JANNAF
INTERAGENCY PROPULSION COMMITTEE

Meeting Invitation

72nd JPM | PIB Meeting | 53rd CS | 41st APS
41st EPSS | 35th ESHS | 19th MSS | 15th LPS | 14th SPS
Joint Subcommittee Meeting

26 - 30 January 2026 | Spokane, WA

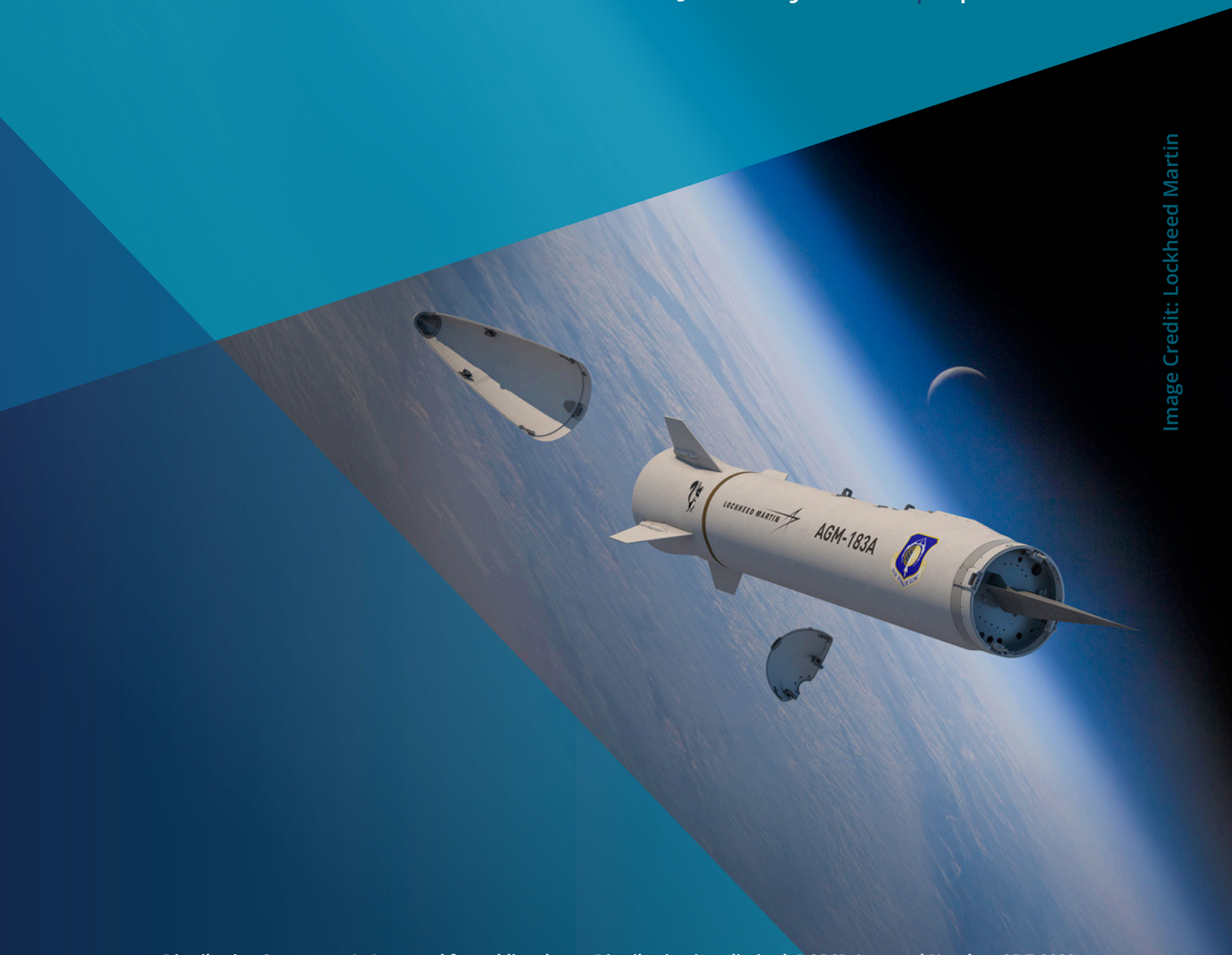

Image Credit: Lockheed Martin

Last Updated 9/12/25

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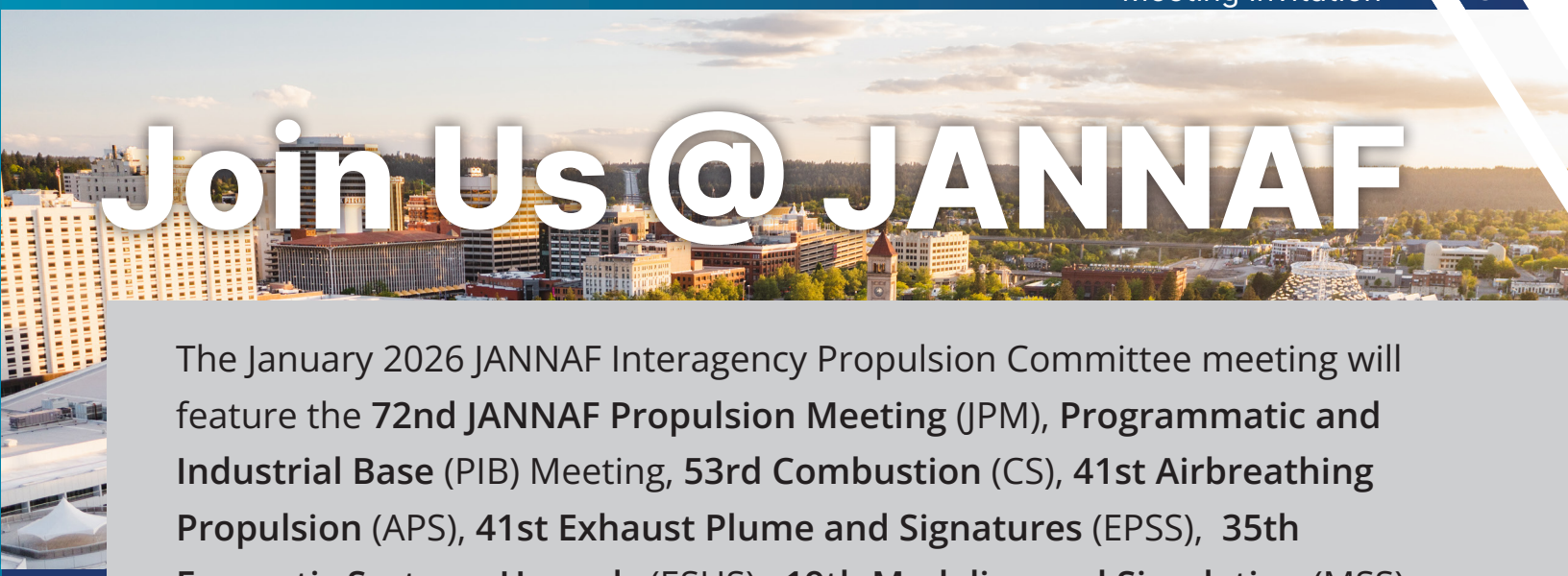


Join Us @ JANNAF

The January 2026 JANNAF Interagency Propulsion Committee meeting will feature the **72nd JANNAF Propulsion Meeting** (JPM), **Programmatic and Industrial Base** (PIB) Meeting, **53rd Combustion** (CS), **41st Airbreathing Propulsion** (APS), **41st Exhaust Plume and Signatures** (EPSS), **35th Energetic Systems Hazards** (ESHS), **19th Modeling and Simulation** (MSS), **15th Liquid Propulsion** (LPS) and **14th Spacecraft Propulsion** (SPS) Joint Subcommittee Meeting.

Program Chair:
Dr. Robert A. Baurle
Air Force Research Laboratory
Wright-Patterson AFB, Ohio

Spokane Convention Center
Spokane, Washington

Fairchild Air Force Base
Fairchild AFB, Washington

Monday – Friday
26 – 30 January 2026

MEETING SCOPE

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

JANNAF Propulsion Meeting

The JANNAF Propulsion Meeting (JPM) encompasses research and applications at the systems level. The JPM is held each year in conjunction with standing JANNAF subcommittee meetings on a rotating basis. The scope of the 72nd JPM spans six mission areas: Tactical Propulsion; Missile Defense/Strategic Propulsion; Propulsion Systems for Space Access; Gun and Gun-Launched Propulsion; Propulsion and Energetics Test Facilities; and Sensors for Propulsion Measurement Applications.

400+ presentations

121 sessions

5 days

Programmatic and Industrial Base

The JANNAF Programmatic and Industrial Base (PIB) Committee was chartered by the Department of Defense and the National Aeronautics and Space Administration in 2014 as a part of JANNAF. Its focus is on providing a mechanism for DoD and NASA Programs to collaboratively identify and manage risks and issues within the propulsion industrial base, and to work together to solve them. This requires an integrated understanding of each program's plans and key decision points, and how those decisions may impact the propulsion 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.

