Turbopropulsion

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Air Force Research Laboratory
Wright-Patterson AFB, OH

Mr. Sameer Kulkarni
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Mission Area II: Ramjet Propulsion

Dr. Trevor D. Hedman
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Division / Indian Head, MD

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Washington, DC

Mission Area III: Scramjet Propulsion

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Mission Area IV: Combined / Advanced Cycle Propulsion

Dr. Ernest Thompson
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Cleveland, OH

Mission Area V: Integrated Vehicle Design and Analysis

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Wright-Patterson AFB, OH

Dr. Patrick J. O'Hara
Air Force Research Laboratory
Wright-Patterson AFB, OH

Dr. Andrew J. Zakrajsek
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Mr. Nick Keim
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Mission Area I: Plume / Wake / Hypersonic Flowfield Analysis

Dr. Mark L. Underwood
DEVCOM Aviation & Missile Center
Redstone Arsenal, AL

Mission Area II: Plume / Wake / Hypersonic Radiation and Signatures

Mr. Jonathan Mautz
National Air and Space Intelligence Center
Wright-Patterson AFB, OH

Mission Area III: Plume / Wake / Hypersonic Effects

Dr. Paul M. Danehy
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Mission Area IV: Additional Plume / Wake / Hypersonic Topics

Dr. Milton E. Vaughn, Jr.
DEVCOM Aviation & Missile Center
Redstone Arsenal, AL

Mission Area V: Composite Scene Signatures of Plume / Wake / Hypersonic Flowfield and Hardbody Configurations

Dr. Ann M. Reagan
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Patuxent River, MD

Mr. Robert M. Watson
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Eglin AFB, FL

Energetic Systems Hazards Subcommittee

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Mission Area I: Thermal Decomposition and Cookoff

Ms. Aubrey D. Farmer
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China Lake, CA

Dr. William W. Erikson
Sandia National Laboratories
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Mission Area II: Shock / Impact-Induced Reactions

Dr. Joel B. Stewart
DEVCOM Army Research Laboratory
Aberdeen Proving Ground, MD

Mr. Joshua E. Felts
Naval Surface Warfare Center-Indian Head Division / Indian Head, MD

Dr. Eric J. Welle
Air Force Research Laboratory
Eglin AFB, FL

Mission Area III: Insensitive Munitions Technology

Ms. Jessica L. Vaughn
DEVCOM Aviation & Missile Center
Redstone Arsenal, AL

Mr. Daniel J. Pudlak
DEVCOM Armaments Center
Picatinny Arsenal, NJ

Mr. Stephen R. Struck
Air Force Research Laboratory
Eglin AFB, FL

Mission Area IV: Combustion Vulnerability of Stowed Energetics

Mr. James S. Anderson
DEVCOM Army Research Laboratory
Aberdeen Proving Ground, MD

Mission Area V: Safety and Hazard Classification of Solid and Liquid Energetics

Dr. Josephine Covino
DoD Explosives Safety Board
Alexandria, VA

Mr. Adam J. Brand
Air Force Research Laboratory
Edwards AFB, CA

Mission Area VI: Energetic Defect Characterization

Mr. Daniel J. Pudlak
DEVCOM Armaments Center
Picatinny Arsenal, NJ

JANNAF Senior Meeting Planner

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ERG Administrative Coordinator - Security

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JHU WSE Energetics Research Group
Columbia, MD

KEYNOTE ADDRESS

MR. DALE SISSON, SES

Technical Director

Naval Surface Warfare Center, Dahlgren Division

Dahlgren, VA

Mr. Dale W. Sisson, Jr. is the Technical Director for the Naval Surface Warfare Center, Dahlgren Division (NSWCDD), Dahlgren, VA. He was appointed to the position in November 2021 and has been a member of the Senior Executive Service (SES) since June 2018. As the NSWCDD Technical Director, Mr. Sisson is the senior civilian leader for the NSWCDD workforce and is responsible for the execution and technical excellence of Dahlgren's $1.8 Billion portfolio of research, development, test and evaluation, including complex naval combat, sensor, weapon and strategic systems engineering, analysis, integration and certification.

