PTICAL SOCIETY
OF SOUTHERN CALIFORNIA

IMAGES

Newsletter volume 12, number 7 WWW.OSSC.ORG April 2006

From the President Arnie Bazensky

The week of the Optical Fiber Conference proved to be a busy one for the OSSC, with the well-attended meeting at the Jolly Roger in Anaheim on Wednesday evening, and the very successful Optrick's Weekend at the Discovery Science Center in Santa Ana, on the following Saturday and Sunday. We had a number of guests at our meeting who learned about us at the OFC Show, including some representatives from SPIE and Lawrence Livermore National Laboratory, and even a few attendees from Canada. Our Speaker, Bob Scarmozzino gave an informative presentation on the software design products from his firm RSoft Design Group.

What followed on the weekend was a fun-filled 2 day Optics Exhibition at the DSC, expertly organized by Donn Silberman on behalf of the OISC and OSSC jointly. Donn donned (really, no pun intended) his Optricks Apprentice Wizard's costume, and gave three presentations each day in the center's 3D Laser Theater on the Optrick's Suitcase, a Southern California version of the creation from the OSA Chapter in Rochester, and one of his own creations from the Optrick's Apprentice Presentation, both of which were entertaining as well as informative. I had the pleasure of attending two of Donn's presentations on Saturday afternoon, and soon realized how much fun optics can be when viewed through the eyes of a curious child, with just some polarizing plastic sheets, plastic table utensils and a few diffraction gratings. Everyone in the audience including the adult "kids" seemed to really be enjoying themselves, as Donn went from one optical demonstration to another. All of it was interactive with handouts provided, like the "rainbow peephole", which turned everything into a rainbow via a diffraction grating. The room often shifted back and forth from light to dark, to help create the mystique and capture the magic of the demonstration of the moment. One experiment, which caught my eye, provided each visitor in the audience with a circular piece of polarizing plastic film, and some plastic tableware. With the film properly oriented, the stress birefringence present in the plastic from the molding process seemed to leap out at everyone in amazement. Donn did a wonderful job in organizing this event, being the master of ceremonies as well as the key presenter, and I feel it deserves honorable mention in this column, as well as an "Atta Boy" from the Society in general for taking our passion for optics into the community and representing us in such a fine manner. Good job to the Optrick's Apprentice!

The group also had a nice tabletop exhibit on the second floor, manned by Brian Monacelli and Stacy Katzenstein from Raytheon and Charles Gaugh from Davdison Optronics with a number of interesting experiments for everyone to enjoy. Harold Johnson Optical Lab, Vision Engineering, Griffith Observatory, Ushio Lamps and Schott North America were also represented with small exhibits of their products. A number of members brought their families to enjoy the festivities, and overall, it was just a great weekend to be out in the community sharing optics with the kids and their parents. Judging by the fact that both the main exhibit hall and the parking lots were full to capacity during all hours of each day, I think this event proved to be a great success, and we look forward to participating again next year. My personal thanks to all of the members who attended and participated as volunteers and I hope you had as much fun as I did, and found it worthwhile.

Best regards,

Arnie
OSSC President '05-'06

P.S. See some photos of The Optricks Weekend inside this newsletter.

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OSSC Corporate Profile:
Del Mar Photonics

DEL MAR PHOTONICS

Del Mar Photonics designs and manufactures advanced solid state ultrafast lasers and related products for research, education and industrial applications. DMP base systems include Titanium:sapphire and Chromium:forsterite ultrafast laser oscillators and amplifiers. Base systems are available in several different configurations providing both wavelength and pulse duration options for any ultrafast application. These systems can be augmented with additional components to offer a full range of ultrafast laser solutions.

More information can be found by visiting: http://www.femtosecondsystems.com

OSSC ANNUAL GOLF TOURNAMENT

When: *May 20, 2006*
Where*: Whispering Lakes Golf Course*
2525 Riverside Drive, Ontario, Ca. 91761
Telephone: 909-923-3673,
Starting Time *9:00 A.M.* ***Cost****: $50.00 (Includes Cart)*
Prizes *will be awarded based on company contributions.*
Make Check ***Payable*** *to* ***OSSC*** *and mail to:*
Fred Hansen, Tel: 714-776-8366
1731 Medical Center Drive, Anaheim, CA. 92801,
Those golfers who pay early get first starting times and ***all money must be*** **received by: May 13, 2006**.

Optricks Weekend at the Discovery Science Center

PTICAL SOCIETY OF SOUTHERN CALIFORNIA **Meeting Announcement** **Wednesday April 12, 2006**

The Role of Information Technology in Robotic Space Exploration

Dr. Larry Bergman
Manager, Mission Information Technology Research Program Office
Jet Propulsion Laboratory, California Institute of Technology

Abstract

A little over two years ago, the twin Mars exploration rovers *Spirit* and *Opportunity* bounced safely to land on the surface of the Red Planet. Since then, over 128,000 pictures have been streamed back to Earth providing a wealth of data on the Martian climate, geophysics, and mineralogy with the goal of answering the question "Did life once exist?" This presentation will give a little background on JPL's history in space exploration, and then describe some of the recent Mars missions, their engineering challenges, solutions, the resulting science discoveries that have occurred, and where advanced information technology and high performance computing in particular played important roles in supporting one of the most ambitious space exploration endeavors to date. Some concluding comments will be made on the emerging new challenges that will face robotic and human missions in the coming decades.

