

53rd JPM, 2nd LPS and 1st SPS Convene in Monterey

Following in the footsteps of last year's JANNAF Propulsion Meeting (JPM) in Las Vegas, the 53rd JPM/ 2nd Liquid Propulsion Subcommittee (LPS)/ 1st Spacecraft Propulsion Subcommittee (SPS) Joint Technical meeting was another overwhelming success, with over 500 propulsion industry representatives in attendance. Mr. Frank Tse of the Naval Surface Warfare Center (NSWC) in Indian Head, Maryland, chaired the meeting from December 5 – 8 at the Hyatt Regency Monterey Resort and Conference Center in Monterey, California. Mr. James Cannon of NASA Marshall Space Flight Center and Dr. Richard Cohn of the Air Force Research Laboratory at Edwards AFB co-chaired the meeting for the LPS, and Dr. James Hass of the Air Force Research Laboratory at Edwards AFB co-chaired the meeting for the SPS.

Nearly 240 papers were presented in 44 technical sessions during the week; 58 papers in 10 JPM sessions, 90 papers in 17 LPS sessions, and 91 papers in 17 SPS sessions.

Joint Propulsion Meeting Highlights

The JPM Keynote was given by Garry Lyles, the Chief Engineer of NASA's Exploration Systems Mission Directorate (EMSD). Mr. Lyles captivated an audience of over 300 with detailed technical and programmatic discussions on NASA's plan to support the President's *Vision for Space Exploration*, including a comprehensive road map for the constellation programs. He closed his address by encouraging the commercial propulsion industry to support this vision by developing and providing space vehicles for space station and exploration cargo supply.

The academic perspective on the propulsion industry was explored during a dedicated University Plenary Session, where representatives from the Naval Post Graduate School, the University of Alabama, Purdue University, Pennsylvania State University, the University of Michigan, and the University of Illinois at Urbana-Champaign gave presentations and entertained discussion in a traditional panel format.

In a special Invited Guest Presentation, Allan McDonald, the Director of the Space Shuttle Solid Rocket Motor Project at the time of the Challenger accident, gave an engaging presentation on the similarities between and lessons learned from the Columbia and Challenger accidents.

Friends and colleagues from all reaches of the propulsion industry enjoyed good company during the JPM Social Event in the Monterey Regency Grand Ballroom.

Following the technical sessions of the JPM, the JANNAF Safety and Environmental Protection Subcommittee (SEPS), Propulsion Systems Hazards Subcommittee (PSHS), and the Propellant and Explosives Development and Characterization Subcommittee (PEDCS) sponsored an industry workshop on "Solid Rocket Motor (SRM) Processing and Handling Safety and Lessons Learned," chaired by Josephine Covino of the Department of Defense Explosives Safety Board.

LPS and SPS Joint Technical Meeting Highlights

The Joint Technical Meeting Keynote was organized by the newly formed SPS Technical Steering Group, and was given by Brig. Gen. (USAF Ret.) Simon "Pete" Worden. The General gave a fresh perspective on the importance of innovation, novel thinking and commercial support for a national vision of space exploration, to an audience of nearly 300 people.

The inaugural SPS meeting was met with overwhelming support, and introduced many new faces to the JANNAF community. In addition to 17 full sessions, the SPS supported several Technical Assessment Group (TAG) meetings for the NASA Marshall Spaceflight Center In-Space Propulsion initiative. TAGs in Aerocapture, Advanced Chemical Propulsion, and Solar Electric Propulsion were held during the week and enjoyed strong attendance. Three SPS Panels and one working group met to introduce themselves to the JANNAF community and conduct business: the Electric Propulsion Panel, the Micro-thrust Propulsion Panel, the Chemical Propulsion Panel, and the Tethers Working Group.

The second LPS meeting proved a worthy successor to the first, with nearly as many papers and more sessions than the previous meeting in Las Vegas. The LPS hosted seven panel and working group meetings, including the Test Practices and Procedures Panel, the Hydrocarbon Fuels Panel, the Engine Health Monitoring Panel, the Liquid Propellant Standards Panel, the Advanced Materials Panel, the Tactical Propulsion Panel, and a Combustion Instability Working Group. The

LPS also hosted a well-attended short tutorial on “Test Measurement Uncertainty, Concepts and Applications,” given by Ron Dieck of Ron Dieck and Associates.

The SPS and LPS jointly hosted a special Legacy Session, where Ed Choueiri of Princeton University highlighted the first fifty years of development in electric propulsion, and Robert Sackheim of NASA Marshall Spaceflight Center (MSFC) presented the status of recent propulsion research in the United States.

JANNAF Awards

Another year of outstanding work and support by the JANNAF community was exemplified in two awards ceremonies that were held during the week. The JANNAF Executive Committee presented Bill Hufferd, the recently-retired director of CPIAC, with a lifetime achievement award and commended his ten years of dedicated service to JANNAF and the Executive Committee (EC).

The Rocket Nozzle Subcommittee Chair, Stuart Bridges of AFRL Edwards, presented Stuart Blashill of the NAWC Weapons Division with a Certificate of Appreciation from the RNTS Subcommittee for his ardent support of the subcommittee as their EC liaison.

The LPS presented its first awards for Best Student Papers at the meeting to Megan McDonald of Purdue University, and Dustin Davis of ERC Inc. Members of the LPS Awards Committee were particularly impressed with the work of all student participants and acknowledged each of them during the awards ceremony: Jonathan McCall, Space and Missile Systems Center; John Tsohas, Purdue University; and Jason Wennerberg, Purdue University.

The LPS presented a Distinguished Recognition Award to Carl Stechman of Aerojet – Redmond for outstanding leadership, dedication and contribution to the field of liquid rocket engine design.

The LPS also made two presentations of the Outstanding Achievement in Liquid Propulsion Award, one of its most prestigious awards. The first award was presented to the Integrated Powerhead Demonstrator Engine System Test Team, in recognition of its outstanding skill and innovation in successfully demonstrating the Full Flow Staged Combustion engine cycle for the first time in the United States. The second award was presented to the Vacuum Plasma Spray Thermal Barrier Development Team, led by Sandy Elam of NASA MSFC, for the outstanding work done in extending the life of liquid rocket engines, using vacuum plasma spray to apply a protective oxidation resistant coating, and to extending that technology in application to protective thermal barrier coatings on injectors.

Meeting Proceedings

Meeting proceedings for the JPM, the combined LPS and SPS Technical Meeting, and the Solid Rocket Motor (SRM) Processing and Handling Safety and Lessons Learned Workshop will each be published separately and will be available by the end of February 2006. Contact CPIAC Customer Service at (410) 992-7300, for more information, or to order any of the proceedings.

54th JPM, 5th MSS, 3rd LPS, 2nd SPS Joint Meeting

The next joint meeting is tentatively scheduled for late spring of 2007, when the JPM, LPS and SPS will also host the 5th Modeling and Simulation Subcommittee (MSS) meeting. Watch for more information on this meeting on the JANNAF Calendar in the coming months.

This review appeared in the January 2006 issue of the CPIAC Bulletin.