In his previous role, Mr. Sisson served as the Executive Director of the Naval Ordnance Safety and Security Activity (NOSSA) and the Deputy for Weapons Safety, Naval Sea Systems Command (NAVSEA). In this capacity, he provided executive and technical direction for all ordnance surety programs assigned to NOSSA and was the NAVSEA Deputy Warranting Officer for Weapons Systems and Ordnance – Explosives Safety and Security. Mr. Sisson also served as chairperson of the Department of the Navy's Weapon System Explosives Safety Review Board, which provides system safety compliance of all Navy and Marine Corps munitions, ordnance items, weapons and combat systems prior to fielding to operating forces.

Mr. Sisson holds a Bachelor of Science in Mechanical Engineering and a Master of Science in Systems Engineering, both from Virginia Tech. Recognized for his contributions to the Navy's development of laser weapons, Mr. Sisson was awarded the Department of the Navy's Superior Civilian Service medal in May 2015.

As the keynote presenter at the December JANNAF meeting, the title of Mr. Sisson's talk is, "Leveraging Research, Development, Test and Evaluation in Next Generation Technology in Countering Modern Threats." He will explore the vital role of Research, Development, Test, and Evaluation (RDT&E) in advancing next-generation technologies to effectively counter modern threats from our adversaries. Attendees will gain insights into how RDT&E processes enhance the development of cutting-edge tools, systems, and strategies for addressing emerging challenges. By showcasing real-world examples, the presentation underscores the critical need for continuous collaboration between researchers, developers, and practitioners to stay ahead in the ever-evolving global landscape of adversarial threats.

All attendees are invited to participate. **The Keynote Address begins at 8:00 a.m. on Tuesday, 5 December in Grand Ballrooms A&B** on the 2nd floor of the Hilton Salt Lake City Center. Due to space limitations, some attendees may be directed to satellite viewing locations near the ballroom. Award presentations will immediately follow the Keynote Address.

PROGRAM HIGHLIGHTS

Combustion Subcommittee

The Combustion Subcommittee (CS) will be hosting specialist sessions on "Combustion and Performance of Additively Manufactured Energetic Materials" (4U) and "The Role of Metadata Approaches in the Advancement of Combustion Applications (2E/2T). In addition, CS will be conducting panel meetings for Diagnostics (1U), Kinetics (4U), and Reactive Materials (3U).

Airbreathing Propulsion Subcommittee

In addition to three classified sessions (3X, 4I, and 4X), the Airbreathing Propulsion Subcommittee (APS) is holding specialist sessions on University Consortium of Applied Hypersonics (UCAH) Student Research Presentations (2R) and High Temperature Seal Technology for the Hypersonic Environment: Progress and Challenges (3C/3R). Additionally, APS is conducting a series of technical sessions on Rotating Detonation Engines (1D, 1S, 2A, 4D, 4S, 5D and 5F), and Computational and Analytical Methods (3D, 3Q, 4R, 5S and 5U).

Exhaust Plume and Signatures Subcommittee

The EPSS meeting will include four tutorials with subject matter experts providing lessons learned and best practices to apply state of the art techniques. The tutorials include: Hypersonic Grid Generation (2V); Setup and Execution of the JANNAF PWH Codes and SPIRITS-AC3 (3V); Gas/Material Interactions (5G); and Computational Methods for Developing Chemical Kinetic Mechanisms.

WHAT ARE PANEL MEETINGS AND WHY ATTEND THEM?

Subcommittee Panels represent the primary mechanism for collaboration in technical areas of joint interest to JANNAF agencies, the industry, and academia. If you are interested in participating in JANNAF tasks or wish to learn about potential areas for collaboration, then please look through the meeting Schedule at a Glance (pages 18-22) for panel meetings that align with your interests.

Energetic System Hazards Subcommittee

The Energetic Systems Hazards Subcommittee (ESHS) meeting will include eight sessions and several panel meetings throughout the week. Highlights of the ESHS meeting include a session on thermal decomposition (1W), two sessions on energetic defect characterization (2H and 2W), and two sessions on detonative modeling and experimentation (3W and 4H). Many of the ESHS sessions are followed by a panel meeting on specific topics of interest; for example, a session on low-velocity impact and hazards properties (3H) is followed by a panel meeting on shock-/impact-induced reactions, which will discuss past and future workshops on explosive detonation train design.