Combustion Subcommittee

The Combustion 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, standardization 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.

Modeling and Simulation Subcommittee

The Modeling and Simulation Subcommittee (MSS) provides an overarching focus on M&S across all disciplines related to the JANNAF Interagency Propulsion Commitee. Simulation-based acquisitions include propulsion systems for aerospace plane, hypersonic aircraft, rocket-based space-access systems, high-speed missiles, in-space propulsion systems, and gun propulsion systems. MSS mission areas include Model-Based Engineering; Integrated Health Management; Simulation Credibility; and Model Based Test and Evaluation. MSS is focused on these topics, seeking to advance modeling and simulation capabilities for the propulsion community.

Liquid Propulsion Subcommittee

The JANNAF 15th Liquid Propulsion Subcommittee meeting includes sessions in six general technical areas: liquid engine systems; liquid combustion subsystems and components; liquid propellant feed and pressurization systems; advanced materials for liquid propulsion applications; rotating detonation rocket engines; and propulsion-induced environments and structural and thermal loads. Papers are solicited that will aid in the design, development and test of efficient and stable liquid propulsion systems.

Spacecraft Propulsion Subcommittee

The charter of the Spacecraft Propulsion Subcommittee addresses technical problems and issues of national needs associated with technology materials applied to space-based primary or auxiliary propulsion. These issues (for both system and component level) include design, development, materials, lifetime, performance, ground testing, flight testing, validation, qualification, spacecraft integration, fabrication processes, standards and cost. The 14th SPS includes papers on the full array of spacecraft propulsion technology interests including chemical propulsion, electric propulsion, micropropulsion, nuclear thermal propulsion, propellant management, aerocapture, solar sails, solar thermal propulsion, tether systems, in-space propulsion infrastructure, and technologies for the future. Possible applications to these technologies are orbit to orbit transfer, attitude control, non-terrestrial ascent/descent, station keeping, deep space, formation flying, drag makeup, and orbital rephasing.

MEETING SITES & HOTELS

Unclassified Sessions will be held at:

Spokane Convention Center
334 W. Spokane Falls Blvd.
Spokane, WA 99201

The convention center is located in downtown Spokane, in close walking distance to a variety of dining and entertainment options and public transportation. It is also conveniently connected to both JANNAF hotels: Doubletree by Hilton Spokane City Center and The Davenport Grand, Autograph Collection.

For information about parking at the convention center, or accessing it from the hotels, view Transportation & Parking on page 7.

DID YOU KNOW?

Using the JANNAF reservation links/ codes helps both you and JANNAF.

You receive the discounted rate for your hotel room at one of the meeting hotels...

...and JANNAF can meet its obligation to the hotels, avoiding penalties and keeping meeting costs down.

Classified Sessions will be held at:

Fairchild Air Force Base
Fairchild AFB, WA 99011

Attendance at Classified sessions requires that an additional step be completed when registering. Only those who have completed registration for the JANNAF meeting and the additional step for Classified sessions will be permitted on the shuttle bus to the base, on the base itself, or into the building where Classified sessions will be conducted. For information about these registration steps, view Registration on page 8.

For information about travel to the Classified meeting site, view Transportation & Parking on page 7.

Sleeping rooms have been arranged at:

Doubletree by Hilton Spokane City Center
332 N. Spokane Falls Ct.
Spokane, WA 99201

The Davenport Grand, Autograph Collection
333 W. Spokane Falls Blvd.
Spokane WA 99201

JANNAF has negotiated a special discounted room rate with two hotels for all attendees. The room rate for the headquarters hotel, **Doubletree by Hilton Spokane City Center,** and the secondary hotel, **The Davenport Grand, Autograph Collection**, is equal to the GSA FY2026 per diem rate of $126 per night plus 12.1% tax and $5 per night Spokane Tourism Promotion Area (TPA) fee. Those eligible for tax exemption for lodging can access requisite instructions on the Information tab of the meeting webpage.

These discounted rooms are limited and will be held for JANNAF attendees until the reservation deadline of Friday, 9 January at 11:59 p.m. PST, or until they sell out—whichever comes first. Each individual is responsible for their own reservation. View Making Reservations on page 7 for guidance to reserve a room.

The JANNAF discounted room rate may be applied for stays between Sunday, 25 January and the night of Friday, 30 January (i.e., check-out Saturday, 31 January) until the reservation deadline or until rooms in the JANNAF blocks are sold out, whichever comes first. For those who wish to stay longer, the hotels will honor the JANNAF discounted rate for up to three days pre- and post-meeting (pending availability).

MAKING RESERVATIONS

Click on either of the reservation links on the information tab of the meeting webpage to make your reservation. Using these links is recommended as it will give you direct access to the JANNAF discounted room block at each hotel. The majority of available rooms are located at the Doubletree Hotel.

For additional reservation assistance:

Doubletree Hotel – call 800-757-6131 and provide the group code (90P).

Davenport Grand – call 509-598-4554 and mention JANNAF and the Davenport Grand

Need to cancel or change your reservation? Information pertaining to room reservation cancellation and early departure is on the information tab of the meeting webpage and in your reservation confirmation email.

TRANSPORTATION & PARKING

Unclassified Sessions // Spokane Convention Center

Those staying at the Doubletree Spokane City Center and The Davenport Grand can access the convention center through an enclosed connector from the third floor of the Doubletree or via an enclosed sky bridge from the second floor of the Davenport Grand. The Doubletree connector and Davenport Grand sky bridge are only accessible on meeting days from 7:00 a.m. to approximately 30 minutes after the end of the last session, meeting, or activity being held in the convention center that day.

Those staying at other hotels who need to drive to Unclassified sessions can park at the convention center during the day for a discounted rate of $10/day. In/out privileges are not included, so each re-entry will incur another $10 charge. To get this rate, attendees must indicate they are attending JANNAF.

Classified Sessions // Fairchild AFB

Shuttle bus service will be provided on a limited schedule. The bus will arrive shortly before a session starts, and depart shortly after it ends. For greater flexibility, you may drive yourself to the sessions so that you can come and go as you please. Ample parking is available near the venue.

Only those registered to attend the JANNAF meeting as a whole and specifically the Classified sessions will be permitted on the shuttle bus, through the FAFB gate, or granted access to the session location.

Hotels // Doubletree Spokane City Center and The Davenport Grand

Spokane International Airport (GEG) is located just 7.7 miles from the hotels. Rideshare from GEG to the hotels is estimated to range from $15-$42, and Spokane Transit Authority (STA) provides bus service from GEG to STA Plaza in downtown Spokane at the cost of $2 each way. If you prefer to have a car there are several options at the airport. More information can be found on the Information tab of the meeting webpage.

JANNAF guests staying at either hotel will have a 50% discount on the prevailing overnight parking rate. Depending on the hotel, the discounted amount is currently $12.50 or $14.00 per night with in/out privileges. To receive this rate, when you are checking in you must notify the front desk staff that you are parking a car, and provide them with the car's license number if requested.

Guests can enjoy a mere three to five minute walk from the lobby of either hotel to the JANNAF registration area at the convention center when using the enclosed connector or sky bridge.

SECURITY/ATTENDANCE REQUIREMENTS

The overall security classification of this meeting is SECRET.

Before you can register to attend Unclassified sessions at this meeting, you must both:

- be a U.S. citizen currently employed by the U.S. Government or employed by a U.S. Government contractor,
  and
- have an active JANNAF Account.

Before you can register to attend Classified sessions at this meeting, you must both:

- meet the requirements listed above for Unclassified sessions,
  and
- 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.

REGISTRATION

To register to attend Unclassified sessions at this meeting, you must:

- create or have an active JANNAF Account (http://www.jannaf.org/create-account),
- complete the meeting registration form (login required),
  and
- submit your registration payment (see fee chart on page 9).

To register to attend Classified sessions at this meeting, by 19 December you must:

- complete the meeting registration steps listed above for Unclassified sessions,
  and
- complete an additional Classified registration requirement based on your employer.
  DOD Employees ONLY: Submit a Visit Authorization Request (VAR) via DISS. Use SMO Code: 0W2X85
  All other attendees: Complete and submit the Security Clearance Certification Form

Go to the Register tab on the meeting webpage for links to complete your meeting registration, and for additional information.

Registration steps may be completed as soon as permitted, but should be completed on or before Friday, 19 December at 11:59 p.m. EST to take advantage of the lowest fee. For details of what the registration fee includes, please go to the Register tab on the meeting webpage. Use the registration fee chart on page 9 to determine the amount applicable to your registration. The dates noted are based on payment being received.

The deadline to register for Classified session attendance is 19 December 2025.

Follow the instructions above and on the Registration tab of the meeting webpage to register.

Registration Fees

by 19 Dec

Last day to qualify for Early registration rate

Government	Industry	*Student
$1200	$1300	$500

by 9 Jan

Last day to qualify for Regular registration rate

Government	Industry	*Student
$1200	$1400	$550

10–30 Jan

Late registration period (available until meeting ends)

Government	Industry	*Student
$1300	$1500	$600

* To qualify for the student discount, you must be a full time student, intern, or cooperative education student, and meet eligibility requirements listed on page 8 and on the Register tab of the meeting webpage.

