

**From the President**



Greetings OSSC Members!

We had another great meeting this past month. I thought this meeting was going to be a back to the basics meeting, but we learned quite a bit about optimizing the optical coating process from Wayne Rodgers of Eddy Co..

Moving forward, we have our Annual Meeting at a new location in Brea, where we will have a talk on Quantum Computing and the National Quantum Initiative by Dr. Sandy Irani from UC Irvine, ICS & Dr. Jonathan Habif from USC CQIST. Plus, we will get our election results. If you have not voted, please vote now.

This has been a very busy month recruiting, nominating, and preparing for the OSSC election. We now have a very strong and experienced slate of candidates with three Past Presidents and two Fellows. You can vote online through the link provided in the email that I sent, the link on the OSSC homepage and in this Newsletter. We also have a link to the bios of the candidates.

Every individual being elected started off by helping with just small tasks. I was recruited by

Martin Hagenbeuchle to help create Corporate Profiles when he was Membership Chair. This was just a small effort that was not really related to the core operations, but it helped me learn more about OSSC and eventually become Membership Chair.

As President, I see how having a few people that are willing to take on a few simple tasks is what really helps to keep the OSSC going. Most of us mortals do not have time to handle every detail while keeping the big picture moving forward especially with nine meetings plus a conference each year. There are many of these roles, whether one time tasks or simple ongoing activities, where the help of our members makes it possible for the BOD Members to help maintain and grow OSSC.

Additionally, we are planning for Mirror Tech Days 2019. If you are interested in participating as a volunteer or Corporate Sponsor, let me know. We have a good group of people returning from last year, but there are some opportunities.

We have seen some renewed interest from our Corporate Sponsors, and I encourage you all to share your individual, corporate, and other news with us in the Newsletter or at meetings. We had a great technical article last month, and we are all interested in hearing about the latest news from conferences that many of us cannot attend.

I look forward to seeing you all at the next meeting. Sign up early and encourage your colleagues to join you.

Sincerely,  
Nicholas J. Croglio Jr.  
OSSC President 2018/19

<b><u>In This Issue:</u></b>	<b><u>Page</u></b>
From the President	1
From the Editor	2
Meetings	3
Around the OSSC, 2019-2020 Elections	4
Outreach Corner	
Events Calendar, OSSC Corporate Members & Sponsors	5-8

## Board of Directors

President  
Nicholas J. Croglia, Jr.  
818.331.4541  
Nicholas.croglia.osscc@gmail.com

Vice President  
Charles Gaugh  
562.986.5852  
charles\_osscc@verizon.net

Secretary  
Michelle Langland  
949.293.9126  
michelle.langland@gmail.com

Treasurer  
Martin Hagenbuechle  
310.508-8191  
mhagenbuechle@gmail.com

Past President  
Bo Wang  
714.420.8234  
bwang@precisionoptical.com

Webmaster  
Robert Cartland  
626.485.4148  
robertcartland@att.net

Membership Chair  
John Nunn  
949.677.3011  
john.nunn@newport.com

Programs Chair  
Richie Nagie  
408.656.2254  
RichiNagi@gmail.com

Arrangements Chair  
Alex Small  
909.869.5202  
arsmall@cpp.edu

Councilors:  
Graham Brewis  
760.967.9357  
graham.h.brewis@gmail.com

Justin Francis  
951.285.9604

Russell Rauch  
626.833.1046  
rurauch@verizon.net

## OSSC Leaders

(See [www.osscc.org](http://www.osscc.org)  
for contact info)

Communications: **OPEN**  
Corporate Memberships: Kim Abair  
Development Coordinator: **OPEN**  
Fellows Chair: **OPEN**  
Golf Chair: Donald Miller  
Grants: **OPEN**  
Historian: Tom Godfrey  
Mentorship Coordinator: **OPEN**  
Mt. Wilson Coordinator: T. Scott Rowe  
Newsletter Editor: Shankar Baliga  
Newsletter Assistant: Michael Gordon  
Outreach Chair: **OPEN**  
Student Chapters: Alex Small  
Website Content: Charles Gaugh

## From the Editor

Welcome to the May 2019 Images Newsletter!



As a reminder, photographs and albums of OSSC events can be viewed at [OSSC Photo Album List](#). If you have recent event photos or photos from years past please send to any BOD member or OSSC leader for posting on the website. Thanks to OSSC Treasurer Dr. Martin Hagenbuechle for posting photos of the May 2019 Monthly Meeting on the OSSC website.