About the Speaker

Dr. Larry Bergman is the Manager of the Mission Information Technology Research Program Office at the Jet Propulsion Laboratory (JPL), and is responsible for providing direction of basic mission-oriented IT research that ultimately will transition into interplanetary spacecraft, ground systems, and engineering and design. Over his 34 year career in NASA, he has held a variety of flight project engineering roles, line and project management assignments, and also conducted research in fiber optics, photonic systems, computer networks, satellite networks, supercomputer systems, visualization systems, and HDTV systems.

A few career highlights include: contribution to the design and modeling of the interface circuits for the main Viking and Voyager on-board flight computers, Principal Engineer and Architect for the first space shuttle experiment to actively measure radiation effects on optical fibers, Project Engineer for JPL's first Supercomputer Center, co-Investigator for the DARPA/NSF CASA Meta-supercomputer gigabit network testbed, PI for the first trans-Pacific Japan/US satellite ATM/HDTV testbed, PI for the first satellite based tele-astronomy experiment using the Keck telescope, and Project Manager of the HTMT petaflops supercomputer concept study team involving more than a dozen institutions.

He has over 100 publications, six patents, has lectured at local universities, consulted to both the photonics and motion picture industries, and is a member of several engineering honor and professional societies, including IEEE, SMPTE, AES, and AFCEA. Among his numerous honors, he accepted the Radio Days Award from the Japanese Minister of Telecommunications for his leadership on the Japan-U.S. Trans-Pacific HDTV Experiment.

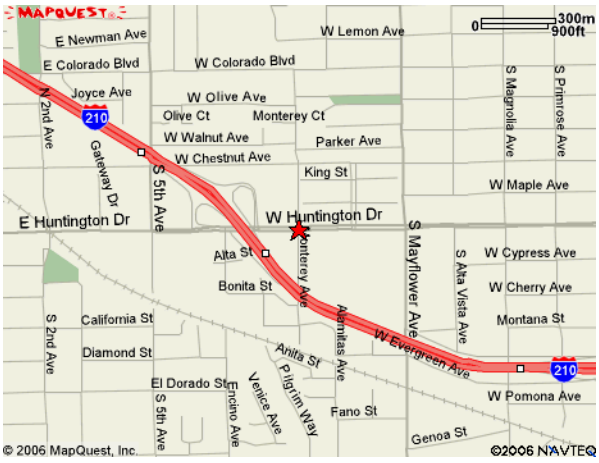
Dr. Bergman holds a B.S. degree (1973) from the California Polytechnic State University, San Luis Obispo, a M.S. degree (1974) from the California Institute of Technology (Caltech), Pasadena, and a Ph.D. degree (1983) from Chalmers University of Technology (CTH), Gothenburg, Sweden, all in electrical engineering. His Ph.D. thesis focused on the system design of multi-gigabit/sec fiber optic local area networks, and culminated in prototyping an experimental 5 Gbit/s fiber optic network testbed.

Contact Dr. Bergman at: e-mail: Larry.A.Bergman@jpl.nasa.gov or tel: (818) 393-5314

Date: Wed., April 12, 2006.
Happy Hour 6:00pm; Dinner 7pm; Speaker 8:30pm.

Location: Monrovia Four Points Sheraton
700 West Huntington Drive, **Monrovia**. (626) 357-5211

Reservations: preferably by e-mail to
Arrangements Chair: Martin Hagenbuechle
e-mail: Martin.Hagenbuechle@ngc.com
phone: (310) 813-6007 by Friday, April 7, 2006.
Meal Choices: TBD Cost is $25.
For current updates and directions,
Please visit our web site at: www.ossc.org



Please post this draft meeting notice at your offices.
Encourage your colleagues to attend!

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Precision Optical
Raytheon Space and Airborne Systems
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Spectrum Scientific, Inc.
Thales Polymer Optics
Zygo Optical Systems

These companies provide funding to the Optical Society of Southern California, enabling the OSSC to operate. We are gratefully for their support.

Future OSSC Meetings

Dates	Location	Speakers	Topics
05/10/06	DRS-Sensors & Targeting Syst. 10600 Valley View, Cypress, CA 90630	Greg Brand, VP of Engineering, & Harvey Spencer, Chief Engineer	Video Summary & Displays of Electro Optical Systems & Design of Optics at DRS
May 20, 2006 9:00a.m. *	Whispering Lakes, 2525 Riverside Dr, Ontario, CA 91761 909.923-3673	Golf Chair: Fred Hansen	OSSC 22nd Annual Golf Tournament Mail checks payable to "OSSC" for $50 each & player names to Fred.
06/14/06	Northrop Grumman Space Technology, Bldg.S Cafeteria, 2070 W. Marine, Redondo Beach, CA 90278	Tom Godfrey, NGST Optical Design Consultant	A 45-year personal history of Optics & Electro Optical Systems at Northrop

Visit OSSC on-line to see the meeting schedule for the rest of the year. http://ossc.org/meet.htm

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Return address:
Optical Society of Southern California
PO Box 3033
Fullerton, CA 92834-3033

Address Correction Requested