Accepted Payment Methods	
Credit Card (recommended)	• VISA • MasterCard • American Express Submit payment via the Payment site by 19 December to qualify for discounted rate. Online credit card payments will be charged immediately; a receipt will be emailed to you from meetings@erg.jhu.edu. To facilitate the 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.
Government Purchase Order	Completed Government P.O.s must be received by 19 December to qualify for discounted rate or by 9 January for regular registration price. P.O.s are accepted from government only, but will not be accepted for late registration.

CANCELLATION POLICY

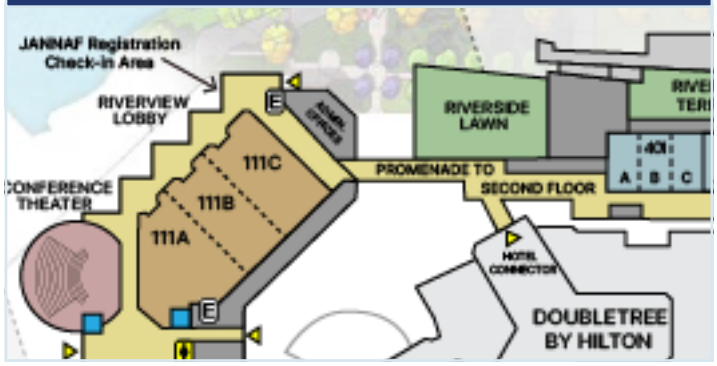
Written (email) cancellations submitted on or before 19 December will receive a full refund minus an administrative fee of $75.00. Cancellations made after 19 December will not be refunded. Substitutes are welcome as long as the request for substitution is from the original attendee; attendance eligibility 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 Check-in desk will be located at the Spokane Convention Center Riverview Lobby, outside of Ballroom 111C (see portion of map below). Government-issued photo identification is required upon check-in. Be sure to complete both registration steps (registration form and payment) before arriving at the Registration Check-in desk and allow extra time if you register after 9 January. You must check in at the Registration Check-in desk before you will be permitted to attend any Classified sessions. The last day to register to attend classified sessions is 19 December.

JANNAF Registration Check-in Desk Hours	
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.

JANNAF Registration Check-in Desk Location



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.

DINING

Approximately one and one-half hours for lunch has been built into the program each day. Outside food cannot be brought into the Spokane Convention Center, so the venue's concession stand will offer a range of options for lunch throughout the week. Additionally, a variety of dining options are available in the hotels and within a 5–10 minute walk from the hotels and the convention center. A map of nearby dining options has been provided on the Information tab of the meeting webpage and will be available in the JANNAF registration area.

Attendees of Classified sessions who anticipate attending both the morning and afternoon sessions at FAFB on Wednesday have the option to pre-purchase lunch that day. This lunch must be ordered in advance and therefore may not be purchased on-site or received without a lunch ticket proving advance purchase.

NETWORKING ROOM

Ballroom 111A 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 24–33.

ATTENDEE NETWORKING HOUR

Kick off your evening on Wednesday, 28 January by joining us for the attendee networking hour from 5:30 – 7:00 p.m. to connect with other attendees in an informal and relaxed environment. The networking hour aims to encourage interaction amongst peers and forge lasting relationships between both seasoned attendees and newcomers within the community. Posters will remain on display during the networking hour event. Light refreshments and a bar (credit cards and Apple Pay only - no cash) will be available to fuel your conversations and connections.

There is no charge for meeting attendees to participate in the networking hour. Attendees simply wear their badge for access. This is an attendee-only event.

For those wishing to continue networking after the event concludes, dining information for nearby restaurants will be available.

EARLY CAREER WORKING GROUP

There will be a meeting of the JANNAF Early Career Working Group (ECWG) on Sunday, 25 January, from 6:00 p.m. – 7:00 p.m. in the Conference Theater at the Spokane Convention Center. Check-in early at the registration desk (opening 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 primer on JANNAF as an organization, followed by discussions regarding updates, new initiatives, and actions for the group. Topics of interest for discussion include the structure and historical perspectives of JANNAF, mentorship, leadership, and connecting young professionals.

VIRTUAL READING ROOM

Pre-publication copies of papers that are publicly releasable, DoD Distribution Statement C, or CUI/FEDCON, will be available to read in the virtual Reading Room beginning at 9:00 a.m. on Monday, 26 January. The virtual Reading Room will remain available 24/7 until the meeting proceedings are published in the JANNAF Digital Online Collection (JDOC) approximately 12 weeks after the meeting. The virtual Reading Room can only be accessed on your own device. Printing or reproducing Reading Room papers is prohibited.

SIDE MEETINGS

A limited number of small meetings 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 check-in on-site. The most current version of the Final Program, reflecting changes made after the program has been sent to the printer and 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 JANNAF Portal Account. This benefit is not available for student attendees.

QUESTIONS

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

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

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

JHU WSE ERG
10630 Little Patuxent Parkway, Suite 202
Columbia, MD 21044-3286
erg.jhu.edu

Upcoming Meetings

26–30 January 2026
Spokane, Washington
Visit January 2026 Meeting Website

72nd JANNAF Propulsion Meeting
Programmatic and Industrial Base Meeting
53rd Combustion
41st Airbreathing Propulsion
41st Exhaust Plume and Signatures
35th Energetic Systems Hazards
19th Modeling and Simulation
15th Liquid Propulsion Subcommittee
14th Spacecraft Propulsion Subcommittee
Joint Subcommittee Meeting

1-5 June 2026
Pittsburgh, Pennsylvania
Visit June 2026 Meeting Website

73rd JANNAF Propulsion Meeting
Programmatic and Industrial Base Meeting
50th Structures and Mechanical Behavior
46th Propellant and Explosives Development and Characterization
35th Safety and Environmental Protection
20th Modeling and Simulation
3rd High Temperature Material Applications
Joint Subcommittee Meeting

8-12 December 2026
Location TBA

54th Combustion
42nd Airbreathing Propulsion
42nd Exhaust Plume and Signatures
36th Energetic Systems Hazards
Joint Subcommittee Meeting
Programmatic and Industrial Base Meeting

PROGRAM COMMITTEE MEMBERS

Program Chair: Dr. Robert A. Baurle
Air Force Research Laboratory
Wright-Patterson AFB, OH

JANNAF Propulsion Meeting

JPM Program Committee Chair

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JPM Program Committee Deputy Chair

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NASA Marshall Space Flight Center
Huntsville, AL

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Edwards AFB, CA

JHU WSE ERG Technical Representative

Mr. Michael "Miki" Fedun
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Columbia, MD

Mission Area I: Tactical Propulsion

Dr. Mark A. Pfeil
DEVCOM Aviation & Missile Center
Redstone Arsenal, AL

Dr. Christopher Grabill
Northrop Grumman Corporation
Elkton, MD

Mission Area II: Missile Defense/Strategic Propulsion

Dr. Robert J. Jensen
Sierra Lobo, Incorparated
Edwards AFB, CA

Ms. Megan L. Rex
Naval Air Warfare Center Weapons Division
China Lake, CA

Mission Area III: Propulsion Systems for Space Access

Mr. Bruce R. Askins
NASA Marshall Space Flight Center
Huntsville, AL

Mission Area IV: Gun and Gun-Launched Propulsion

Mr. Edward G. Tersine
Naval Surface Warfare Center-Indian Head Division
Indian Head, MD

Mission Area V: Propulsion and Energetics Test Facilities

Lt. Col. Michael S. Rosenof
Air Force Research Laboratory
Edwards AFB, CA

Dr. Andrew R. Demko
Naval Air Warfare Center Weapons Division
China Lake, CA

Mission Area VI: Sensors for Propulsion Measurement Applications

Dr. Gary W. Hunter
NASA Glenn Research Center
Cleveland, OH

Programmatic and Industrial Base

PIB Executive Committee Co-Chairs

Mr. Alexander E. Woods
OUSD (A&S)
Washington, DC

Mr. Michel Fazah
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JHU WSE ERG Technical Representative

Mr. Kirk V. Sharp
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DEVCOM Army Research Laboratory
Aberdeen Proving Ground, MD

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Mr. Peyton Nanney
JHU WSE Energetics Research Group
Columbia, MD

Mission Area I: Ignition and Combustion of Gun Propellants

Dr. Eugene Rozumov
DEVCOM Armaments Center
Picatinny Arsenal, NJ

Mr. Michael A. Bonanno
Naval Surface Warfare Center-Indian Head Division
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Mission Area II: Solid Propellants and Combustion

VACANT

Mission Area III: Explosive Performance/ Enhanced Blast

Dr. Benjamin R. Wilde
Air Force Research Laboratory
Eglin AFB, FL

Mr. Gerrit T. Sutherland
DEVCOM Army Research Laboratory
Aberdeen Proving Ground, MD

Mr. Paul M. Giannuzzi
Naval Surface Warfare Center-Indian Head Division
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Mission Area IV: Airbreathing Combustion

