The Optical Society **2030** Green Paper

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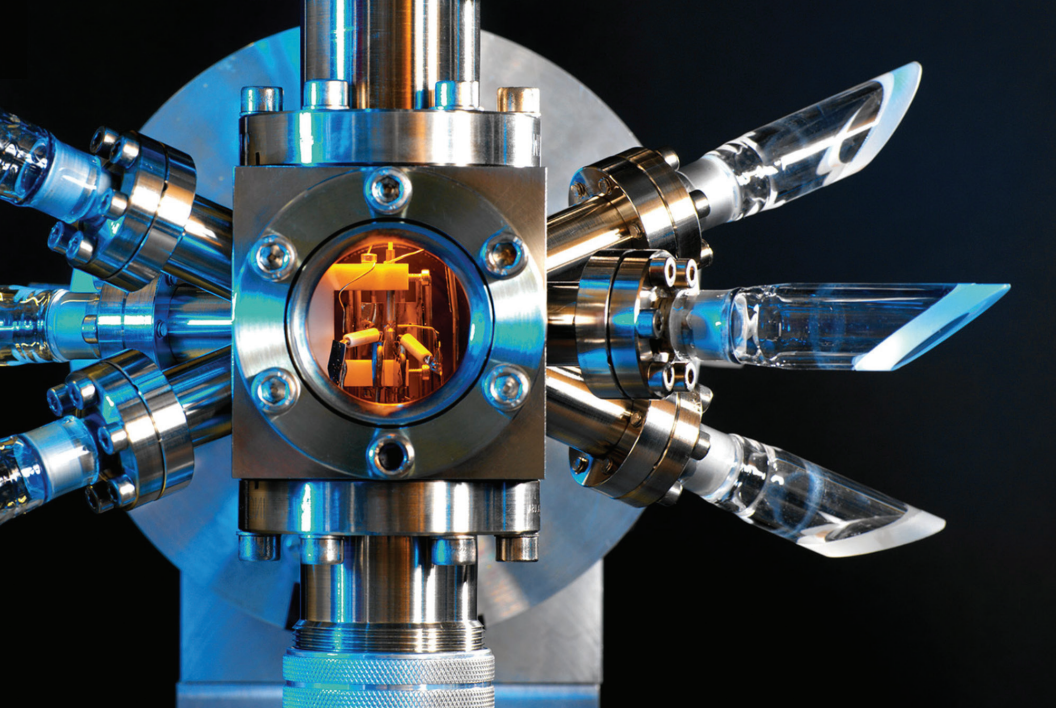
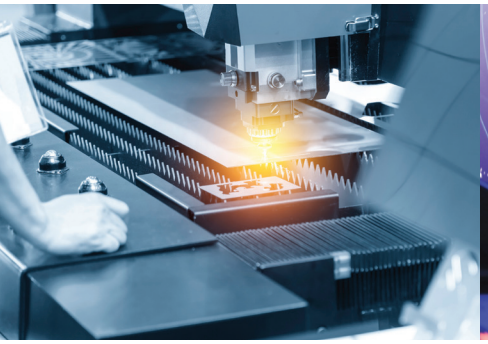
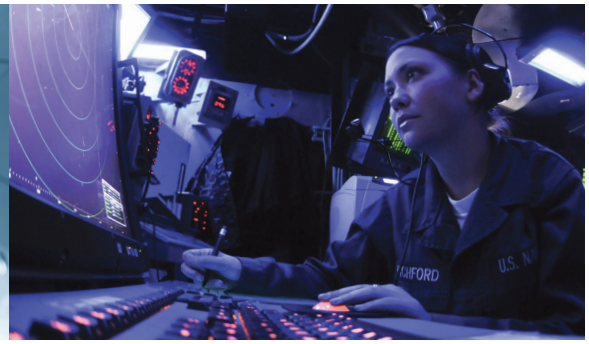






The Optical Society in 2030

In 2018, the OSA Board of Directors established the OSA 2030 Rapid Action Committee (RAC), challenging committee members to begin imagining how OSA will frame the future of optics and photonics research, collaboration, education, and advocacy into 2030 and beyond.

The 2030 RAC began envisioning how the Society's portfolio of programs, services and products might evolve in order to attract and retain future generations of talented people into optics and photonics.

Through a series of engagement activities in 2018, members, volunteer leaders and staff provided input regarding ways the Society could reach its 2030 vision.

While this document provides an overview of the collective thinking of a range of Society members, volunteers and staff, it is only a beginning. OSA's greatest strength is its member-driven collaboration, and the RAC encourages each Society member to add his or her own insights and opinions to the conversation.

Please join the OSA Board of Directors' challenge to frame OSA's future for 2030 and beyond. We invite you to forward your comments and suggestions to the OSA Board via **OSAPresident@osa.org**.