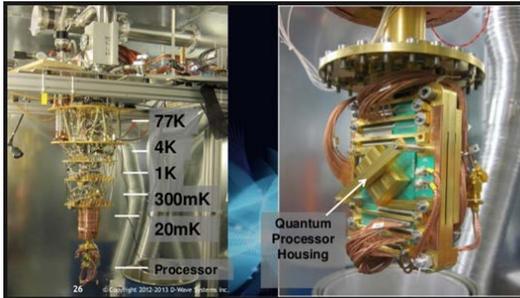


President Nicholas Croglia presenting OSSC May 2019 guest speaker Wayne Rodgers his one year OSSC Membership Certificate.

## Quantum Computing & The National Quantum Initiative

Dr. Sandy Irani, UC Irvine & Dr. Jonathan Habib, USC

OSSC Annual Business Meeting, June 12, 2019

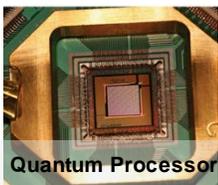


Quantum computing is the use of quantum-mechanical phenomena such as superposition and entanglement to perform computation. A quantum computer is used to perform such computation, which can be implemented theoretically or physically.

The National Quantum Initiative (NQI) Act is an Act of Congress passed on December 13, 2018 and signed into law on December 21, 2018. The law gives the United States a plan for advancing quantum technology, particularly quantum computing. OSSC Fellow Donn Silberman will briefly review the NQI and introduce our speakers.

Visit <https://www.opticsage.com/donn-s-quantum-explorations> to explore these topics prior to the meeting.

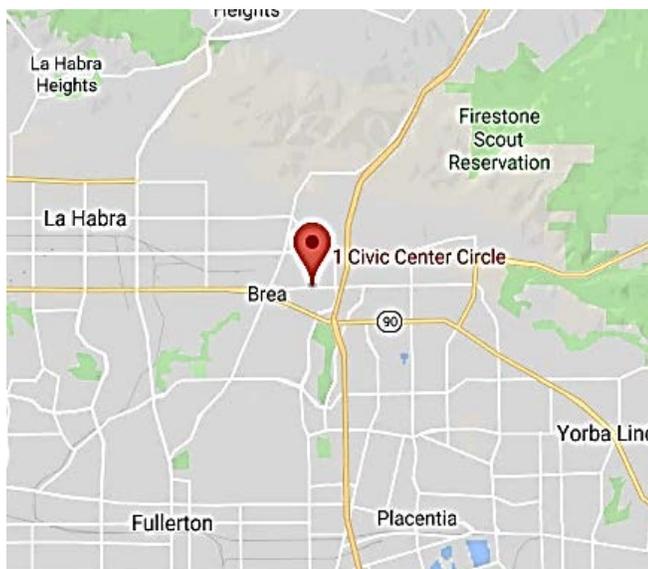
### About our speakers: Dr. Sandy Irani received her Ph.D. from UC Berkeley in 1991 after



which she was a University of California President's Postdoctoral Fellow at UCSD. She joined the faculty of UC Irvine in 1992 where she is currently a full professor. Much of her research has focused on algorithm design and analysis with an emphasis on applications to computing systems. In the last few years she has been working in Quantum Computation and Quantum Information Science.



**Dr. Jonathan L. Habib** is an experimental physicist and research lead at the University of Southern California Information Sciences Institute (ISI). His research has focused on photon-starved, classical communication and imaging, quantum-secured optical communications in free-space and fiber, and integrated nano-photonics for both classical and non-classical applications. Prior to joining ISI, Dr. Habib was with BBN technologies where he served as principal investigator for a number of DARPA-sponsored research programs, partnering with university collaborators to demonstrate revolutionary optical technologies impacting traditional communications, sensing and computation systems.



**Wednesday June 12<sup>th</sup>**

**Reception: 6:00; Dinner starts @ 6:30**

**OSSC Business: 7:00; Presentations: 8:00**

**Dinner – Cost: \$35**

**\$40 after June 7<sup>th</sup>**

**OSSC Student Members: \$10,**

**\$20 after June 7<sup>th</sup>**

**Brea Civic & Cultural Center**

1 Civic Center Circle

Brea, CA 92821

(714) 990-7600

On-line Registration: [www.osscc.org](http://www.osscc.org) or

Contact: Alex Small, **OSSC** Arrangements Chair,  
arsmall@cpp.edu

---

---

## **OSSC 2019-2020 Elections**

The elections are open for 2019-2020 Programs Year.

