

The Optics Institute
Of Southern California



Looking for their Future!!

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Why was the OISC established?

- For many years, the Optics Community has had educational outreach to K-12 as part of its mission. The Optical Society of America, nationally and through its local chapters, has had some limited success with their programs. The situation of changing volunteers every year creates discontinuities in these efforts.
- Local optical societies' educational efforts needed a focal point to improve organization and effectiveness.
- Local education community lacks the ability to teach the basics of optics and photonics technologies.
- Local scientific and industrial communities need people knowledgeable about optics & photonics.
- The OISC was established to act as a continuous focal point for the Optics Community's Educational Outreach Activities.



What is the OISC?

- A focal point.
- A group that listens to the needs of the local optical science outreach education community and organizes and implements local solutions.
- The OISC was founded in Feb. 2003 by Donn Silberman, an optical engineer / manager with over 20 years experience in optical product development and a track record of volunteer optics educational outreach.
- The OISC has an Advisory Board and a large network of “Friends” locally, nationally and internationally to help achieve its goals.



MISSION STATEMENT

- Use optics to make science and technology interesting to people in Southern California.
- Bring optics exhibits, demonstrations, presentations and follow-up classroom 'hands-on' materials to K-12 Students and Teachers in Southern California.
- Encourage students to study optics in college and provide paths for them to follow.
- Provide training for people who use optics in their products & services.



OISC Projects

- UC Irvine – Gifted Student Academy
(Completed July 2003)
- UCLA Science Festival – Sally Ride
Science Club (completed Nov. 2, 2003)
- THINK Together (Dec 2003 ++)
- Optics Exhibits
(Promoting optics to the general public)
 - “The Speed of Light” @ The Irvine Ranch
 - Orange County Airport Optics Exhibit
 - The Discovery Cube Comes Alive
- Astronomy Outreach – Local &
International
- Science Fair Projects
- Space Event (lens donation organization)

See OISC web site for details of projects not discussed in this document.



What can OISC do for Sponsors?

Help reach more diverse groups.

- OISC exhibit projects can add to a sponsors marketing program.
 - Irvine City Hall – exposure to local community
 - OSA & SPIE conferences – exposure to optics community
 - Discovery (and other) Science Centers – exposure to people of all ages interested in science
 - John Wayne Airport (and other airports) exposure to people in all walks of life – the unexpected customer.
 - This exhibit can be cost effectively duplicated and customized to fit many exhibit sites.



The Speed of Light

An Exhibit at Irvine City Hall

Coming April 2004

Expanding to John Wayne Airport Summer 2005

Celebrating over 70 years of High Technology Research
And Innovation in Optics and related Sciences in Southern California.



Exhibit to include:

- Scale model of original plan
- Hands-On modern version of experiment
- Explanatory display panels
- Related science display panels
(Panels are 10' tall x 6'wide)

**The Michelson Speed of Light
Experiment at the Irvine Ranch**

$C = 299,792.4562 \text{ km/s } (+/- 1.1 \text{ m/s})$

Sponsorships are available.

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The Speed of Light Exhibit at Irvine City Hall



Through the Irvine City Special Events coordinator, the OISC will be presenting its first major exhibit.

Exhibit space and 10'x6' panels will be provided to promote local historical, educational and scientific information about optics.

Local optics related companies, institutions, foundations, and universities are invited to sponsor parts of this exhibit.



The exhibit will be open to the public and local teachers will be invited to bring their students. Special hands-on optics presentations will be arranged for students.

There will also be a special grand opening reception.

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John Wayne Airport Exhibit Spaces

The Speed of Light Exhibit will be expanded to fill these spaces in the Summer of 2005



30 Wall display cases near the gates
12' wide x 6' tall x 3" deep



2 free standing cases
6' x 2' near the security lines



4 free standing cases
38" x 38" x 18" tall near food court



Education & Outreach

.....Already served over 1500 students....



The OISC partnered with UC Irvine's Gifted Student Academy and taught, "**Astronomy and Space Science**"

This program used customized educational materials starting with the Branches of Astronomy and the Scientific Method. Hands-on Optics and Astronomy labs were conducted. Individual / team projects were researched in the campus science library and each student / team presented their results.

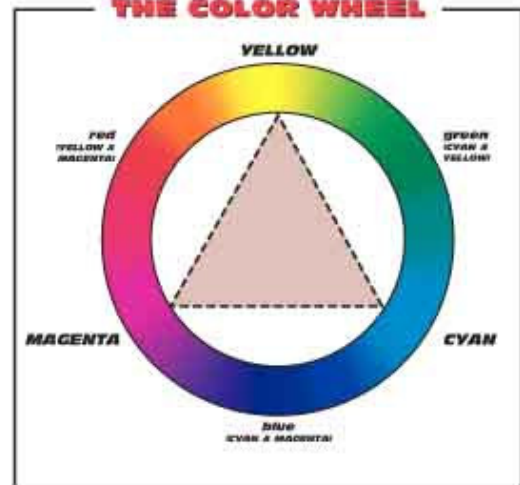
The OISC has established a collaborative partnership with [THINK Together, \(Teaching, Helping, Inspiring, Nurturing Kids\)](#) in Central Orange County to provide science education (using optics & astronomy) in after school programs.

This program uses the "Color My World" curriculum by Wendy Woolf, Science Education Consultant.

More programs are being developed for use at THINK Together facilities.

