

The 4th Responsive Space Conference will meet April 24-27, 2006, at the LAX Westin Hotel. The theme this year is "Pulling it Together" — that is, putting together the pieces of responsive launch, responsive spacecraft, missions needs, operations, and low cost to create truly Responsive Space. Our goal is to genuinely transform the space program from a purely strategic asset that is too slow and too expensive to a tactical asset, capable of responding immediately to changing world events. On the civil side, space needs to be an arena where scientific and civil missions can respond to new discoveries or new problems, real experiments can occur, commercial business can prosper, and student payloads can be launched while the builders are still students.

Receptions

A reception will be held Monday evening from 5:00 pm to 7:00 pm in the conference hotel. Come and meet the other participants and bring your spouse. A reception will also be held on Tuesday, from 5:25 pm to 7:15 pm. After the reception, if you want to have dinner with old or new colleagues, there are plenty of restaurants nearby.

"Responsive Proceedings"

Tired of waiting a year for the proceedings? A CD-ROM with all of the papers will be given out on the last day of the conference. This was a big hit at past Responsive Space conferences.

12th Annual Improving Space Operations Workshop

The 12th Annual Improving Space Operations Workshop, hosted by the AIAA Space Operations and Support Technical Committee (SOSTC), will immediately follow the conference on Thursday and conclude on Friday at the Microcosm facility near the hotel. SOSTC members are engaged in space operations development, integration, and management in the aerospace industry. See website www.responsivespace.com for details.

Splinter Meeting on Responsive Space Standards

AFRL/VS is sponsoring a splinter session on Tuesday, immediately following the final technical session. Everyone is welcome for an open discussion of Responsive Space Standards. For information contact LtCol. Frederick Slane at freds@spacestandards.com.

Information & Registration

You can register on-line via the website or download a registration form to FAX or mail. Want to talk to a real human being about the conference? Call **Julie Jackson** at

310-726-4100 or FAX 310-726-4110.

Or send us an E-mail at: responsivespace@smad.com
For more information, visit the conference website at:

<http://www.responsivespace.com>

Confirmed Speakers

LtG Frank Klotz

Vice Commander, Air Force Space Command

Gary Payton

Deputy Under Secretary of the Air Force for Space Programs

LtG Michael A. Hamel

Commander, Los Angeles Space and Missile Systems Center

MG Mark D. Shackelford

Director of Air Force Space Command Requirements

MG James Armor, NSSO

Col James Painter, Director SMC/XR

Kenneth S. Callicutt, STRATCOM-J-8

Robert Sackheim, NASA/MSFC

Dr. Pete Rustan

Director, Advanced Systems and Technology, NRO

LtG Robert Kehler

Deputy Commander, USSTRATCOM

Brian Green

Deputy Assistant Secretary of Defense for Forces Policy

Points of Contact

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PRELIMINARY PROGRAM

Rev. 4/21/06

April 24-27, 2006
LAX Westin Hotel



**Come Join the
Continuing
Conversation**

*Sponsored by the
AIAA LA and Orange County Sections, and the
Space Systems, Space Transportation, and Space
Operations and Support Technical Committees*

www.responsivespace.com

MONDAY, APRIL 24, 2006

12:00 pm–5:00 pm **SSTC Quarterly Review Meeting** (at Microcosm)
4:00 pm–7:00 pm **REGISTRATION**
4:00 pm–7:00 pm **EXHIBITS OPEN**
5:00 pm–7:00 pm **RECEPTION**, Sponsored by *Goodrich*

