

Odyssey

Pushing the Edges

May
2006

Official Newsletter of OASIS: the Los Angeles Chapter of the National Space Society

ISDC 2006: The Most Popular ISDC Offers Something for Every Space Enthusiast

By Lisa Kaspin

The 25th International Space Development Conference, held on May 4-7 in Los Angeles, was co-hosted by the National Space Society and the Planetary Society. With more than 1,300 registered attendees, it broke the record for being the most popular ISDC! And no wonder, for this ISDC offered something for everyone: successful and aspiring entrepreneurs, space tourism enthusiasts, space advocates, artists, educators, science fiction buffs, space settlers, and many more! And for just plain gawkers, ISDC 2006 offered a galaxy of VIPs such as astronauts Buzz Aldrin, Rusty Schweickart, Bill Nye the Science Guy, and other celebrities.

This was my first ISDC, and frankly I was overwhelmed. Do I go hear the space elevator presentations? John Mankins discussing solar power satellites?...or Robert Zubrin, just so I know



The next generation of astronauts! Buzz Aldrin and friend.

Photo: Nancy Ostertag

what people have been telling stories about?

I had a universe of topics from which to choose. Plans for exploration and settlement of the Moon and Mars formed a substantial part of the program, covering aspects ranging from the necessary hardware and generating rocket propellant on Mars to where people should settle (hotly

debated by the Space Settlement Summit panel: Mars? The Moon? Orbiting the Earth?)

And while we explore and settle space, how do we stay healthy? The Space Medicine track explored physical health requirements for space tourists as well as psychosocial factors (how will people on long-range missions stay healthy and stay off each others' nerves?) One presentation described extreme environments (such as the polar stations), laboratories to study how would-be space travelers and settlers would adapt.

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Many thanks to all of the OASIS members (page 2) who participated in ISDC 2006!

ISDC 2006: The Best Ever

By Mark Hopkins

I have been to all 25 ISDCs. ISDC 2006 was SPECTACULAR -- better than any of the previous ones.

The mix of those interested in personal space flight and those interested in space settlement worked very well. There is a large and growing overlap between these groups.

The combination of the motives "I want to go, because it is cool" and the "people must go and settle, because it is critically important to the future of humanity" creates an amazingly powerful force. It combines what people want to do for themselves with a larger and noble goal.

This ISDC included in a major way not only NSS and the Planetary Society, but the Space Tourism Society, Sunsat Energy Council (yes, space solar power is making a comeback) and the Space Studies Institute among others. There was a large amount of technical meat about very cool ideas.

We sold out the hotel, we sold out the tours, we sold out the meals, we sold out everything. Attendance exceeded 1300, breaking the previous record. Profits, even after giving the Planetary Society its share, will also be record breaking.

The arts were there in force to a far greater extent than in any previous ISDC. These people deal in emotions. They were bubbling with enthusiasm and excitement.

The best of all was the energy in the air, the optimism, the feeling that we are unstoppable. The conference was at the cutting edge of humanity and the attendees could feel this fact in their bones.

Much thanks is due our conference organizers, particularly George and Pat, but it was more than that. When you strive hard towards a noble goal, such as Space Settlements, wondrous things can happen and in this case did.



ISDC 2006 Co-Chair Pat Montoure receives some well-deserved applause! Photo: Nancy Ostertag

Thanks to the ISDC participants from OASIS!

Pat Montoure	<i>ISDC 2006 Co-Chair</i>
David Bliss	<i>OASIS table, Audiovisual</i>
Mark Hopkins	<i>ISDC Planning Committee; Chair, Space Settlement Summit</i>
Lisa Kaspin	<i>ISDC Planning Committee; Space Medicine Co-Chair, Program book editor/design/layout</i>
Seth Potter	<i>ISDC Planning Committee; Presenter, Lunar Lander, Solar Power</i>
Karen Savage	<i>Registration</i>
Dave Snead	<i>ISDC Database of Speakers and Presentations</i>
Craig Ward	<i>ISDC Volunteer Co-coordinator and Registration</i>
Karin Ward	<i>Registration</i>
Dennis Whipple	<i>ISDC Planning Committee; Audiovisual Coordinator</i>