[Election for 2019-2020 OSSC Board of Directors](#)

Dear **OSSC** Member,

The Board of Directors and Nominating Committee of the **Optical Society of Southern California** are pleased to provide the 2019-2020 election materials including candidate photos and biographies to help you chose whom to elect. Each of the individuals running for office has agreed to serve the Society in some capacity next year in either an elected or appointed position. Their involvement is welcome and appreciated. Members have the option of voting online or requesting a mail-in ballot. Members must log-in to vote; contact the Membership Chair or Webmaster if you need assistance. On-line voting is anonymous, secure and the best way to ensure that your vote is counted. On-line voting will close Wednesday, June 12 at noon. Paper ballots must be received before the June 12 meeting. If you vote by mail, please send it in right away. You may also turn in the ballot in person at the June meeting before 7:00 P.M.

The election results will be announced at the 12 June, 2019 **OSSC** meeting at Brea Civic Center, 1 Civic Center Circle, Brea, CA 92821. The meeting announcement is included herein. The June meeting includes our annual **OSSC** Business Meeting and announcement of next years officers who will serve from 1 July, 2019 to 30 June, 2020. Meeting reservations may be made on-line at [www.oss.org](http://www.oss.org) or by contacting the Arrangements Chair. It has been a tremendous honor and pleasure serving as President of the Society this past year. I look forward to assisting our next President and the entire new Board of Directors and look forward to serving this great organization for many years.

Sincerely,  
Nicholas J. Croglio, Jr.  
**OSSC** President, 2018-2019

---

## Corporate Member News



[Mark Optics Inc.](#), 1424 East St. Gertrude Place, Santa Ana, CA 92705 is a contract manufacturer specializing in thin wafers, thin coverslips and the industry's thinnest optical components.

With more than 30 machine stations in its Santa Ana, California facilities, Marks Optics offers full, in-house, production capabilities. This includes: ingot slicing, coring, CNC machining and shaping, and planetary lapping and polishing of finished optics. Other specialties include manufacturing IR, UV and visible optical components focusing primarily on thin fused silica and glass substrates and wafers. Mark Optics provides quality optics to a multitude of industries, including: aerospace, defense, medical, biomedical, telecommunications, industrial, scientific research and more. Mark Optics was founded in 1967. It is ITAR registered and ISO 9001-2008 compliant.

Some of Mark Optics' projects include manufacturing substrates for:

- Caltech Palomar Observatory Zwicky Transient Facility
- Caltech BICEP3 Submillimeter Telescope
- CYRA Infrared Spectrometer
- ITER – International Thermonuclear Experimental Reactor
- MAJORANA Demonstrator
- Caltech LIGO

### **THINNING WAFERS (SUBSTRATES) BACK GRINDING or BACK THINNING OPTICAL WAFERS**

Mark Optics' team of highly-skilled optical engineers – coupled with its unique processing capabilities, allows the company to continue pressing the physical limitations of thinning substrates. It has successfully polished inch-thick glass wafers to a thickness 25 microns, and is working to bring that number down to 15 microns. It has polished 100 mm wafers to 50 microns thickness out of fused silica, Schott Borofloat® 33, and other optical materials and crystals. Additionally, Mark Optics polishes shaped substrates, including: squares, hexagons and rectangles.

### **OPTICAL WAFERS**

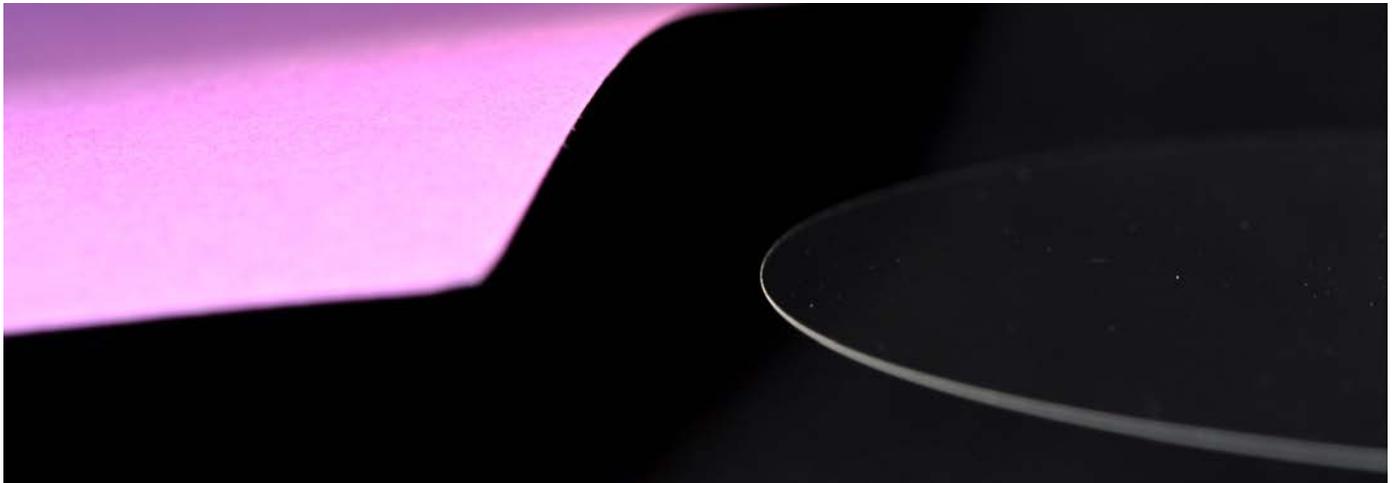
Manufacturing of optical wafers include additional procedures that help minimize surface defects, fractures or micro-cracks that sometimes occur during fabrication. Improved control during dry and wet etching, even during nanoscale processes has been demonstrated. The wafers can be