Dr. Mark R. Gruber
Air Force Research Laboratory
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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Dr. Steven D. Chambreau
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Airbreathing Propulsion Subcommittee

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Technical Steering Group Deputy Chair

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Mr. Ryan Battelle
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Mr. John Henry Korth
NASA Glenn Research Center
Cleveland, OH

Mission Area II: Ramjet Propulsion

Dr. Trevor D. Hedman
Naval Surface Warfare Center-Indian Head Division
Indian Head, MD

Dr. Brian T. Bojko
Naval Research Laboratory
Washington, DC

Mission Area III: Scramjet Propulsion

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Hampton, VA

Dr. Mark A. Hagenmaier
Air Force Research Laboratory
Wright-Patterson AFB, OH

Dr. Richard L. Gaffney
NASA Langley Research Center
Hampton, VA

Mission Area IV: Combined/Advanced Cycle Propulsion

Dr. Ernest Thompson
Air Force Research Laboratory
Wright-Patterson AFB, OH

Dr. Heath Reising
NASA Glenn Research Center
Cleveland, OH

Mission Area V: Integrated Vehicle Design and Analysis

Dr. Justin L. Clough
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Wright-Patterson AFB, OH

Dr. Benjamin P. Smarslok
Air Force Research Laboratory
Wright-Patterson AFB, OH

Mission Area VI: High-Speed Aerodynamics

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Dr. Rajiv R. Shenoy
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Hampton, VA

Exhaust Plume and Signatures Subcommittee

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Redstone Arsenal, AL

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Mr. Nicholas S. 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

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

Mission Area III: Plume/Wake/Hypersonic Effects

Dr. Paul M. Danehy
NASA Langley Research Center
Hampton, VA

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
Naval Air Warfare Center Aircraft Division
Patuxent River, MD

Mr. Robert M. Watson
Air Force Research Laboratory
Eglin AFB, FL

Energetic Systems Hazards Subcommittee

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

Technical Steering Group Deputy Chair

Dr. Eric J. Welle
Air Force Research Laboratory
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JANNAF Executive Committee Liaison

Dr. Jeffrey J. Davis
Naval Surface Warfare Center Weapons Division
China Lake, CA

JHU WSE ERG Technical Representative

Mr. William A. Bagley
JHU WSE Energetics Research Group
Columbia, MD

Mission Area I: Thermal Decomposition and Cookoff

Ms. Aubrey D. Farmer
Naval Air Warfare Center Weapons Division
China Lake, CA

Dr. William W. Erikson
Sandia National Laboratory
Albuquerque, NM

Mission Area II: Shock/Impact-Induced Reactions

Mr. Joshua E. Felts
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Dr. Joel B. Stewart
DEVCOM Army Research Laboratory
Aberdeen Proving Ground, MD

Dr. Eric J. Welle
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Mission Area III: Insensitive Munitions Technology

Ms. Jessica L. Vaughn
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Redstone Arsenal, AL

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

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

Ms. Cynthia C. Manns
Naval Ordnance Safety and Security Activity
Indian Head, MD

Mission Area IV: Combustion Vulnerability of Stowed Energetics

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

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

Dr. Kirstin F. Warner
DoD Explosives Safety Board
Alexandria, VA

Mission Area VI: Energetic Defect Characterization

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

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Edwards AFB, CA

Technical Steering Group Deputy Chair

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Air Force Research Laboratory
Wright-Patterson AFB, OH

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NASA Marshall Space Flight Center
Huntsville, AL

JHU WSE ERG Technical Representative

Mr. Michael “Miki” Fedun
JHU WSE Energetics Research Group
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Mission Area I: Model-Based Engineering

Mr. Sahil Kabra
Naval Air Warfare Center Weapons Division
China Lake, CA

Mr. Adrian M. Blot
DEVCOM Armaments Center
Picatinny Arsenal, NJ

Ms. Christina A. Blankenship
DEVCOM Aviation & Missile Center
Redstone Arsenal, AL

Mission Area II: Integrated Health Management

Mr. James T. Singleton
Air Force Research Laboratory
Edwards AFB, CA

Dr. Richard C. Hatch
Northrop Grumman Corporation
Brigham City, UT

Mission Area III: Simulation Credibility: Verification, Validation, and Risk

Dr. Robert A. Baurle
Air Force Research Laboratory
Wright-Patterson AFB, OH

Dr. Timothy A. Eymann
Air Force Research Laboratory
Wright-Patterson AFB, OH

Mission Area IV: Model-Based Test and Evaluation (MBTE)

Mr. Robert L. Riley
Air Force Research Laboratory
Eglin AFB, FL

Mr. Aaron P. Head
NASA Stennis Space Center
Stennis Space Center, MS

Liquid Propulsion Subcommittee

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JHU WSE ERG Technical Representative

Mr. Nicholas S. Keim
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Mission Area I: Liquid Engine Systems

Mr. Jason S. Thrasher
NASA Marshall Space Flight Center
Huntsville, AL

Mr. Nils M. Sedano
Air Force Research Laboratory
Edwards AFB, CA

Mission Area II: Liquid Combustion Subsystems and Components

Mr. Thomas W. Teasley
NASA Marshall Space Flight Center
Huntsville, AL

Dr. Levon Gevorkyan
The Aerospace Corporation
El Segundo, CA

Mission Area III: Liquid Propellant Feed and Pressurization Systems

Mr. Robert N. Bernstein
Air Force Research Laboratory
Edwards AFB, CA

Dr. Hallie L. Collopy
NASA Marshall Space Flight Center
Huntsville, AL

Mission Area IV: Advanced Materials for Liquid Propulsion Applications

Mrs. Mallory S. James
NASA Marshall Space Flight Center
Huntsville, AL

Mr. Jamie B. Malak
Air Force Research Laboratory
Edwards AFB, CA

Mission Area V: Rotating Detonation Rocket Engines

Dr. Hugh D. Perkins
NASA Glenn Research Center
Cleveland, OH

Mission Area VI: Propulsion-Induced Environments and Structural and Thermal Loads

Dr. Matthew J. Casiano
NASA Marshall Space Flight Center
Huntsville, AL

Dr. Robert J. Jensen
Sierra Lobo. Incorporated
Edwards AFB, CA

Spacecraft Propulsion Subcommittee

Technical Steering Group Chair

Dr. Hani Kamhawi
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Cleveland, OH

JHU WSE ERG Technical Representative

Mr. Peyton Nanney
JHU WSE Energetics Research Group
Columbia, MD

Mission Area I: Chemical Propulsion

Mrs. Corinne E. Sedano
Air Force Research Laboratory
Edwards AFB, CA

Mission Area II: Electric Propulsion

Dr. Hani Kamhawi
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Cleveland, OH

Dr. Robert B. Lobbia
NASA Jet Propulsion Laboratory
Pasadena, CA

Dr. Justin W. Koo
Air Force Office of Scientific Research
Arlington, VA

Mission Area III: Micro / Nano Spacecraft and MicroNewton Propulsion

Dr. Colleen M. Marrese-Reading
NASA Jet Propulsion Laboratory
Pasadena, CA

Dr. Thomas M. Liu
NASA Glenn Research Center
Cleveland, OH

Mission Area IV: Future Technologies

Dr. George J. Williams
NASA Glenn Research Center
Cleveland, OH

Dr. Matthew A. Hitt
NASA Marshall Space Flight Center
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Mionna Sharp
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Columbia, MD

Program Highlights

KEYNOTE ADDRESS

Dr. James W. Weber - *Invited*
Principal Director for Hypersonics
Office of the Under Secretary of Defense for Research and Engineering / Washington, DC

Dr. James W. Weber has been invited to give the keynote presentation during the January meeting. He is the Principal Director for Hypersonics in the Office of the Assistant Secretary of Defense for Critical Technologies, Office of the Under Secretary of Defense for Research and Engineering (OUSD(R&E)). In this position, he serves as the Department of Defense's senior official and subject matter expert for Hypersonics. Dr. Weber leads DoD's vision, strategy, and roadmap for hypersonic weapons and platforms, and the defense against hypersonic threats. Additionally, he oversees the strategic alignment and coordination of the Department's more than $6 billion annual portfolio in hypersonics including prototyping, test and evaluation, industrial base development, and science and technology.

Prior to assuming his current position, Dr. Weber served as the Air Force Senior Scientist for Hypersonics, where he was responsible for the department's hypersonics science and technology enterprise and advised Air Force senior leadership on hypersonic systems development. Dr. Weber has more than 32 years of experience in the research and development of hypersonic systems. He has held multiple previous assignments in the United States Air Force including engineering and program management positions with the DoD/NASA National Aero-Space Plane (NASP), AFRL Hypersonic Technology (HyTech), DARPA/AFRL Affordable Rapid Response Missile Demonstrator (ARRMD), and AFRL High Speed Strike Weapon (HSSW) programs. In 2019, Dr. Weber was detailed to OUSD(R&E) as a Special Assistant for Hypersonics, where he led the development and execution of the first DoD Hypersonics Science and Technology Strategy.