TUESDAY, APRIL 25, 2006

7:00 am–5:00 pm **REGISTRATION**
7:00 am–8:00 am CONTINENTAL BREAKFAST
7:45 am–6:00 pm EXHIBITS OPEN
8:00 am–8:30 am **WELCOME AND INTRODUCTIONS**
8:30 am–9:05 am **KEYNOTE ADDRESS**
Speaker: **LtG Frank Klotz**, Vice Commander, Air Force Space Command
9:05 am–9:40 am Speaker: **Brian Green**, Deputy Assistant Secretary of Defense for Forces Policy
9:40 am–10:10 am BREAK, Sponsored by *Michigan Aerospace*
10:10 am–12:00 pm **REQUIREMENTS PANEL**
Moderator: **MG Mark Shackelford**, Director of Requirements AFSPC
MG James Armor, NSSO
Col James Painter, Director SMC/XR
Kenneth S. Callicutt, STRATCOM-J-8
Robert Sackheim, NASA/MSFC
12:00 pm–1:30 pm LUNCH, Sponsored by MicroSat Systems
Speaker: **LtG Michael Hamel**, Commander, USAF Space and Missile Systems Center
1:30 pm–3:15 pm **SESSION I – ARCHITECTURE**
Chair: **Dr. Richard Van Allen**, SSTC, *Microcosm*
1:35 pm 1001: System Architecting Challenges of Changing Missions for a Flexible Mission Spacecraft — **John Bystroff**, *Boeing*
1:55 pm 1002: Fractionated Space Architectures: A Vision — **Paul Eremenko**, *Booz Allen Hamilton*
2:15 pm 1003: National Security Space Office Responsive Space Operations Architecture: Final Report Presentation — **Ed Kneller**, *U.S. Navy*
2:35 pm 1004: Aggressive Surveillance As A Key Application Area for Responsive Space — **James R. Wertz**, *Microcosm*
2:55 pm 1006: Using Proven Aircraft Avionics Principles to Support a Responsive Space Infrastructure — **Randy Black**, *Honeywell Space Applications*
3:15 pm–3:45 pm BREAK, Sponsored by *Instarsat*
3:45 pm–5:30 pm **SESSION II – LAUNCH**
Chair: **Anthony Straw**, SSTC, *Boeing*
3:50 pm 2001: Responsive Air Launch Using F-15 Global Strike Eagle — **Timothy Chen**, *Boeing*
4:10 pm 2002: Systems Engineering for Responsive Launch — **Thomas P. Bauer**, *Microcosm*
4:30 pm 2003: QuickReach™ Responsive Launch System — **Gary C. Hudson**, *AirLaunch*
4:50 pm 2005: Responsive Range Operations — **David Seo**, *Lockheed Martin*
5:10 pm 3002: Responsive Tactical Space Using Microsatellites and Aerial Launching: The Perspective of a Small Nation — **Yoram Ilan-Lipovsky**, *Fisher Institute for Air and Space Strategic Studies, Israel*

5:30 pm **Splinter Meeting on Responsive Space Standards**, Sponsored by AFRL/VS
5:30 pm–7:20 pm **RECEPTION**, Sponsored by *Northrop Grumman Space Technology*

WEDNESDAY, APRIL 26, 2006

7:00 am–8:00 am CONTINENTAL BREAKFAST, Sponsored by *Colbaugh & Heinsheimer Consulting*
7:45 am–6:00 pm EXHIBITS OPEN
8:00 am–10:00 am **MISSIONS PANEL**
Moderator: **Todd Mosher**, Lockheed Martin
10:00 am–10:30 am BREAK, Sponsored by *AirLaunch*
10:30 am–12:15 pm **SESSION III – SPACECRAFT**
Chair: **Mark Webster**, SSTC, *Ball Aerospace*
10:35 am 3001: Analysis of Modular Spacecraft Bus Design for Rapid Response Missions (STUDENT AWARD) — **Lucy Cohan**, *MIT*
10:55 am 3003: Low-Cost Responsive Exploitation of Space by HAUSAT-2 Nano Satellite — **Suk Jin Kang**, *Hankuk Aviation University, South Korea*
11:15 am 3004: Bandit: A Platform for Responsive Educational and Research Activities — **Michael Swartwout**, *Washington University in St. Louis*
11:35 am 3005: ORS Phase III Bus Standards Status — **Eric Finnegan**, *John Hopkins University Applied Physics Lab*
11:55 am 3006: HexPak Testbed Development — **Michael Hicks**, *Lockheed Martin Advanced Technology Center*
Alt. 4005: Responsive Space's Spacecraft Design Tool (SDT) — **Robert Strunce**, *Star Technologies*
12:15 pm–1:45 pm LUNCH, Sponsored by *Lockheed Martin*
Speaker: **Dr. Pete Rustan**, Director, Advanced Systems and Technology, NRO
1:45 pm–3:10 pm **SESSION IV – TACSAT**
Chair: **Stan Kennedy**, SSTC, *Lockheed Martin*
1:50 pm 4002: Pulling the Pieces Together at AFRL — **Peter M. Wegner**, *AFRL*
2:10 pm 4003: Development of the Tactical Satellite 3 For Responsive Space Missions — **Thomas Davis**, *AFRL*
2:30 pm 4004: Sounding Rocket Technology Demonstration for Small Satellite Launch Vehicle Project (STUDENT AWARD) — **John Tsohas**
2:50 pm 4006: A TACSAT & ORS Update Including TACSAT 4 — **Michael Hurley**, *NRL*
3:10 pm–3:40 pm BREAK
3:40 pm–5:05 pm **SESSION V – INSTRUMENTS**
Chair: **Jeff Puschell**, SSTC, *Raytheon*;
Scott Jenson, SSTC, *Space Dynamics Lab*
3:45 pm 5001: SciBox® Based Uplink Operations Planning Concepts for Responsive Space — **Puk Yan**, *John Hopkins University Applied Physics Lab*
4:05 pm 5002: ARTEMIS: A Rapid Response Hyperspectral Imaging Payload — **Abraham M. Payton**, *AFRL/VSBYH*
4:25 pm 5003: Reconnaissance Payloads For Responsive Space — **Stanley E. Kishner**, *Goodrich*
4:45 pm 5004: Deployable Optics For Responsive Space Mission Payloads — **Charles F. Lillie**, *Northrop Grumman Space Technology*