---

customized and made of any optical glass. As well, glass optical wafers can be custom made to meet a customer's specific performance requirements.

### **A GREAT AND GREEN COMPANY**

Mark Optics provides quality optical components through environmentally responsible business practices. It is small, agile, honest and compliant. It welcomes innovative manufacturing projects with challenging specs and lead times.



### **Outreach & Education**

The OSSC is assisting local university students with OSA Student Chapters. Contact OSSC Student Chapter Liaison [Alex Small](#) if you would like to support these efforts. Currently, the following universities have on-going chapters: [UC Irvine](#), [UCLA](#), [UC Riverside](#), [Cal Poly Pomona](#), [UC San Diego](#), [Caltech](#).

### **Aim and Purpose**

It is the aim and purpose of this society to increase and disseminate the knowledge of Optics and closely allied sciences, to promote the mutual interests of investigators, teachers and students in these fields, and of designers, manufacturers and users of optical instruments and allied scientific apparatus as well as those who have optics as a hobby and to encourage cooperation and establish acquaintanceship among these persons.

### **Speakers Bureau**

The OSSC has formed a Speakers Bureau, to create a roster of individuals interested in giving talks for student chapters, OSSC meetings, and similar events. If you have something interesting to share with our local optics community, especially career-related topics of interest to students, please contact a member of the OSSC Board of Directors.

Optical Society of Southern California  
14271 Jeffrey Road, Suite #136  
Irvine, CA 92620

## Upcoming Meetings & Events (2019)

Date	Location	Speaker	Topic
June 12 (OSSC Annual Business & Monthly Meeting)	<a href="#">Brea Civic &amp; Cultural Center, 1 Civic Center Cir., Brea CA 92821</a>	<a href="#">Dr. Sandy Irani, UC Irvine, ICS</a> & <a href="#">Dr. Jonathan Habib, USC CQIST</a>	<a href="#">Quantum Computing &amp; The National Quantum Initiative</a>

*All events subject to change without notice.*

## OSSC Corporate Members & Sponsors

These companies and organizations provide the Optical Society of Southern California with financial resources, time and talent. We are grateful for their generous support.

[Aerotech](#)  
[Alluxa](#)  
[AMP Optics](#)  
[Äpre Instruments](#)  
[AVS Southern California Chapter](#)  
[AWI Industries](#)  
[Cambridge Technology](#)  
[Collins Optronics](#)  
[Curt Deckert Associates](#)  
[Diverse Optics](#)  
[DMK Engineering](#)  
[e-Las Americas](#)  
[4D Technology](#)  
[Facebook](#)  
[Hadland Imaging](#)  
[Infinite Optics](#)

[Inrad Optics](#)  
[Isuzu Glass](#)  
[Laser Components](#)  
[Mark Optics](#)  
[Mahr](#)  
[Mendez R & D Associates](#)  
[Micro Laser Systems](#)  
[Mindrum Precision](#)  
[Newport Corporation](#)  
[Newport Thin Film Laboratory](#)  
[Ohara Corporation](#)  
[Optic Systems Group](#)  
[OptiPro Systems](#)  
[OptoSigma](#)  
[Photonics Media](#)  
[Precision Glass & Optics](#)

[Raytheon ELCAN Optical Technologies](#)  
[Raytheon Space and Airborne Systems](#)  
[Reynard Corporation](#)  
[Schott North America](#)  
[Silicon Lightwave Technology](#)  
[Spectrum Scientific](#)  
[SPIE](#)  
[Starrett Metrology](#)  
[Supply Chain Optics](#)  
[Synopsys](#)  
[Trioptics](#)  
[II-VI Optical Systems](#)  
[UC Irvine Division of Continuing Education](#)  
[Zemax](#)  
[Zygo](#)