OASIS LECTURE SERIES

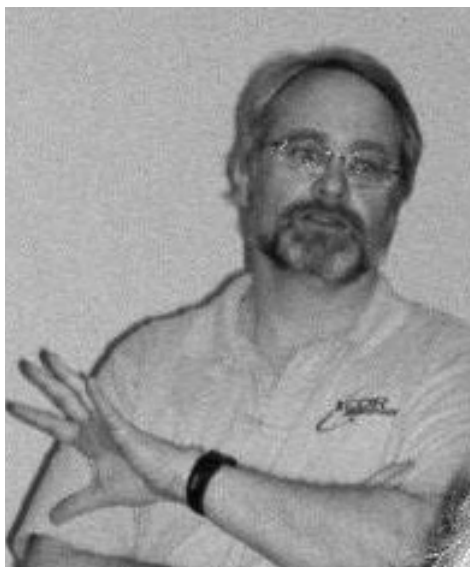
Racing to a Rocket-Powered Finish: XCOR Engineer Talks on Rocket Racing League

By Steve Bartlett

Zooming low over a crowd of enthusiastic viewers, rocket-powered airplanes blazing thirty-foot long flames will begin racing competitions in the next few years, according to Doug Jones of XCOR Aerospace. Jones gave a talk on "Rocket Racers: The Sport of the 21st Century" on April 29 at the Long Beach Public Library.

A self-described "rocket plumber" for XCOR, Jones discussed the history of rocket planes and of XCOR itself and its work in the space arena. The company was founded after the demise of Rotary Rocket, by four former employees of that company. After setting up shop, the team sought a project that would establish a name for the fledgling firm. They decided that building a rocket plane would be their first order of business, and so they developed the EZ-Rocket plane in late 2000.

"We wanted to do something different," said Jones, "something that would set XCOR apart from the small launch company 'pack.'"



XCOR "rocket plumber" Doug Jones. *Photo: Steve Bartlett*

They modified a Long-EZ plane, replacing its normal engine and propeller with a dual rocket engine arrangement that burned liquid oxygen and alcohol. The EZ-Rocket flew fifteen times in 2002, including a series of demonstrations at the annual Experimental Aircraft Association fly-in at Oshkosh, Wisconsin.

The plane was retired for three years until the X-Prize organization contacted XCOR about bringing the craft out to the X-Prize Cup event. The company performed extensive checkout and refurbishment to the plane after its three-year storage. At that point, the firm asked the plane's former pilot, Dick Rutan, to perform a checkout flight.

Rutan agreed on one condition: that he be able to use the plane to set a world record. The company agreed and the EZ-Rocket flew again in August of 2005 at the Mojave Airport. After Rutan flew it, he turned the plane over to former NASA astronaut, Rick Searfoss.

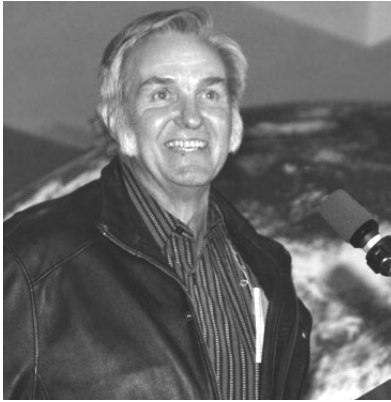
Searfoss, along with other XCOR personnel and the X-Prize committee, developed a demonstration routine for the X-Prize Cup event. In early October 2005, Searfoss gave a stunning demonstration of the plane's capabilities to an appreciative audience at Las Cruces, New Mexico. Jones showed a video of the flight, including views from the onboard camera and from the ground.

At the end of the event, X-Prize founder Peter Diamandis announced the formation of the Rocket Racing League. Rocket Racing competitors would fly high-performance rocket-powered airplanes at hundreds of miles per hour over a closed course just 500 feet above crowds of onlookers. The planes would be built by a company called Velocity and powered by XCOR-built liquid oxygen/kerosene rocket engines.