Programmatic and Industrial Base

The Programmatic and Industrial Base (PIB) will present a specialist session on Space Access, Mobility, and Logistics (3S) on Wednesday, 6 December.

Program Details

This year's technical program currently consists of more than 400 presentations in 67 technical sessions; 14 specialist sessions; 3 workshops; a poster session; and a keynote presentation; plus 19 panel, town hall and working group meetings.

A detailed daily schedule of all sessions, workshops, meetings and networking activities is provided on pages 18 - 22. Detailed agendas of the technical sessions, specialist sessions, and workshops are listed in the Program Section of the Preliminary Program beginning on page 23.

TECHNICAL PROGRAM

Please note that the agendas of 26 technical sessions begin with at least one presentation that is restricted at either distribution statement B (U.S. Government only), D (DoD and DoD Contractors only), or E (DoD Components only). Of these sessions, three are entirely restricted at the distribution statement D level; one at distribution statement B. Sessions with at least one restricted presentation are indicated in the Schedule at a Glance below and through page 22 with "Open *". The three distribution statement D sessions are denoted with "Distro **D**" in the Schedule at a Glance; the distribution statement B session is indicated with "Distro **B-S**". Please review the detailed session agendas on pages 23 - 62 in the Preliminary Program for additional information about the restricted talks and who is eligible to attend them.

A Schedule Color Key has been provided on pages 20 and 22.

SCHEDULE - Sunday, 3 December		
5:00 p.m. - 7:00 p.m.	On-Site Check-In and Registration Desk Open	2nd Floor Foyer
6:00 p.m. - 7:00 p.m.	Early Career Working Group Meeting	Seminar Theater

SCHEDULE - Monday, 4 December					
7:00 a.m. - 5:00 p.m.	On-Site Check-In and Registration Desk Open			2nd Floor Foyer	
7:00 a.m. - 5:00 p.m.	I.T. Office Open (for Presenters and Session Chairs needing technical assistance)			Topaz	Open
7:00 a.m. - 8:00 a.m.	Networking Area Refreshments			Grand Ballroom C	Open
7:15 a.m. - 7:30 a.m.	Session Chair Meeting (Monday Sessions)			Seminar Theater	Closed