As the invited keynote presenter at the January JANNAF meeting, the title of Dr. Weber's talk is, "DoD Hypersonics Strategic Approach." This presentation outlines the Department of Defense's strategic approach to hypersonics, emphasizing it as a top priority. It details the DoD's efforts to identify, develop, and field next-generation capabilities, including hypersonic strike weapons, defense against hypersonic threats, and reusable hypersonic aircraft. The presentation also describes the status of foundational efforts in science and technology, workforce development, test and evaluation, and industrial base expansion.

All attendees are invited to participate. The Keynote Address begins at 8:00 a.m. on Tuesday, 27 January in Ballroom 111BC on the first floor of the Spokane Convention Center. Award presentations will immediately follow the Keynote Address.

Program Highlights

SUBCOMMITTEES

JANNAF Propulsion Meeting

The JANNAF Propulsion Meeting (JPM) will hold its 72nd gathering, offering a comprehensive platform for knowledge exchange in propulsion and energetics. This Spokane event features a diverse program encompassing nine technical sessions and a two-part specialist session across 6 different Mission Areas. Topics include Propulsion Systems for Space Access (sessions 1B, 1O); Propulsion System Materials and Design (2B); Advanced Space and Missile Systems (2O); Propulsion System Development and Analysis (3B, 5B); Sensors and measurements for Propulsion Applications (3O); Propulsion and Energetics Test Facility (5O); and a joint session with the Combustion subcommittee on Propellants and Propelling Charges for Solid Propellant Guns (4O). US Test Facilities: USG, Commercial, Academia will be covered during the specialist session on Tuesday (3I, 3V). This wide array of JPM topics will enhance the program during the January meeting.

Programmatic and Industrial Base

The Programmatic and Industrial Base (PIB) will present a specialist session on National Space Strategies: Access, Mobility, Logistics, and Assembly (3F) on Wednesday, 28 January.

Combustion Subcommittee

The Combustion Subcommittee will be hosting 12 sessions including the topics of scramjets, detonations, explosives, propellants, and diagnostics. There will be a joint EPSS/CS/APS specialist session (3S) on the JANNAF Thermochemical/Kinetics Database Project. In addition, CS will be conducting panel meetings for Kinetics (3S), Reactive Materials (1N), and Diagnostics (2P).

Airbreathing Propulsion Subcommittee

This meeting will be jam packed with APS content, with 40 separate sessions throughout the week. Twelve of these sessions will consist of nine different specialist sessions. Some specific areas of focus are: engine and airframe design and integration, flight test and analysis, traditional and additive manufacturing, thermal management, high speed flow modeling and physics, experimental techniques, test facilities, and both solid and liquid fuels. Several current programs are also featured during the meeting, including HAWC (3Z), MOHAWC (2Z), Aether (4M), HiFire (1Q), and the MSCC (5P). The University Consortium of Applied Hypersonics (UCAH) will hold an all-day session (2I, 2V), beginning with a panel discussion with industry, DoD, and academic leaders. Graduate student work in the field of highspeed flight will also be highlighted. While most sessions represent current research and development, there will be a historical overview of the Advanced Strategic Air-Launched Missile (ASALM) Propulsion Technology Validation (PTV) Flight Program from the 1970s (4E Part 2). A joint APS/CS session on Scramjet Flameholding (3A) will be offered as well. Regardless of your topic of interest, it will be a busy and exciting week!

Exhaust Plume and Signatures Subcommittee

EPSS is offering two tutorials: the first on utilization of the JANNAF Plume/Wake/Hypersonics codes and recommended best practices (2S), the second on advanced diagnostics capabilities to obtain data for the purpose of validation of simulations (5T).

Energetic System Hazards Subcommittee

Throughout the week, the Energetic Systems Hazards Subcommittee (ESHS) meeting will include seven technical sessions, five panel meetings, and a workshop. Highlights of the ESHS meeting include two sessions on Mesoscale to Continuum Theory, Modeling, and Experimentation (3H, 3U) and two session on Detonation Physics (2U, 4H). Five of the ESHS sessions are preceded or followed by a panel meeting on specific topics of interest, to include Liquid and Solid Propellant Safety Testing, and Status of Energetic Liquids Standard (2H). ESHS will also hold a Design Challenges and Technology for Affordable Testing workshop (1U Part 2) in support of the Cook-off mission area.

Modeling and Simulation Subcommittee

The Modeling and Simulation Subcommittee (MSS) will feature six sessions, three panel meetings, and two workshops, including a two-part workshop co-hosted with PEDCS on the topic of hydrocode modernization efforts and utilization (4I, 4V). During the week, papers will cover updated committee research and topics in Model Based Engineering (1T, 3T Part 2), Integrated Health Management (2G), Simulation Credibility (1G), and Model Based Test and Evaluation (2T). With the advance of Artificial Intelligence and Machine Learning (AI/ML), one session will be dedicated to ML (3T Part 1). A half-day workshop on Code Credibility Using Probability Boxes (3G), an extension of MSS work on Uncertainty Quantification (UQ), will also be offered. It should be a very engaging week for the MSS community.

Liquid Propulsion Subcommittee

The LPS program has a four session series on Rotating Detonation Rocket Engines (1W, 3J, 4J, 5D) in addition to special sessions on specific topics related to RDRE and RDE spread across both LPS and the APS subcommittees.

Spacecraft Propulsion Subcommittee

The Spacecraft Propulsion Subcommittee (SPS) is excited to be holding 12 technical sessions. A specialist session on Nuclear Electric Propulsion Project Updates (1J) will also be offered. In addition, SPS will be holding a workshop on Electric Propulsion Operations in the Space Environment and Facility Interactions (EPOSE VIII) (2K & 3K). Panel meetings on Micropropulsion Status and Opportunities (4K) and Electric Propulsion (5E) will convene to discuss the latest advancements and challenges in those respective fields. SPS is looking forward to a collaborative and productive meeting.

POSTER SESSION

Both Early Career and General Posters will be on display beginning the evening of Tuesday, 27 January. Poster presenters will be present to discuss their work with attendees during the poster session, scheduled on Tuesday, 27 January from 5:30 p.m. to 7:00 p.m. The posters will remain on display through Wednesday, 28 January at 7:00 p.m. The list of posters can be found on pages 83-86.

TECHNICAL PROGRAM

This year's technical program currently consists of more than 400 presentations in 92 technical sessions; 21 specialist sessions; six workshops; a poster session, and keynote; plus 15 panel meetings and one town hall meeting. A detailed daily schedule of all sessions, workshops, meetings, and networking activities is provided below and continues through page 33. Detailed agendas of the technical sessions, specialist sessions, and workshops are listed in the Preliminary Program (login required), available on the Agenda tab of the meeting webpage.

Please note that the agendas of 29 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). Sessions with at least one restricted presentation are indicated in the Schedule at a Glance below and through page 33 with "Open *". Please review the detailed session agendas on pages 34 - 148 of the Preliminary Program for additional information about the restricted talks and who is eligible to attend them. Presentation and session restrictions are subject to change.

What are Panel Meetings & why should I 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, please look through the Schedule at a Glance (p. 24-33) for panel meetings that align with your interests.

SCHEDULE - Sunday, 25 January			
On-Site Check-In and Registration Desk: 5:00 p.m. - 7:00 p.m., Convention Center Riverview Lobby			
6:00 p.m. - 7:00 p.m.	Early Career Working Group Meeting	Conference Theater	Open

Schedule Color Key							
	Session Details		Panel Meetings		Closed Meetings		Networking Opportunities
"Open D" and "Open *" indicate a session with at least one presentation restricted at B, D, or E. "Open S" and "Open S *" indicate a Secret session.							

SCHEDULE - Monday, 26 January - Morning Sessions

On-Site Check-In and Registration Desk: 7:00 a.m. - 5:00 p.m., Convention Center Riverview Lobby IT Office: 7:00 a.m. - 5:00 p.m. in Room 203	Morning Sessions: 8:00 a.m. - 12:05 p.m. Afternoon Sessions: 1:30 - 6:05 p.m. Lunch Break (On Your Own): 12:00 - 1:30 p.m.	Networking Area Refreshments: 7:00 - 8:00 a.m. in Ballroom 111A 9:35 - 10:35 a.m. in Ballroom 111A 3:05 - 4:05 p.m. in Ballroom 111A