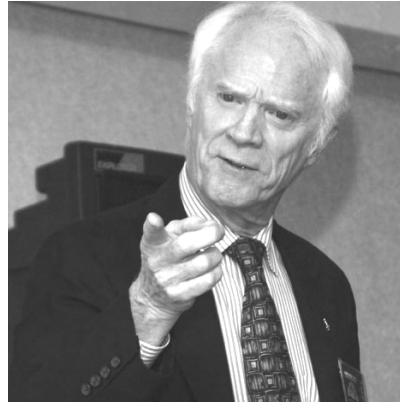
(Continued on page 6)

Images from ISDC 2006

(Photos by Nancy Ostertag except for OASIS photos)



Keynote speaker Burt Rutan, one of the many space entrepreneurs at ISDC2006!



Rusty Schweickart described early warning and deflection capabilities to protect the Earth against asteroid impact.



That's not the way I heard it! Astrophysicist Neil deGrasse Tyson lists all of the predictions from decades ago of how we will never fly, go to the Moon, etc. etc.



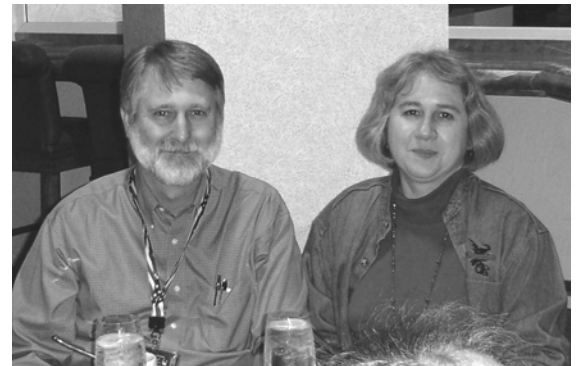
Science fiction writer and ISDC panelist Larry Niven.



Star Trek artists Rick Sternbach (left) and Mike Okuda described parallels of the show's art with space technology developments.



Bill Nye the Science Guy gave a Space Education plenary talk.



The OASIS presence at ISDC 2006! David Bliss recruiting new OASIS members (above left); Lisa Kaspin with Space Medicine speaker Petra Illig, all the way from Alaska! (above center) and busy volunteers Craig and Karin Ward relax (for the moment) at lunch (above right.) *Photos: Seth Potter*



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Editor: Lisa Kaspin
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odyssey_editor@oasis-nss.org

Contributions may also be mailed as .doc or .txt files on PC-formatted CDs, or as hard copy to:

OASIS, PO Box 1231
Redondo Beach, CA 90278

Doug Jones and Rocket Racing League

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Jones described the X-Racer planes as "an EZ-Rocket on steroids," with two seats in front, a 1,500 pound thrust engine with in-flight restart capability, and carrying about 1,500 pounds of propellant in its onboard tanks.

Pilots will fly the planes around eight to ten laps on a virtual race course projected on heads-up displays. The virtual course limits both the length of each lap and the peak altitude the planes will fly. "They (the Rocket Racing League) wanted to avoid the problem that you see at the Reno air races, where the audience just sees the planes for a few seconds at a time before they zoom off out of sight again," commented Jones. Instead, each lap will last no more than two minutes and the peak altitude is constrained to 2000 feet.

The planes will burn propellants at a prodigious rate and would, if left on, flame out after just three minutes. So the pilots will have to trade speed for altitude and use every flying trick at their command to win the race. Ground-based competitors will be able to "virtually" fly alongside the real planes in simulators, pitting their joystick skills against those in the race. "I've flown the simulator and it's a real kick!" exclaimed Jones.

XCOR and Velocity are working at breakneck speed to ready the first plane for this year's X-Prize Cup competition in October. But they must ensure that the design is safe and ready to fly.

The companies have adopted the same approach to safety that those who pack parachutes for a living must have: everyone who works on a vehicle WILL fly in it. "If they (the engineers and technicians) aren't confident enough to go up themselves, then the vehicle's not ready to fly anyone else," commented Jones.