GASEF 008

THE COLOR WHEEL



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The OISC is working with the **Discovery Science Center** to improve their optics based exhibits and incorporate optics into more education outreach programs.

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Administrative & Financial Summary

The OISC is a Project of Community Partners, a 501 (C)(3) non-profit organization that incubates other non-profits. Community Partners administers and oversees all the legal and financial aspects of the OISC. This leaves the OISC staff more time to focus on program development and implementation and to work with sponsors and collaborators.

The OISC needs financial support for major projects like the Speed of Light exhibits and smaller outreach programs like those with THINK Together and UC Irvine and to develop new programs.

The OISC was founded by Director Donn Silberman and was primarily self funded. Your contributions will enable the OISC's to continues its work.



Supporting the OISC

- The Speed of Light Exhibits Sponsorship

- Scale Model of the Irvine Ranch Experiment \$15,000
- Hands-On modern version of the experiment \$15,000
- One Theme Panel to explain exhibit \$15,000
- Theme panels to promote optics industries \$15,000

These may be whole 10' x 6' panels or half for \$7,500

Theme panel content can be supplied by sponsors.

OISC will provide graphic formatting and layout coordination.

- Annual Membership Support

- Founding Sponsor \$5000
- Benefactor \$2500
- Supporter \$1000
- Corporate \$500
- Company \$250
- Associate \$100
- Individual \$50
- Student \$25

Membership support and Donations can now
made securely on-line from our web site.

Contact OISC Director Donn Silberman

For major program sponsorships.

Donn@oisc.net 949-636-6170

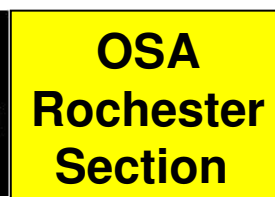
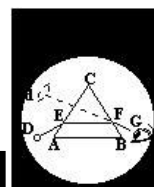
Website: <http://oisc.net>

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Supporters & Collaborators



Thanking Our Supporters & Collaborators

- THINK Together provides after school learning centers for under-represented K-12 children in Central Orange County. The OISC is providing materials for a two week "Science of Color" program that will reach ~1500 children.
- Center for Applied Competitive Technologies (CACT) at Irvine Valley College provides training for the local optics manufacturing industry. The OISC is working with CACT to reach out to the optics community and provide the requested training.
- OSA Rochester Section, Center for Optics Manufacturing & Institute of Optics, University of Rochester and the has provided the OISC with the "Optics Suitcase" and the opportunity to use it and promote it to others. This has become part of the foundation for the OISC.
- Optical Society of San Diego is a local OSA section and is working with the OISC to enhance their K-12 outreach efforts. The OSSD will have an Education Theme meeting in Feb. 2004 at the Fleet Science Center, organized by the OISC.
- Optical Society of Southern California is another local OSA section working with the OISC to enhance their K-12 outreach efforts. The OSSC will have an Education Theme meeting at the Discovery Science Center, organized by the OISC.
- IEEE - Laser Electro Optics Society - Los Angeles Chapter has been recently reactivated with the help of the OISC. The OISC is helping the LEOS chapter by joining some efforts with the OSSC. A joint meeting has been arranged between the local LEOS and OSSC at USC - Jan 2004. Also, the OSSC, OISC & LEOS LA jointly participated in the UCLA Sally Ride Science Festival on Nov. 2, 2003.
- Optical Society of America, particularly their Membership & Education Committee, has been very supportive in many ways. In addition to their initial letter of support, the OSA has supplied funds for this web site and a travel grant to the OSA Annual Meeting & the ETOP Conference. They also encouraged the OISC's active participation in these two events.
- SPIE - The International Society for Optical Engineering particularly their Membership & Education Committee, has been very supportive in many ways. In addition to their initial letter of support, they have provided a grant to Irvine Valley College for K-12 Educational Outreach, which the OISC has participated. The OISC prepared and delivered the UCI GSA Astronomy program with this support.
- The City of Irvine is providing exhibit & demonstration space in their City Hall for the OISC's "Speed of Light" exhibit. Local students and teachers will be invited to this exhibit and will be able to participate in a 40 minute Hands-On Optics presentation based on the Optics Suitcase. The exhibit will also be open to the general public.
- Irvine Valley College's Laser Electro-Optics Technology Program has been both a birthplace for the OISC (along with the OSSC) and a benefactor. This semester's enrollment in the program is up substantially, in part due to the efforts of the OISC.
- The Discovery Science Center has invited the OISC to use its facility for its Advisory Board meetings and to help with its exhibits, demonstrations and educational outreach efforts to both students and the general public.
- Wasatch Photonics has donated over 40 pounds of 'holographic' toys to be used by the OISC as gifts to students during OISC outreach programs.
- General Atomics Sciences Education Foundation has provided the material for the "Color My World" program that the OISC is providing to THINK Together. This may also be provided to the Discovery Science Center for programs in 2004.
- UC Irvine's Gifted Students Academy provided the OISC's first opportunity to deliver an optics based astronomy program to students. This was delivered to ~50 students over 4 weeks in the summer of 2003.
- Optical Sciences Center & Department of Physics, University of Arizona have provided encouragement, direction and the use of educational materials from the earliest days of the pre-forming the OISC. OISC Director Donn Silberman is a graduate of the UofA.
- Kodak Optical Products, is providing plastics lenses for students as part of our outreach programs. Their first use will be in the THINK Together Color My World program to enable the students to see the "colored dots in print media" that make up the pictures and graphics.