7:15 a.m. - 7:30 a.m.	Session Chair Meeting (all Monday sessions)			Room 102AB	Closed
8:00 a.m. - 12:05 p.m.	1A	CS	Combustion of Solid Fuels for Ramjet Applications	Room 201	Open *
8:00 a.m. - 10:05 a.m.	1B	JPM	Propulsion Systems for Space Access - I	Room 202AB	Open
8:00 a.m. - 11:05 p.m.	1C	APS	Additively Manufactured Components: Characterization and Applications	Rooom 205	Open *
8:00 a.m. - 12:00 p.m.	1D	APS	SPECIALIST SESSION: Overview of Propulsion Research Plans from Government Laboratories	Room 206A	Open
8:00 a.m. - 12:05 p.m.	1E	APS	Scramjet Combustion Experiments	Room 206B	Open *
8:00 a.m. - 12:05 p.m.	1F	EPSS	Plume / Wake / Hypersonic Flowfield Measurements	Room 206C	Open
8:00 a.m. - 11:05 a.m.	1G	MSS	Simulation Credibility: Verification, Validation, and Uncertainty Quantification	Room 206D	Open *
8:00 a.m. - 10:00 a.m.	1H Part 1	ESHS	PANEL MEETING: Insensitive Munitions: The Present and the Future	Room 207	Open
10:00 a.m. - 11:05 a.m.	1H Part 2	ESHS	Thermal Decomposition and Cookoff	Room 207	Open *
11:05 a.m. 12:05 p.m.	1H Part 3	ESHS	Combustion Vulnerability of Stowed Energetics	Room 207	Open
8:00 a.m. - 11:05 a.m.	1I	APS	RDE Combustor Modeling	Conference Theater	Open
8:00 a.m. - 12:00 p.m.	1J	SPS	SPECIALIST SESSION: Nuclear Electric Propulsion Project Updates	Room 102AB	Open
8:00 a.m. - 12:05 p.m.	1K	SPS	Alternate Propellant Cathode Technology Research and Development	Room 102CD	Open

Schedule Color Key

	Session Details		Panel Meetings		Closed Meetings		Networking Opportunities

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

SCHEDULE - Monday, 26 January - Afternoon Sessions

On-Site Check-In and Registration Desk: 7:00 a.m. - 5:00 p.m., Convention Center Riverview Lobby IT Office: 7:00 a.m. - 5:00 p.m. in Room 203	Morning Sessions: 8:00 - 12:05 p.m. Afternoon Sessions: 1:30 - 6:05 p.m. Lunch Break (On Your Own): 12:00 - 1:30 p.m.	Networking Area Refreshments: 7:00 - 8:00 a.m. in Ballroom 111A 9:35 - 10:35 a.m. in Ballroom 111A 3:05 - 4:05 p.m. in Ballroom 111A

1:30 p.m. - 5:05 p.m.	1N	CS	Reactive Materials	Room 201	Open D
5:05 p.m. - 6:05 p.m.	1N	CS	PANEL MEETING: Reactive Materials	Room 201	Open D
1:30 p.m. - 3:35 p.m.	1O	JPM	Propulsion Systems for Space Access - II	Room 202AB	Open
1:30 p.m. - 6:05 p.m.	1P	APS	Ramjet Analysis	Room 205	Open
1:30 p.m. - 6:05 p.m.	1Q	APS	HIFiRE Flight 2-C Technology	Room 206A	Open
1:30 p.m. - 5:35 p.m.	1R	APS	RDE-Airframe Integration	Room 206B	Open
1:30 p.m. - 5:35 p.m.	1S	EPSS	Plume / Wake / Hypersonic Flowfield Modeling - I	Room 206C	Open
1:30 p.m. - 4:35 p.m.	1T	MSS	Propulsion Modeling	Room 206D	Open *
4:35 p.m. - 5:05 p.m.	1T	MSS	PANEL MEETING: Model Based Engineering	Room 206D	Open
1:30 p.m. - 2:00 p.m.	1U Part 1	ESHS	PANEL MEETING: Cookoff	Room 207	Open
2:00 p.m. - 6:00 p.m.	1U Part 2	ESHS	WORKSHOP: Cook-off: Design Challenges and Technology for Affordable Testing (Propane and SCO)	Room 207	Open
1:30 p.m. - 5:35 p.m.	1V	APS	Hydrocarbon Fuels for Hypersonic Applications	Conference Theater	Open *
1:30 p.m. - 5:05 p.m.	1W	LPS	RDRE - I	Room 102AB	Open
1:30 p.m. - 3:35 p.m.	1X Part 1	SPS	Electric Propulsion Mission Application Studies	Room 102CD	Open
4:00 p.m. - 5:35 p.m.	1X Part 2	SPS	Advanced Electric Propulsion Diagnostics Development	Room 102CD	Open
1:30 p.m. - 5:05 p.m.	1Z	APS	(U) Advancements in High Speed Propulsion and System Design	Fairchild AFB	Open S*

Schedule Color Key

	Session Details		Panel Meetings		Closed Meetings		Networking Opportunities

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

SCHEDULE - Tuesday, 27 January - Morning Sessions

On-Site Check-In and Registration Desk: 7:00 a.m. - 5:00 p.m., Convention Center Riverview Lobby IT Office: 7:00 a.m. - 5:00 p.m. in Room 203	Keynote Address: 8:00 - 9:30 a.m. Morning Sessions: 10:00 a.m. - 12:05 p.m. Afternoon Sessions: 1:30 p.m. - 6:40 p.m. Lunch Break (On Your Own): 12:00 - 1:30 p.m.	Networking Area Refreshments: 7:00 - 8:00 a.m. in Ballroom 111A 9:30 - 10:00 a.m. in Ballroom 111A 3:05 - 4:05 p.m. in Ballroom 111A

7:15 a.m. - 7:30 a.m.	Session Chair Meeting (Tuesday sessions and Wednesday AM classified session)			Room 102AB	Closed
8:00 a.m. - 9:30 a.m.	KEYNOTE ADDRESS: Dr. James Weber, *Invited* - Office of the Under Secretary of Defense for Research and Engineering. Awards and Announcements			University Ballroom	Open
10:00 a.m. - 5:00 p.m.	JANNAF Technical Executive Committee Meeting			Room 101	Closed
10:00 a.m. - 12:05 p.m.	2A	CS	Combustion Junction, What's That Function	Room 201	Open
10:00 a.m. - 12:05 p.m.	2B	JPM	Propulsion System Materials and Design	Room 202AB	Open
10:00 a.m. - 12:05 p.m.	2C	APS	Design Concepts for Inlets/Aeropropulsion	Room 205	Open
10:00 a.m. - 12:05 p.m.	2D	APS	Variable Geometry Applications	Room 206A	Open
10:00 a.m. - 11:35 a.m.	2E	APS	High-Speed Flow Physics	Room 206B	Open
10:00 a.m. - 12:05 p.m.	2F	EPSS	Plume / Wake / Hypersonic Topics	Room 206C	Open
10:00 a.m. - 11:05 a.m.	2G	MSS	Forecasting Aging in Solid Rocket Propellants	Room 206D	Open
11:05 a.m. - 11:35 a.m.	2G	MSS	PANEL MEETING: Integrated Health Management	Room 206D	Open
10:00 a.m. - 11:35 a.m.	2H	ESHS	Liquid and Solid Propellant Safety Testing	Room 207	Open
11:35 a.m. - 12:05 p.m.	2H	ESHS	PANEL MEETING: Status of Energetic Liquids Standards	Room 207	Open
10:00 a.m. - 12:00 p.m.	2I	APS	SPECIALIST SESSION: University Consortium of Applied Hypersonics (UCAH) Graduate Student Presentations - I	Conference Theater	Open
10:00 a.m. - 11:35 a.m.	2J	LPS	Propellant Characterization and Performance	Room 102AB	Open
10:00 a.m. - 12:00 p.m.	2K	SPS	WORKSHOP: Electric Propulsion Operation in the Space Environment and Facility Interactions VIII (EPOSE VIII) - I	Room 102CD	Open
10:00 a.m. - 12:05 p.m.	2L	SPS	Micro/Nano Spacecraft and MicroNewton Propulsion - I	Ballroom 111C	Open

Schedule Color Key

	Session Details		Panel Meetings		Closed Meetings		Networking Opportunities

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

SCHEDULE - Tuesday, 27 January - Afternoon Sessions

On-Site Check-In and Registration Desk: 7:00 a.m. - 5:00 p.m., Convention Center Riverview Lobby IT Office: 7:00 a.m. - 5:00 p.m. in Room 203	Keynote Address: 8:00 - 9:30 a.m. Morning Sessions: 10:00 a.m. - 12:05 p.m. Afternoon Sessions: 1:30 - 6:40 p.m. Lunch Break (On Your Own): 12:00 - 1:30 p.m.	Networking Area Refreshments: 7:00 - 8:00 a.m. in Lakeshore Ballroom II-IV 9:30 - 10:00 a.m. in Lakeshore Ballroom II-IV 3:05 - 4:05 p.m. in Lakeshore Ballroom II-IV