8:00 a.m. - 12:05 p.m.	**Monday Morning Technical Sessions and Panel Meeting**				
8:00 a.m. - 9:35 a.m.	1A Part 1	APS	Design Trades for High Speed Vehicles and Components	Grand Ballroom A	Open
10:00 a.m. - 11:35 a.m.	1A Part 2	APS	High Speed System Component Analysis	Grand Ballroom A	Open *
8:30 a.m. - 11:05 a.m.	1B	APS	Inlet Technology and Design	Grand Ballroom B	Open
8:00 a.m. - 10:05 a.m.	1C	APS	Material Analysis for ACC-6 and Related Composites	Alpine East	Open
8:00 a.m. - 11:35 a.m.	1D	APS	Operability of Rotating Detonation and Diesel Engines	Alpine West	Open
8:00 a.m. - 11:05 a.m.	1E	CS	Experimental Studies in Dual-Mode Ramjet Environments	Canyon A	Open
8:00 a.m. - 12:05 p.m.	1F	APS	Scramjet Fuels - I	Canyon B	Open
8:00 a.m. - 11:35 a.m.	1G	EPSS	Plume / Wake / Hypersonic Flowfield Measurements	Canyon C	Open
8:00 a.m. - 11:05 a.m.	1H	ESHS	Insensitive Munitions	Seminar Theater	Open *
11:05 a.m. - 11:35 a.m.	1H	ESHS	*PANEL MEETING:* Insensitive Munitions	Seminar Theater	Open
9:00 a.m. - 4:30 p.m.	On-Site Reading Room (also available 24/7 virtually with your own device)			Topaz	Open
9:35 a.m. - 10:35 a.m.	Networking Area Refreshments			Grand Ballroom C	Open
12:00 p.m. - 1:30 p.m.	Lunch Break - On Your Own				
1:30 p.m. - 6:05 p.m.	**Monday Afternoon Technical Sessions and Panel Meetings**				
2:00 p.m. - 5:05 p.m.	1P	APS	Ramjet Design	Grand Ballroom A	Open
1:30 p.m. - 5:05 p.m.	1Q	APS	HIFiRE Flight 2-C - I	Grand Ballroom B	Open
1:30 p.m. - 5:05 p.m.	1R	APS/CS	Additive Manufacturing: Characterization and Application	Alpine East	Open
1:30 p.m. - 4:35 p.m.	1S	APS	Rotating Detonation Engine Inflow Considerations	Alpine West	Open
1:30 p.m. - 5:05 p.m.	1T	CS	Combustion Diagnostic Methods and Applications	Canyon A	Open *
1:30 p.m. - 5:35 p.m.	1U	CS	Advanced Diagnostics for Energetic Materials	Canyon B	Open *
5:35 p.m. - 6:05 p.m.	1U	CS	*PANEL MEETING:* Diagnostics	Canyon B	Open
1:30 p.m. - 5:35 p.m.	1V	EPSS	Plume / Wake / Hypersonic Flowfield Modeling	Canyon C	Open
2:00 p.m. - 4:35 p.m.	1W	ESHS	Thermal Decomposition and Cookoff	Seminar Theater	Open
4:35 p.m. - 5:05 p.m.	1W	ESHS	*PANEL MEETING:* Cookoff	Seminar Theater	Open
3:05 p.m. - 4:05 p.m.	Networking Area Refreshments			Grand Ballroom C	Open