OSA 2030 RAPID ACTION COMMITTEE

Ian Walmsley, *Chair, 2018 OSA President, Imperial College London, UK*
Arti Agrawal, *University of Technology Sydney, Australia*
Aref Chowdhury, *Nokia, USA*
Martijn de Sterke, *University of Sydney, Australia*
Ekaterina Golovchenko, *IPG Photonics Corporation, USA*
Carlos Lopez-Mariscal, *Underwater Photonics, Mexico*
Martha Paterson, *OSA Senior Director, USA*
Elizabeth Rogan, *OSA CEO, USA*

COVER IMAGE: Scattering, multiple refraction, and caustics generated from colourless water beads illuminated by a diffracted supercontinuum. *Goery Genty, Tampere University of Technology, Finland*

OSA Today

OSA is a strong organization on which we can build an expansive future. It is known as a leading publisher of cutting-edge research and technology, an organizer of vibrant meetings and workshops, and a convener of reach and consequence. It is an influential society.

Our future will be built on the young professionals who are part of our community, as OSA continues to invest in them through student chapters, development programs, outreach activities, schools and training, in partnership with the OSA Foundation.

The Optical Society is known around the world, and its membership reaches more than 100 countries. The diversity of interests facilitates the generation of new ideas, new business opportunities and new collaborations, opening the way to transformation.

The authority of OSA's programs make it the foremost Society in optics and photonics, and the forum for setting the future of the field.

OSA is a great society to be a part of, supporting and stimulating people and their ideas for the good of society as a whole.

OSA 2030 Vision: An Optical Society without Limits

By the year 2030, OSA will have become the most recognized and effective organization for scientists, engineers, business leaders, students, and early career professionals who, collectively, fuel discoveries, shape real-life applications and accelerate the science and technology of light and its impact on the world.

As the Society adopts new technologies and encourages innovative thinking, OSA's core values of innovation, integrity, inclusivity, and impact continue to inform its programs and priorities, allowing the organization to attain levels of excellence, reach and influence only dreamed of a decade before.

In 2030, OSA has eliminated geographical and socio-economic limitations to membership and to participation as digital technology removes barriers related to language, time zone, and travel.

OSA enjoys a border-neutral global presence that embraces educators and students from formerly underserved areas. Now, access to educational materials and product demonstrations in a member's local languages is the norm, as OSA continues to act as the premier steward of trusted information in optics and photonics and related fields.

OSA 2030 Membership: Inclusive and Tailored

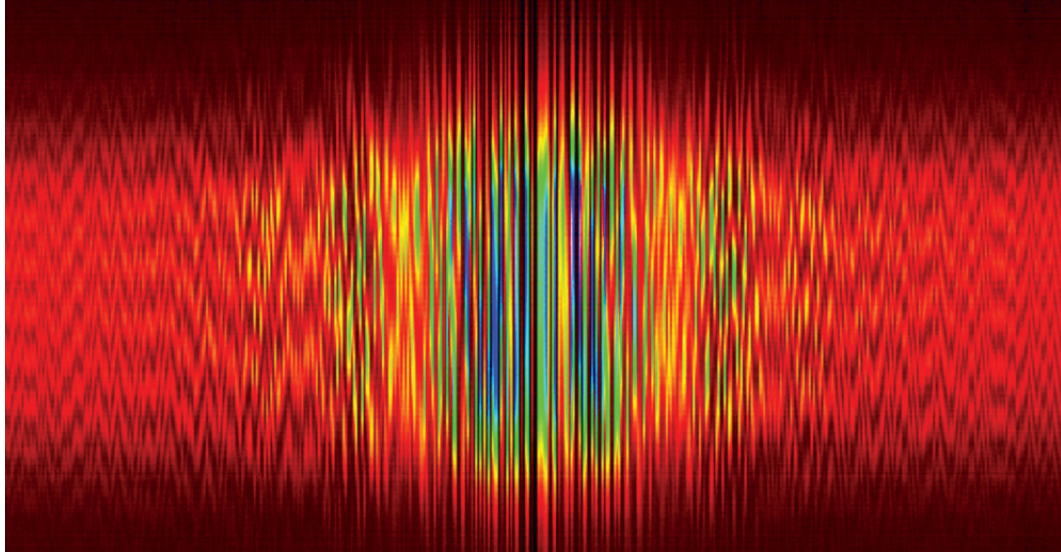
OSA membership in 2030 reaches new levels of diversity and breadth. Whether from academia, industry, or an allied profession or discipline — such as medicine, manufacturing, sensing, or security, to name a few — there is a place in OSA for every optics- and photonics-related interest.

Young professionals and students continue to guide OSA's strategic direction and evolution as they expand their roles, serving as OSA Directors and in vital national, regional and local leadership positions, continuing and improving upon the OSA culture of volunteerism and mentorship.