After last year's X-Prize Cup event, XCOR was still "on the hook" to let Dick Rutan establish a world record with the EZ-Rocket plane. So the company did some research and discovered the distance record for a ground-launched, rocket-powered plane was just a few hundred feet.

A few calculations showed team members that the EZ-Rocket could easily beat that. On December 3, 2005, Dick Rutan established the record by flying the EZ-Rocket from Mojave Airport to California City Airport, a distance of nearly ten miles in just ten minutes.

ISDC: Something for Everyone

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ISDC 2006 also showed how space exploration inspires artistic as well as scientific creativity. Offerings ranged from "The Art of Star Trek" and the more traditional (planet and space landscapes) to paintings created in zero gravity!

As I explored the conference, I noticed the mix of people of all ages, kids, students, retirees...and increasing numbers of women. ISDC 2006 showed women becoming more prominent in the space community: I got to hear NASA Deputy Administrator Shana Dale and NASA Assistant Administrator of Education Angela

Diaz describe NASA's vision for future space exploration.

And ISDC, for the first time, offered the African-Americans in Space Mini-Conference, given by The National Society for Black Engineers and highlighted by Luminaries such as astronaut Robert Curbeam, Patricia Grace Smith (Associate Administrator for Commercial Space Transportation, FAA), Hildreth "Hal" Walker (Apollo 11 engineer and an OASIS member!) and astrophysicist/author/PBS *Origins* host Neil deGrasse Tyson. Among many offerings, the track described strategies to

recruit new generations of African-American space scientists, and also the growing involvement of Nigerian scientists in the space community.

And much, much, more!

I wish I had more space to describe all of the topics and people at this ISDC; it would fill a large book! I urge all of you to go and see for yourselves at the next ISDC in Dallas, Texas. Make your plans early!



You can register (early!) at the NSS website:
<http://www.nss.org/>

NOASS to Invade Worldcon 2006... Be a Part of the Action!

Like meeting people from all over the world?
Like talking about space to space and science fiction enthusiasts?

Here's your opportunity!

The 64th World Science Fiction Convention (Worldcon) will be at the Anaheim Convention Center from August 23rd-27th, 2006. This is the main gathering for general-interest science fiction fans from around the world.

 will be providing space programming, hosting a room party on the Friday and manning a fan table. We need volunteers to help us with all of these activities. Spend an hour or so at the fan table chatting up con-goers. Help decorate for our party. Talk to party guests about  activities.

And the best part is that you'll have fun in the meantime!

PLEASE NOTE that if you are interested in volunteering, you **MUST** purchase a membership. You will not be allowed inside the door without a valid membership.

 will not be providing memberships to volunteers. For membership information, please visit:
<http://www.laconiv.org/2006/reg/reg.htm>

If you are interested, please send an e-mail to: convention_liaison@oasis-nss.org

June 10, Saturday, 1:00 p.m. "Onward to Mars," by The Mars Society-San Diego. Reuben H. Fleet Science Center, 1875 El Prado, Balboa Park, San Diego. Admission is free with paid Exhibit Gallery or IMAX theater ticket. Phone (619) 238-1233 or visit <http://www.rhfleet.org>

June 10, Saturday, 7:30 p.m. "Spitzer Space Telescope," by Tim Thompson of JPL. Cossentine Hall, La Sierra University, 4500 Riverwalk Pkwy, Riverside. Sponsored by Riverside Astronomical Society. Admission is free. Email information@rivastro.org or visit <http://www.rivastro.org/index.html>

June 13, Tuesday. Genesis Pathfinder 1 Dnepr 1 launch. Genesis Pathfinder is a technology demonstration for the inflatable Nautilus space station structure by Bigelow Aerospace. Visit http://www.skyrocket.de/space/doc_sdat/genesis-pathfinder-1.htm

June 17, Saturday, 3:00 p.m. OASIS Board Meeting. Home of Craig & Karin Ward, 1914 Condon Avenue, Redondo Beach, CA. Phone the OASIS HOTLINE at (310) 364-2290 or visit www.oasis-nss.org/

June 21, Wednesday, 5:26 a.m. Summer Solstice.