SCHEDULE - Tuesday, 5 December					
7:00 a.m. - 5:00 p.m.	On-Site Check-In and Registration Desk Open			2nd Floor Foyer	
7:00 a.m. - 5:00 p.m.	I.T. Office Open (for Presenters and Session Chairs needing technical assistance)			Topaz	Open
7:00 a.m. - 8:00 a.m.	Networking Area Refreshments			Grand Ballroom C	Open
7:15 a.m. - 7:30 a.m.	Session Chair Meeting (all Tuesday sessions and Wednesday classified sessions)			Seminar Theater	Closed
8:00 a.m. - 10:00 a.m.	KEYNOTE ADDRESS: Mr. Dale W. Sisson, Jr. - NSWCDD, Dahlgren, VA Awards and Announcements			Grand Ballroom A&B + satellite	Open
9:00 a.m. - 4:30 p.m.	On-Site Reading Room (also available 24/7 virtually with your own device)			Topaz	Open
9:30 a.m. - 10:00 a.m.	Networking Area Refreshments			Grand Ballroom C	Open
9:30 a.m. - 12:00 p.m.	PIB LLPWG Reusability Panel Meeting			Salon 1	Closed
10:00 a.m. - 5:00 p.m.	JANNAF Technical Executive Committee Meeting			Salon 2	Closed
10:00 a.m. - 12:35 p.m.	**Tuesday Morning Technical Sessions, Specialist Session, and Panel Meeting**				
10:00 a.m. - 11:35 a.m.	2A	APS	Rotating Detonation Engine Geometry	Grand Ballroom A	Open
10:00 a.m. - 12:35 p.m.	2B	APS	HIFiRE Flight 2-C - II	Grand Ballroom B	Open
10:00 a.m. - 11:05 a.m.	2C	APS	Turboramjets	Alpine East	Open
10:00 a.m. - 11:05 a.m.	2D	CS	Novel Solid Propellant Technologies	Alpine West	Open
10:00 a.m. - 12:05 p.m.	2E	CS	*SPECIALIST SESSION:* The Role of Metadata Approaches in the Advancement of Combustion Applications - I	Canyon A	Open
10:30 a.m. - 12:35 p.m.	2F	CS	Small-Scale Detonation Performance	Canyon B	Open *
10:00 a.m. - 12:05 p.m.	2G	EPSS	Plume / Wake / Hypersonic Topics	Canyon C	Open
10:00 a.m. - 12:05 p.m.	2H	ESHS	Energetic Defect Characterization (EDC): Defect Detection, Experimental Evaluations	Seminar Theater	Open *
12:05 p.m. - 12:35 p.m.	2H	ESHS	*PANEL MEETING:* Energetic Defect Characterization (EDC): Defect Detection, Experimental Evaluations	Seminar Theater	Open
12:00 p.m. - 1:30 p.m.	Lunch Break - On Your Own				
1:00 p.m. - 4:00 p.m.	PIB Commodities Working Group Meeting			Salon 1	Closed
1:30 p.m. - 7:30 p.m.	**Tuesday Afternoon/Evening Technical Sessions, Specialist Sessions, Poster Session, Town Hall and Panel Meetings**				
2:00 p.m. - 4:35 p.m.	2P	APS	Ramjet Fuels	Grand Ballroom A	Open
1:30 p.m. - 5:35 p.m.	2Q	APS	Experimental and Diagnostic Techniques - I	Grand Ballroom B	Open
1:30 p.m. - 5:55 p.m.	2R	APS	*SPECIALIST SESSION:* University Consortium of Applied Hypersonics (UCAH) Student Research Presentations	Alpine East	Open
1:30 p.m. - 5:05 p.m.	2S	CS	Non-Ideal Explosive Performance	Alpine West	Distro **D**
1:30 p.m. - 5:45 p.m.	2T	CS	*SPECIALIST SESSION:* The Role of Metadata Approaches in the Advancement of Combustion Applications - II	Canyon A	Open *
1:30 p.m. - 2:35 p.m.	2U	CS	Ignition and Combustion in Solid Propellant Guns	Canyon B	Open
2:35 p.m. - 3:35 p.m.	2U	CS	*TOWN HALL MEETING:* Guns	Canyon B	Open
1:30 p.m. - 5:45 p.m.	2V	EPSS	*SPECIALIST SESSION:* EPSS Tutorial: Hypersonic Grid Generation	Canyon C	Open
1:30 p.m. - 5:50 p.m.	2W	ESHS	Energetic Defect Characterization (EDC): Computational Analysis of Defects	Seminar Theater	Open *
5:50 p.m. - 6:20 p.m.	2W	ESHS	*PANEL MEETING:* Energetic Defect Characterization (EDC) - Computational Analysis of Defects	Seminar Theater	Open
6:00 p.m. - 7:30 p.m.	2Z	EPSS	EPSS Poster Session (includes light refreshments)	Grand Ballrom Foyer	Open
3:05 p.m. - 4:05 p.m.	Networking Area Refreshments			Grand Ballroom C	Open
4:35 p.m. - 6:05 p.m.	APS Inflow Profile Effects Working Group Meeting			Salon 3	Open
6:30 p.m. - 8:00 p.m.	APS Technical Steering Group Meeting			Salon 2	Closed