Alt. 5005: On-Orbit Calibration and Focus of Responsive Space Remote Sensing Payloads — **Thomas Chrien**, *Raytheon*
5:05 pm–6:30 pm **RECEPTION**
6:30 pm–8:30 pm **CONFERENCE BANQUET**, Sponsored by *The Boeing Company*
Speaker: **Gary Payton**, Deputy Under Secretary of the Air Force for Space Programs

THURSDAY, APRIL 27, 2006

7:00 am–8:00 am CONTINENTAL BREAKFAST, Sponsored by *SpaceX*
7:45 am–2:45 pm EXHIBITS OPEN
8:00 am–9:30 am **OPERATIONS PANEL**
Moderator: **Paul Zetocha**, AFRL/VSE
9:30 am–10:15 am **SESSION VI – PLUG AND PLAY**
Chair: **Norman Anderson**, SSTC, *Ball Aerospace*
9:35 am 6001: Issues and Implications of the Thermal Control System on the "Six Day Spacecraft" — **Andrew Williams**, *AFRL*
9:55 am 6002: Java-based Plug-N-Play (Flight) Control Systems For Responsive Space — **Constantine Orogo**, *Lockheed Martin*
Alt. 6003: Implications of Responsive Space on the Flight Software Architecture — **Jonathan Wilmot**, *NASA Goddard Space Flight Center*
10:15 am–10:45 am BREAK, Sponsored by *Scitor*
10:45 am–12:30 pm **SESSION VII – OPERATIONS**
Chair: **Norman Reese**, SOSTC, *Honeywell*
10:50 am 7001: Autonomous Operations For Responsive Spacecraft — **Jackie Reilly**, *a.i. solutions*
11:10 am 7002: Responsive Payload Accommodations and Integration Operations for Dedicated CubeSat Missions — **John Garvey**, *Garvey Spacecraft*
11:30 am 7003: Concept of Operations for Operationally Responsive Space — **Don Knight**, *General Dynamics C4 Systems*
11:50 am 7004: Navy Team Responds to Bandwidth Challenges in Support of War Efforts with Innovative Employment of UHF Follow-On (UFO) and LEASAT Satellites — **Mike Mattis**, *Maxim Systems*
12:10 pm 7005: Time Critical Targeting Using Responsive Tactical Satellites — **Travis Langster**, *Analytical Graphics*
12:30 pm–2:00 pm LUNCH, Sponsored by *Raytheon*
Speaker: **LtG Robert Kehler**, Deputy Commander, USSTRATCOM
2:00 pm–2:30 pm **WRAP-UP**
2:30 pm–3:00 pm **SOSTC REGISTRATION/NETWORKING**
3:00 pm–5:30 pm **SOSTC MEETING** (at Microcosm)

FRIDAY, APRIL 28, 2006 (at Microcosm)

7:00 am–8:00 am CONTINENTAL BREAKFAST
8:00 am–12:00 pm **SOSTC MEETING**
12:00 pm–1:00 pm LUNCH
1:00 pm–5:30 pm **SOSTC MEETING**