June 22 (Thursday) and 23(Friday), 7:00 p.m. "Moon, Mars and Beyond: Apollo on Steroids," by Michael J. Sander, Manager, JPL Exploration Systems and Technology Office. Sponsored by Theodore von Kármán Lecture Series. Admission is free. Phone (818) 354-0112 or visit <http://www.jpl.nasa.gov/events/lectures/jun06.cfm>

June 22, Von Kármán Auditorium at JPL, 4800 Oak Grove Dr, Pasadena. Also broadcast and webcast on NASA TV.

June 23, Vosloh Forum at Pasadena City College, 1570 E Colorado Blvd.

June 30, Friday, 8:00 p.m. The Universe in Infrared: The Spitzer Space Telescope. Guest Lecture by Dr. Michelle Thaller, California Institute of Technology. Santa Monica College Planetarium, Science Lecture Hall 140, Santa Monica College, 1900 Pico Blvd., Santa Monica, CA. Phone (310) 434-4003 or visit <http://www.smc.edu/planetarium/>



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A chapter of the National Space Society

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May 25, Thursday, 8 p.m. National Space Society - Local Chapter Meeting. 4417 Bergamo Drive, Encino, CA. The nearest major street intersection is Ventura Blvd. and Hayvenhurst Ave. 8 p.m. doors open, 8:30 p.m. meeting. Refreshments will be served. Call Les LaZar days: (818) 780-1800, evenings: (818) 784-2553.

May 26, Friday, 8:00 p.m. "Atmospheres of Saturn and other Jovian Planets," by Dr. Scott Edgington, Investigation Scientist, Cassini/Huygens Mission to Saturn and Titan. Science Lecture Hall 140, Santa Monica College, 1900 Pico Blvd, Santa Monica, CA. Phone (310)434-4003 or visit <http://www.smc.edu/planetarium/>

May 27, Saturday, 2:00-6:00 p.m. Astronaut Visit: Rick Hieb (STS-39, STS-49, STS-65). Reuben H. Fleet Science Center, 1875 El Prado, Balboa Park, San Diego. Admission is free with paid Exhibit Gallery or IMAX theater ticket. Phone (619)238-1233 or visit http://www.rhfleet.org/site/education/weekendtalk.html#astronaut_visit

June 1, Thursday. Greater Los Angeles Chapter of the Association of the United States Army (GLAC/AUSA) Symposium: "Joint C4 and Space Operations: Balancing Warfighter Needs & Future Force Capabilities." The Hilton Hotel, 701 West Ocean Boulevard, Long Beach, CA. Symposium and registration information is available at the GLAC AUSA website www.ausa.org/glac or contact Felicia Campbell at (714) 372-6785 or felicia.a.campbell@boeing.com

June 3, Saturday, 1:00 p.m. -- "Return to the Moon," by Dr. Philip Blanco. Reuben H. Fleet Science Center, 1875 El Prado, Balboa Park, San Diego. Admission is free with paid Exhibit Gallery or IMAX theater ticket. Phone (619) 238-1233 or visit <http://www.rhfleet.org>

June 3, Saturday, sunset to 10 p.m. -- Public Star Party, Los Angeles Astronomical Society. Griffith Observatory Satellite, 4800 Western Heritage Way. Email outreach@laas.org or http://www.laas.org/Events_StarParties-Public.htm

June 4, Sunday, 6:00 p.m. reception, 6:30 p.m. program. Panel Discussion - "Transparency." Painter and sculptor Melinda Smith Altshuler, UCLA astronomer Matt Malkan, USC Professor of Accounting Zoe-Vonna Palmrose. Hosted by the USC Department of Physics and Astronomy, Santa Monica Art Studios, Santa Monica Airport, 3026 Airport Ave, Santa Monica, CA. Visit <http://physics.usc.edu/catnot/> or email K.C. Cole at k_c_cole@hotmail.com *(continued on page 7)*



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P.O. Box 1231

Redondo Beach, CA 90278

310-364-2290