JANNAF MEETING INVITATION - DECEMBER 2023

SCHEDULE - Wednesday, 6 December

7:00 a.m. - 5:00 p.m.	On-Site Check-In and Registration Desk Open			2nd Floor Foyer	
7:00 a.m. - 5:00 p.m.	I.T. Office Open (for Presenters and Session Chairs needing technical assistance)			Topaz	Open
7:00 a.m. - 8:00 a.m.	Networking Area Refreshments			Grand Ballroom C	Open
7:15 a.m. - 7:30 a.m.	Session Chair Meeting (Wednesday sessions and Thursday classified sessions)			Seminar Theater	Closed
9:00 a.m. - 4:30 p.m.	On-Site Reading Room (also available 24/7 virtually with your own device)			Topaz	Open
8:00 a.m. - 12:05 p.m.	**Wednesday Morning Technical Sessions, Workshops, Specialist Session, Town Hall and Panel Meetings**				
8:00 a.m. - 11:25 a.m.	3A	APS	*WORKSHOP:* Isolator-Control Algorithms for Shock Location and/or Overall Pressure Ratio Management	Grand Ballroom A	Open
8:00 a.m. - 11:05 a.m.	3B	APS	Experimental and Diagnostic Techniques - II	Grand Ballroom B	Open *
11:05 a.m. - 11:50 a.m.	3B	APS	*PANEL MEETING:* Engine Testing and Validation	Grand Ballroom B	Open
8:00 a.m. - 12:05 p.m.	3C	APS	*SPECIALIST SESSION:* High Temperature Seal Technology for the Hypersonic Environment: Progress and Challenges - I	Alpine East	Open
8:00 a.m. - 12:00 p.m.	3D	APS	*WORKSHOP:* Computational Tools for Inlet Design and Analysis	Alpine West	Open
8:00 a.m. - 9:35 a.m.	3E	CS	Reactive Material Performance	Canyon A	Distro **D**
8:00 a.m. - 9:05 a.m.	3F	CS	Modeling, Simulation, and Component Design	Canyon B	Open
9:05 a.m. - 9:35 a.m.	3F	CS	*TOWN HALL MEETING:* Liquid Rocket Propulsion	Canyon B	Open
8:00 a.m. - 9:35 a.m.	3G Part 1	APS	Engine Testing	Canyon C	Open
10:00 a.m. - 12:05 p.m.	3G Part 2	APS	Experimental Methods	Canyon C	Open
8:00 a.m. - 9:35 a.m.	3H	ESHS	Low Velocity Impact / Hazards Properties	Seminar Theater	Open *
9:35 a.m. - 10:35 a.m.	3H	ESHS	*PANEL MEETING:* Shock/Impact-Induced Reactions	Seminar Theater	Open
8:00 a.m. - 12:05 p.m.	3I	EPSS	(U) Plume / Wake / Hypersonic Radiation and Signatures	UTNG-Draper	Open **S***
9:35 a.m. - 10:35 a.m.	Networking Area Refreshments			Grand Ballroom C	Open
12:00 p.m. - 1:30 p.m.	Lunch Break - On Your Own				
1:30 p.m. - 3:00 p.m.	NASA Glenn Inlet Bleed Research Meeting			Salon 1	Open
1:30 p.m. - 5:35 p.m.	**Wednesday Afternoon Technical Sessions, Specialist Sessions, and Panel Meeting**				
1:30 p.m. - 3:35 p.m.	3P	APS	Gun Launched Ramjets	Grand Ballroom A	Open *
1:30 p.m. - 3:35 p.m.	3Q	APS	Computational and Analytic Methods - I	Grand Ballroom B	Open
1:30 p.m. - 5:05 p.m.	3R	APS	*SPECIALIST SESSION:* High Temperature Seal Technology for the Hypersonic Environment: Progress and Challenges - II	Alpine East	Open
1:30 p.m. - 5:35 p.m.	3S	PIB	*SPECIALIST SESSION:* Space Access Mobility and Logistics	Alpine West	Open
1:30 p.m. - 5:05 p.m.	3T	CS	Solid Propellant Modeling and Simulation	Canyon A	Open *
1:30 p.m. - 3:35 p.m.	3U	CS	Reactive Material Development	Canyon B	Open *
4:05 p.m. - 5:35 p.m.	3U	CS	*PANEL MEETING:* Reactive Materials	Canyon B	Distro **D**
1:30 p.m. - 5:35 p.m.	3V	EPSS	*SPECIALIST SESSION:* EPSS Tutorial: Setup and Execution of the JANNAF PWH Codes and SPIRITS-AC3	Canyon C	Open
1:30 p.m. - 4:35 p.m.	3W	ESHS	Detonative Modeling and Experimentation - I	Seminar Theater	Open *
1:30 p.m. - 4:30 p.m.	3X	APS	(U) *SPECIALIST SESSION:* HyFly2 Overview and Test Results	UTNG-Draper	Distro **B-S**
3:05 p.m. - 4:05 p.m.	Networking Area Refreshments			Grand Ballroom C	Open
6:00 p.m. - 7:30 p.m.	Networking Reception JANNAF Badge or Guest Ticket required			Grand Ballroom A-C	Open

Schedule Color Key

	Meeting Services		Concurrent Sessions or Panel Meetings
	Networking Opportunities		Session Details
	Closed Meetings		Panel Meetings

"Distro **D**" and "Open *" indicate a session with at least one presentation restricted at B, D, or E