12:00 p.m. - 1:00 p.m.	APS Technical Steering Group Meeting			Room 202C	Closed
1:30 p.m. - 3:35 p.m.	2N	CS	Applied Combustion Diagnostics and Predictive Model Validation ly	Room 201	Open
3:35 p.m. - 3:55 p.m.	2N	CS	PANEL MEETING: Diagnostics	Room 201	Open
1:30 p.m. - 5:05 p.m.	2O	JPM	Advanced Space and Missile Systems	Room 202AB	Open *
1:30 p.m. - 6:05 p.m.	2P	APS	Ramjet Design	Room 205	Open
1:30 p.m. - 5:35 p.m.	2Q	APS	Approaches and Applications and RANS CFD	Room 206A	Open
2:05 p.m. - 3:35 p.m.	2R Part 1	APS	Rotating Detonation Rocket Engines and RBCC Systems	Room 206B	Open
4:00 p.m. - 6:05 p.m.	2R Part 2	APS	RDE Ramjet/Augmentors	Room 206B	Open
1:30 p.m. - 5:30 p.m.	2S	EPSS	SPECIALIST SESSION: EPSS Tutorial: How to Use the JANNAF PWH Codes - Recommended Practices	Room 206C	Open
1:30 p.m. - 3:35 p.m.	2T	MSS	Model-Based Approaches for Propulsion Testing	Room 206D	Open
3:35 p.m. - 4:05 p.m.	2T	MSS	PANEL MEETING: Advancing Digital Engineering for Propulsion System Testing	Room 206D	Open
1:30 p.m. - 4:35 p.m.	2U	ESHS	Detonation Physics - I	Room 207	Open *
4:35 p.m. - 5:35 p.m.	2U	ESHS	PANEL MEETING: Shock/Impact-Induced Reactions	Room 207	Open
1:30 p.m. - 6:00 p.m.	2V	APS	SPECIALIST SESSION: University Consortium of Applied Hypersonics (UCAH) Graduate Student Presentations - II	Conference Theater	Open
1:30 p.m. - 6:05 p.m.	2W	LPS	Liquid Propellant Feed and Pressurization Systems	Room 102AB	Open
1:30 p.m. - 5:35 p.m.	2X	SPS	Research and Development of Electric Propulsion with ASCENT Propellant	Room 102CD	Open
1:30 p.m. - 6:05 p.m.	2Y	SPS	Advanced Propulsion	Ballroom 111C	Open
1:30 p.m. - 6:40 p.m.	2Z	APS	(U) SPECIALIST SESSION: MOHAWC: More Opportunities for Hypersonic Air-breathing Weapon Concept	Fairchild AFB	Open S
5:30 p.m. - 7:00 p.m.	JPM/CS/APS/EPSS/ ESHS/MSS/SPS		Poster Session - Authors will be present during this time. Posters will remain on display until Wednesday at 7:00 p.m.	Ballroom 111B	Open

Schedule Color Key

	Session Details		Panel Meetings		Closed Meetings		Networking Opportunities

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SCHEDULE - Wednesday, 28 January - Morning Sessions

On-Site Check-In and Registration Desk: 7:00 a.m. - 5:00 p.m., Convention Center Riverview Lobby IT Office: 7:00 a.m. - 5:00 p.m. in Room 203	Morning Sessions: 8:00 a.m. - 12:05 p.m. Afternoon Sessions: 1:30 - 6:05 p.m. Lunch Break (On Your Own): 12:00 - 1:30 p.m.	Networking Area Refreshments: 7:00 - 8:00 a.m. in Ballroom 111A 9:35 - 10:35 a.m. in Ballroom 111A 3:05 - 4:05 p.m. in Ballroom 111A

7:15 a.m. - 7:30 a.m.	Session Chair Meeting (all Wednesday sessions and Thursday AM classified session)			Room 102AB	Closed
8:00 a.m. - 12:05 p.m.	3A	CS/APS	Experimental and Numerical Research on Scramjet Flameholding and Operability	Room 201	Open
8:00 a.m. - 11:35 a.m.	3B	JPM	Propulsion System Development and Analysis - I	Room 202AB	Open *
8:00 a.m. - 11:35 a.m.	3C	APS	Airbreathing Turbopropulsion - I	Room 205	Open
8:00 a.m. - 11:35 a.m.	3D	APS	Thermal Management and FTSI	Room 206A	Open
8:00 a.m. - 12:05 p.m.	3E	SPS	Traditional Propellant Systems	Room 206B	Open
8:00 a.m. - 12:00 p.m.	3F	PIB	SPECIALIST SESSION: National Space Strategies: Access, Mobility, Logistics, and Assembly	Room 206C	Open
8:00 a.m. - 12:00 p.m.	3G	MSS	WORKSHOP: Code Credibility: Uncertainty Quantification Using Probability Boxes	Room 206D	Open
8:00 a.m. - 11:35 a.m.	3H	ESHS	Mesoscale to Continuum Theory, Modeling, and Experimentation - I	Room 207	Open D
8:00 a.m. - 12:00 p.m.	3I	JPM	SPECIALIST SESSION: US Test Facilities: USG, Commercial, Academia - I	Conference Theater	Open
8:00 a.m. - 12:05 p.m.	3J	LPS	RDRE - II	Room 102AB	Open *
8:00 a.m. - 12:00 p.m.	3K	SPS	WORKSHOP: Electric Propulsion Operation in the Space Environment and Facility Interactions VIII (EPOSE VIII) - II	Room 102CD	Open
8:00 a.m. - 12:05 p.m.	3M	EPSS	(U) Plume / Wake / Hypersonic Radiation and Signatures	Fairchild AFB	Open S

Schedule Color Key

	Session Details		Panel Meetings		Closed Meetings		Networking Opportunities

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SCHEDULE - Wednesday, 28 January - Afternoon Sessions

On-Site Check-In and Registration Desk: 7:00 a.m. - 5:00 p.m., Convention Center Riverview Lobby IT Office: 7:00 a.m. - 5:00 p.m. in Room 203	Morning Sessions: 8:00 a.m. - 12:05 p.m. Afternoon Sessions: 1:30 - 6:05 p.m. Lunch Break (On Your Own): 12:00 - 1:30 p.m.	Networking Area Refreshments: 7:00 - 8:00 a.m. in Ballroom 111A 9:35 - 10:35 a.m. in Ballroom 111A 3:05 - 4:05 p.m. in Ballroom 111A

12:00 p.m. - 1:20 p.m.	LPS Technical Steering Group Meeting			Room 101	Closed
12:00 p.m. - 1:20 p.m.	MSS Technical Steering Group Meeting			Room 202C	Closed
12:00 p.m. - 1:20 p.m.	SPS Technical Steering Group Meeting			Room 204	Closed
1:30 p.m. - 4:35 p.m.	3N	CS	Liquid Fuel Injection and Combustion in High-Speed Flows	Room 201	Open
1:30 p.m. - 4:35 p.m.	3O	JPM	Sensors and Measurements for Propulsion Application	Room 202AB	Open *
1:30 p.m. - 5:05 p.m.	3P	APS	High-Temperature Materials and Applications	Room 205	Open *
1:30 p.m. - 3:35 p.m.	3Q	LPS	Propulsion-Induced Environments - Plume Surface Interaction	Room 206A	Open
1:30 p.m. - 3:35 p.m.	3R Part 1	APS	Experimental Techniques	Room 206B	Open
4:00 p.m. - 5:35 p.m.	3R Part 2	APS	High-Speed Inlets	Room 206B	Open
1:30 p.m. - 5:30 p.m.	3S	EPSS	SPECIALIST SESSION: EPSS/CS/APS Interagency Forum - The JANNAF Thermochemical/Kinetics Database Project	Room 206C	Open
5:30 p.m. - 5:50 p.m.	3S	CS	PANEL MEETING: Kinetics	Room 206C	Open
1:30 p.m. - 3:35 p.m.	3T Part 1	MSS	Machine Learning	Room 206D	Open *
4:00 p.m. - 6:05 p.m.	3T Part 2	MSS	High Velocity and Energetic Modeling	Room 206D	Open *
1:30 p.m. - 6:05 p.m.	3U	ESHS	Mesoscale to Continuum Theory, Modeling, and Experimentation - II	Room 207	Open *
1:30 p.m. - 5:30 p.m.	3V	JPM	SPECIALIST SESSION: US Test Facilities: USG, Commercial, Academia - II	Conference Theater	Open
1:30 p.m. - 3:35 p.m.	3W Part 1	LPS	Combustion Dynamics	Room 102AB	Open
4:00 p.m. - 5:35 p.m.	3W Part 2	LPS	Injector Design and Development	Room 102AB	Open
1:30 p.m. - 6:05 p.m.	3X	SPS	High Power Hall Thruster Research and Development	Room 102CD	Open
1:30 p.m. - 5:00 p.m.	3Z	APS	(U) SPECIALIST SESSION: HAWC: Hypersonic Air-breathing Weapon Concept	Fairchild AFB	Open S
5:30 p.m. - 7:00 p.m.	Attendee Networking Hour - **JANNAF Badge required** (this event is for attendees only)			Ballroom 111A	Open

Schedule Color Key

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SCHEDULE - Thursday, 29 January - Morning Sessions

On-Site Check-In and Registration Desk: 7:00 a.m. - 5:00 p.m., Convention Center Riverview Lobby IT Office: 7:00 a.m. - 5:00 p.m. in Room 203	Morning Sessions: 8:00 a.m. - 12:15 p.m. Afternoon Sessions: 1:30 - 6:05 p.m. Lunch Break (On Your Own): 12:00 - 1:30 p.m.	Networking Area Refreshments: 7:00 - 8:00 a.m. in Ballroom 111A 9:35 - 10:35 a.m. in Ballroom 111A 3:05 - 4:05 p.m. in Ballroom 111A