Regional and language barriers to full realization of OSA membership benefits are eliminated, as OSA removes artificial hierarchal and socio-economic walls between communities with coextensive interests. International, regional and local peer-to-peer platforms for members to connect are the norm.

Seamless connectivity flourishes as beneficiaries form relationships with donors, readers reach out to authors, and students and junior professionals gain access to senior members from academia and industry, who act as mentors to inspire and support their professional development.

Because membership benefits are tailored to specific regional aspects of membership, each member is able to make the most of all relevant opportunities.



OSA 2030 Publishing: Open and Accessible

In 2030, publishing opportunities are increased for authors while content accessibility for readers is virtually limitless.

Relevant, geographically bias-free, and culturally bias-free peer-reviewed content is available to all, thanks to the implementation of automated accurate translation technology. With this technology, authors can write and submit articles in their language of choice, confident that their work will be easily and accurately translated into any reader's language of choice.

Collaborations with publishers throughout the world expand as scientific progress in optics opens new areas of exploration and novel applications are recognized with both discoveries and impacts published daily in a variety of formats. The large increase self-published contributions is supported by new technologies such as artificial intelligence and online training and certificate programs for reviewers that assure reproducibility and reliability of content.

This open and accessible approach to publishing and readership fuels exponential growth of all technical fields related to the science of optics and photonics, fomenting excellence across them.

IMAGE: An experimental interferometric frequency-resolved optical gating (FROG) trace of an ultrashort laser pulse from a Ti:sapphire oscillator. The trace is presented using a custom Matlab colormap. *Travis N. Jones, Ph.D. student, Ultrafast Optics Group, Georgia Institute of Technology, USA*

OSA Meetings and Conferences: Interactive and Collaborative

OSA meetings and conferences offer interactive and remote formats that allow members to participate in meetings "on-demand."

Participants interact with presenters, organizers and exhibitors through virtual connections and meeting apps, which obviate barriers of accessibility, language and expense. Because content is available through streaming technology in multiple languages, self-study is encouraged as independent learners gain access to and receive support from these virtual mentors.

Regional "hubs" of volunteers design impactful events and meetings tailored by culture and region. Collaboration is enhanced and encouraged through visiting lab programs (lab-surfing) and new education vehicles, including an online optics education forum and regional colleges of optics. All meetings, forums and colleges carry the prestigious OSA mark of approval, proof that they adhere to established standards and criteria.

OSA 2030 Advocacy: Expansive and Successful

OSA continues to leverage its reputation as an authoritative organization in providing fair, unbiased evidence to inform policymakers on regional, national and international levels.

Regional coordinated advocacy efforts are designed to provide a common strategy to inform policymakers about the value of supporting and investing in science and technology generally, and in optics and photonics specifically.

Training, modeled on the successful endeavors in the U.S. and other areas in the world, is provided to all members interested in supporting this important aspect of OSA membership.

OSA Foundation: Commitment and Service

The OSA Foundation's success with its third major capital campaign allows it to launch and operate a growing portfolio of global programs, including programs to expand outreach activities that inform the public about optics and photonics while promoting membership and research collaborations between non-traditional partners.

A more informed public translates into strong support for increased government funding of scientific research and new programs supportive of traditionally under-served communities.

OSA Foundation community efforts enjoy the support of optics and photonics industry leaders, who inspire the OSA membership as they generously, donate both time and financial resources to guide the Foundation in directions where it can create positive change.

OSA 2030: The Future is Yours

How do you see OSA in 2030 and beyond?

Now is a great time to talk about how we want to shape our future as a professional society. The Strategic Plan sets out our direction for the next few years in all of the areas of OSA activity, under the leadership of the Strategic Planning Council. As that group begins to think beyond the current ambitious targets we have set for ourselves, and the Strategic Plan is refreshed and updated, the findings of the OSA 2030 RAC and your voices will feed directly into that planning.

This vision is only a starting point for these discussions. We want to develop our thinking together, creatively, collaboratively and openly. We would be delighted to hear from you, and are particularly interested in your responses to the following questions:

What else should be included in the vision?

What other challenges will we need to address?

How would you like to contribute to making the OSA of 2030 a reality?

Please join the OSA Board of Directors in framing the future of The Optical Society. We invite you to forward your comments and suggestions to the OSA Board via **OSAPresident@osa.org**.

ABOUT OSA

Founded in 1916, The Optical Society (OSA) is the leading professional organization for scientists, engineers, students and business leaders who fuel discoveries, shape real-life applications and accelerate achievements in the science of light. Through world-renowned publications, meetings and membership initiatives, OSA provides quality research, inspired interactions and dedicated resources for its extensive global network of optics and photonics experts. For more information, visit osa.org.