SCHEDULE - Thursday, 7 December					
7:00 a.m. - 5:00 p.m.	On-Site Check-In and Registration Desk Open			2nd Floor Foyer	
7:00 a.m. - 5:00 p.m.	I.T. Office Open (for Presenters and Session Chairs needing technical assistance)			Topaz	Open
7:00 a.m. - 8:00 a.m.	Networking Area Refreshments			Grand Ballroom C	Open
7:15 a.m. - 7:30 a.m.	Session Chair Meeting (all Thursday sessions and Friday classified session)			Seminar Theater	Closed
9:00 a.m. - 4:30 p.m.	On-Site Reading Room (also available 24/7 virtually with your own device)			Topaz	Open
8:00 a.m. - 12:35 p.m.	**Thursday Morning Technical Sessions and Specialist Session**				
8:00 a.m. - 10:05 a.m.	4D Part 1	APS/CS	Rotating Detonation Engine Modeling and Operability	Alpine West	Open
10:30 a.m. - 12:05 p.m.	4D Part 2	APS	Rotating Detonation Engine Integration	Alpine West	Open
8:00 a.m. - 9:35 a.m.	4E	CS	Experimental and Numerical Studies in Solid Fuel Combustion	Canyon A	Open
8:30 a.m. - 10:15 a.m.	4F Part 1	CS	Solid Propellant Testing Methods	Canyon B	Open *
10:30 a.m. - 12:35 p.m.	4F Part 2	CS	Solid Propellant and Fuel Combustion	Canyon B	Open
8:00 a.m. - 9:35 a.m.	4G Part 1	APS	Inlets	Canyon C	Open
10:30 a.m. - 12:05 p.m.	4G Part 2	APS	Other Topics	Canyon C	Open
8:00 a.m. - 12:35 p.m.	4H	ESHS	Detonative Modeling and Experimentation - II	Seminar Theater	Distro **D**
8:00 a.m. - 11:35 a.m.	4I	APS	(U) *SPECIALIST SESSION:* Hypersonic Programs Overview	UTNG-Draper	Open **S**
9:00 a.m. - 11:30 a.m.	PIB Large Liquid Propulsion Working Group Meeting			Salon 3	Closed
9:35 a.m. - 10:35 a.m.	Networking Area Refreshments			Grand Ballroom C	Open
12:00 p.m. - 1:30 p.m.	Lunch Break - On Your Own				
12:00 p.m. - 1:15 p.m.	CS Technical Steering Group Meeting			Salon 2	Closed
1:00 p.m. - 5:00 p.m.	PIB Executive Committee Meeting			Salon 1	Closed
1:30 p.m. - 6:35 p.m.	**Thursday Afternoon Technical Sessions, Specialist Sessions, and Working Group and Panel Meetings**				
1:30 p.m. - 5:35 p.m.	4P	APS	Ramjet Combustion	Grand Ballroom A	Open
1:30 p.m. - 4:35 p.m.	4Q	APS	Scramjet Fuels - II	Grand Ballroom B	Open
4:35 p.m. - 6:05 p.m.	4Q	APS	*PANEL MEETING:* Fuels	Grand Ballroom B	Open
1:30 p.m. - 6:35 p.m.	4R	APS	Computational Scramjet and Inlet Analysis	Alpine East	Open *
1:30 p.m. - 4:35 p.m.	4S	APS/CS	Rotating Detonation Engine Fueling	Alpine West	Open
4:35 p.m. - 6:35 p.m.	4S	APS	*WORKING GROUP MEETING:* Pressure Gain Combustion	Alpine West	Open
1:30 p.m. - 3:35 p.m.	4T Part 1	CS	Propulsion System Component Characterization, Test, and Analysis	Canyon A	Open
4:30 p.m. - 5:05 p.m.	4T Part 2	CS	Modeling of Reactive Material Performance	Canyon A	Open *
1:30 p.m. - 5:35 p.m.	4U	CS	*SPECIALIST SESSION:* Combustion and Performance of Additively Manufactured Energetic Materials	Canyon B	Open *
5:35 p.m. - 6:05 p.m.	4U	CS	*PANEL MEETING:* Kinetics	Canyon B	Open
1:30 p.m. - 5:05 p.m.	4V	EPSS	Composite Scene Signatures of Plume / Wake / Hypersonic Flowfield and Hardbody Configurations	Canyon C	Open
1:30 p.m. - 3:35 p.m.	4W	ESHS	Liquid and Solid Propellant Safety Testing	Seminar Theater	Open *
3:35 p.m. - 4:20 p.m.	4W	ESHS	*PANEL MEETING:* Life Cycle Safety and Hazards Classification	Seminar Theater	Open
1:30 p.m. - 4:00 p.m.	4X	APS	(U) *SPECIALIST SESSION:* Pony Express Flight Test Review	UTNG-Draper	Open **S**
3:05 p.m. - 4:05 p.m.	Networking Area Refreshments			Grand Ballroom C	Open
6:30 p.m. - 8:30 p.m.	EPSS Technical Steering Group Meeting			Salon 2	Closed
5:00 p.m. - 7:00 p.m.	ESHS Technical Steering Group Meeting			Salon 3	Closed