7:15 a.m. - 7:30 a.m.	Session Chair Meeting (all Thursday sessions and Friday AM classified session)			Room 102AB	Closed
8:00 a.m. - 12:05 p.m.	4A	CS	Experimental and Numerical Research on Detonations and RDEs	Room 201	Open
8:00 a.m. - 11:35 a.m.	4B	LPS	Advanced Materials for Liquid Propulsion Applications	Room 202AB	Open
8:00 a.m. - 12:05 p.m.	4C	APS	SPECIALIST SESSION: Heat Pipes and High Speed Systems - I	Room 205	Open
8:00 a.m. - 11:05 a.m.	4D	APS	Airbreathing Turbopropulsion - II	Room 206A	Open *
8:00 a.m. - 11:05 a.m.	4E Part 1	APS	Ramjet Prototyping and Development	Room 206B	Open *
11:05 a.m. - 12:05 p.m.	4E Part 2	APS	SPECIALIST SESSION: A Look Back at the Advanced Strategic Air-Launched Missile (ASALM) Propulsion Technology Validation (PTV) Flight Program	Room 206B	Open
8:00 a.m. - 12:05 p.m.	4F	EPSS	Plume / Wake / Hypersonic Flowfield Modeling - II	Room 206C	Open
8:00 a.m. - 12:05 p.m.	4G	CS	Combustion Stability and other Composite Propellant Efforts	Room 206D	Open *
8:00 a.m. - 12:05 p.m.	4H	ESHS	Detonation Physics - II	Room 207	Open *
8:00 a.m. - 12:00 p.m.	4I	MSS/ PEDCS	WORKSHOP: Hydrocodes Modernization - I	Conference Theater	Open *
8:00 a.m. - 11:35 a.m.	4J	LPS	RDRE - III	Room 102AB	Open
11:35 a.m. - 12:05 p.m.	4J	LPS	PANEL MEETING: Combustion Stability	Room 102AB	Open
8:00 a.m. - 11:05 a.m.	4K	SPS	Micro/Nano Spacecraft and MicroNewton Propulsion - II	Room 102CD	Open
11:05 a.m. - 12:05 p.m.	4K	SPS	PANEL MEETING: Micropropulsion Status and Opportunities	Room 102CD	Open
8:00 a.m. - 12:15 p.m.	4M	APS	(U) SPECIALIST SESSION: Aether DS Subscale Ground Testing and Design / Analysis Studies	Fairchild AFB	Open S
11:00 a.m. - 1:00 p.m.	CS Technical Steering Group Meeting			Room 204	Closed

Schedule Color Key

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SCHEDULE - Thursday, 29 January - Afternoon Sessions

On-Site Check-In and Registration Desk: 7:00 a.m. - 5:00 p.m., Convention Center Riverview Lobby IT Office: 7:00 a.m. - 5:00 p.m. in Room 203	Morning Sessions: 8:00 a.m. - 12:15 p.m. Afternoon Sessions: 1:30 - 6:05 p.m. Lunch Break (On Your Own): 12:00 - 1:30 p.m.	Networking Area Refreshments: 7:00 - 8:00 a.m. in Ballroom 111A 9:35 - 10:35 a.m. in Ballroom 111A 3:05 - 4:05 p.m. in Ballroom 111A

1:00 p.m. - 5:00 p.m.	PIB Executive Committee Meeting			Room 101	Closed
12:00 p.m. - 1:20 p.m.	JPM Program Committee Meeting			Room 202C	Closed
1:30 p.m. - 6:05 p.m.	4N	CS	Combined Effects and Blast Effects Explosives	Room 201	Open *
1:30 p.m. - 5:05 p.m.	4O	JPM/CS	Propellants and Propelling Charges for Solid Propellant Guns	Room 202AB	Open
5:05 p.m. - 5:35 p.m.	4O	CS	TOWN HALL MEETING: Guns	Room 202AB	Open
1:30 p.m. - 5:35 p.m.	4P	APS	SPECIALIST SESSION: Heat Pipes and High Speed Systems - II	Room 205	Open
1:30 p.m. - 6:05 p.m.	4Q	APS	Ramjet Fuels and Materials	Room 206A	Open *
1:30 p.m. - 5:35 p.m.	4R	APS	RDE Combustor Testing	Room 206B	Open *
1:30 p.m. - 5:05 p.m.	4S	EPSS	Composite Scene Signatures of Plume / Wake / Hypersonic Flowfield and Hardbody Configurations	Room 206C	Open *
1:30 p.m. - 5:35 p.m.	4T	APS	Scale Resolving CFD	Room 206D	Open
1:30 p.m. - 3:35 p.m.	4U	ESHS	Multi-Scaled Experimental Testing, Modeling, and Data Correlation	Room 207	Open *
3:35 p.m. - 4:35 p.m.	4U	ESHS	PANEL MEETING: Energetic Defect Characterization Multi-Scale: Experimental Capabilities and Data Correlation	Room 207	Open
1:30 p.m. - 5:30 p.m.	4V	MSS/ PEDCS	WORKSHOP: Hydrocodes Modernization - II	Conference Theater	Open
1:30 p.m. - 6:05 p.m.	4W	LPS	Liquid Rocket Engines	Room 102AB	Open
1:30 p.m. - 3:05 p.m.	4X Part 1	SPS	Other Propellants	Room 102CD	Open
3:30 p.m. - 6:05 p.m.	4X Part 2	SPS	ASCENT	Room 102CD	Open
6:30 p.m. - 8:30 p.m.	EPSS Technical Steering Group Meeting			Doubletree Parkside	Closed
7:00 p.m. - 9:00 p.m.	ESHS Technical Steering Group Meeting			Doubletree Shades	Closed

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SCHEDULE - Friday, 30 January - Morning and Afternoon Sessions

On-Site Check-In and Registration Desk: 7:00 a.m. - 5:00 p.m., Convention Center Riverview Lobby IT Office: 7:00 a.m. - 5:00 p.m. in Room 203	Morning Sessions: 8:00 a.m. - 12:35 p.m. Afternoon Sessions: 1:30 - 5:30 p.m. Lunch Break (On Your Own): 12:00 - 1:30 p.m.	Networking Area Refreshments: 7:00 - 8:00 a.m. in Ballroom 111A 9:35 - 10:35 a.m. in Ballroom 111A 3:05 - 4:05 p.m. in Ballroom 111A

7:15 a.m. - 7:30 a.m.	Session Chair Meeting (all Friday sessions)			Room 102AB	Closed
8:00 a.m. - 10:05 a.m.	5A	CS	Combustion Diagnostics Development and Applications	Room 201	Open
8:00 a.m. - 11:35 a.m.	5B	JPM	Propulsion System Development and Analysis - II	Room 202AB	Open *
8:00 a.m. - 12:05 p.m.	5C	APS	SPECIALIST SESSION: Heat Pipes and High Speed Systems - III	Room 205	Open
8:00 a.m. - 12:05 p.m.	5D	LPS	RDRE - IV	Room 206A	Open
12:05 p.m. - 12:35 p.m.	5D	LPS	PANEL MEETING: Rotating Detonation Rocket Engine	Room 206A	Open
8:00 a.m. - 11:05 a.m.	5E	SPS	Hall and Ion Thruster Modeling and Simulation	Room 206B	Open
11:05 a.m. - 12:05 a.m.	5E	SPS	PANEL MEETING: Electric Propulsion	Room 206B	Open
8:00 a.m. - 12:00 p.m.	5F	LPS	SPECIALIST SESSION: Additive Manufacturing Design for Propulsion Applications	Room 206C	Open
8:00 a.m. - 11:35 a.m.	5M	APS	(U) SPECIALIST SESSION: Hypersonic Programs Overview	Fairchild AFB	Open S
1:30 p.m. - 3:05 p.m.	5N Part 1	CS	Combustion and Modeling of Nitrates	Room 201	Open
3:30 p.m. - 4:35 p.m.	5N Part 2	CS	Metal Particle Combustion, Enhancement, and Lethality	Room 201	Open
1:30 p.m. - 5:05 p.m.	5O	JPM	Propulsion and Energetics Test Facility	Room 202AB	Open
1:30 p.m. - 4:00 p.m.	5P	APS	SPECIALIST SESSION: MSCC Program Updates	Room 205	Open
1:30 p.m. - 4:35 p.m.	5Q	APS	Oblique Detonation Engines and Uncertainty Quantification	Room 206A	Open
1:30 p.m. - 4:35 p.m.	5R	APS	Turbine-based Combined Cycles	Room 206B	Open
1:30 p.m. - 5:30 p.m.	5S	EPSS	SPECIALIST SESSION: EPSS Tutorial: Advanced Diagnostic Capabilities to Obtain Detailed Validation Measurements	Room 206C	Open
1:30 p.m. - 5:30 p.m.	5T	LPS	SPECIALIST SESSION: Rotating Detonation Rocket Engine Thermal Management Challenges and Solutions	Room 206D	Open
1:30 p.m. - 3:05 p.m.	5V	APS	High-Speed Aerodynamics	Conference Theater	Open

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