SCHEDULE - Friday, 8 December					
7:00 a.m. - 5:00 p.m.	On-Site Check-In and Registration Desk Open			2nd Floor Foyer	
7:00 a.m. - 5:00 p.m.	I.T. Office Open (for Presenters and Session Chairs needing technical assistance)			Topaz	Open
7:00 a.m. - 8:00 a.m.	Networking Area Refreshments			Grand Ballroom C	Open
7:15 a.m. - 7:30 a.m.	Session Chair Meeting (Friday sessions)			Seminar Theater	Closed
9:00 a.m. - 2:00 p.m.	On-Site Reading Room (also available till 2:00 p.m. virtually with your own device)			Topaz	Open
8:00 a.m. - 12:15 p.m.	**Friday Morning Technical Sessions, Workshop, and Specialist Session**				
8:30 a.m. - 10:05 a.m.	5A	APS	Turbine Based Combined-Cycle / Mode Transition	Grand Ballroom A	Open *
8:00 a.m. - 9:35 a.m.	5C	APS	SiC Material Applications and Analysis	Alpine East	Open
8:00 a.m. - 12:00 p.m.	5D	APS	*WORKSHOP:* RDE CFD Post Processing Methods	Alpine West	Open
8:00 a.m. - 10:05 a.m.	5E	CS	Computational Studies in Dual-Mode Ramjet Environments	Canyon A	Open
8:00 a.m. - 10:35 a.m.	5F	CS/APS	Topics in Rotating Detonation Engine Research	Canyon B	Open
8:00 a.m. - 12:15 p.m.	5G	EPSS	*SPECIALIST SESSION:* EPSS Tutorial: Gas / Material Interactions	Canyon C	Open
8:00 a.m. - 9:05 a.m.	5H	APS	Studies of Fluid Thermal Structural Interactions	Seminar Theater	Open
9:35 a.m. - 10:35 a.m.	Networking Area Refreshments			Grand Ballroom C	Open
12:00 p.m. - 1:30 p.m.	Lunch Break - On Your Own				
1:30 p.m. - 5:45 p.m.	**Friday Afternoon Tehnical Sessions and Specialist Session**				
1:30 p.m. - 4:35 p.m.	5P	APS	Ramjet Inlets and External Flow	Grand Ballroom A	Open *
1:30 p.m. - 4:35 p.m.	5R	APS	Numerical and Experimental Material Analysis for Carbon-Carbon	Alpine East	Open *
1:30 p.m. - 5:35 p.m.	5S	APS	Computational and Analytic Methods - II	Alpine West	Open
1:30 p.m. - 5:05 p.m.	5U	APS	Computational Tool and Physical Testing Developments	Canyon B	Open
1:30 p.m. - 5:45 p.m.	5V	EPSS/CS	*SPECIALIST SESSION:* EPSS Tutorial: Computational Methods for Developing Chemical Kinetic Mechanisms	Canyon C	Open
3:05 p.m. - 4:00 p.m.	Networking Area Refreshments			Grand Ballroom C	Open

Schedule Color Key			
	Meeting Services		Concurrent Sessions or Panel Meetings
	Networking Opportunities		Session Details
	Closed Meetings		Panel Meetings
"Distro **D**" and "Open *" indicate a session with at least one presentation restricted at B, D, or E			