The Milton and Rosalind Chang PIVOTING FELLOWSHIP

Our global society has a need for scientific expertise. Technical competency is an invaluable resource sought after by other fields, where a firm grounding in science or technology is an asset. The Milton and Rosalind Chang Pivoting Fellowship provides unrestricted fellowships to talented, young optical scientists and engineers who believe their expertise can be utilized to improve society beyond the bench. The program is intended to encourage people of exceptional talent to pursue their newfound passion.

Each year, one OSA member is presented a “no strings” stipend of $50,000. This fellowship is an investment in a person’s commitment to advancing science through non-traditional career paths (e.g. public policy, government, and journalism).

Application deadline of 30 April 2020.
Visit osa.org/pivoting for more information.
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The OSA Foundation (OSAF) serves as the philanthropic arm of The Optical Society (OSA). Our vision is a thriving, robust, and collaborative optics and photonics community that inspires and empowers the next generation of leaders in the field. Our mission is to inspire promising individuals to pursue careers in optics and photonics that lead to ongoing support and an enduring passion for the community.
Corning and The OSA Foundation partner to support women in Optical Communications.

The **Women in Optical Communications Scholarships and Travel Grants** program launched in 2019 to advance gender diversity in the global optical communications industry. The Scholarships are merit-based, each totaling US$3,000, supporting women graduate students studying optical communications and networking.

“Recognizing and supporting women graduate students in the optical sciences aligns with OSA’s core values, especially that of inclusivity, and our conviction that modern scientific research depends on diverse collaboration for success,” said Alexander Sawchuk, OSA Foundation Chair.

The program also offers need-based grants available for women who are currently graduate students, working as post-docs, or in the first 1-5 years of their career. These grants are intended to help cover travel costs to the Optical Fiber Communication Conference and Exposition (OFC). Ten travel grants were offered in 2019.
Google and The OSA Foundation collaborate to create the Subsea Optical Fiber Communications International School and cultivate the optical communications workforce of tomorrow.

The inaugural Subsea Optical Fiber Communications International School took place from 4 - 10 August 2019 in Finland. Speakers from Google, Facebook, Subcom, Alcatel Submarine Networks and NEC provided a comprehensive overview of a modern global communication network, with a focus on submarine system design, powering, cable technology, planning, marine operations and maintenance. With ninety-nine percent of all international data traffic traveling through the 1.2 million km of subsea optical fiber in use today, and data traffic set to double in the next three years, the school offers early-career researchers and engineers insight into exciting careers in the subsea optical communications.

The inaugural school received 175 applications from which 96 people (28% women) from 29 countries were chosen to attend.

Subsea Optical Fiber Communications Donors
Founding Partners

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SUBSEAOF.COM
We are taking a chance on change and supporting non-traditional career paths that advance science through the Milton and Rosalind Chang Pivoting Fellowship.

The OSA Foundation launched the inaugural Milton and Rosalind Chang Pivoting Fellowship in 2019. The fellowship provides unrestricted funding to talented early career-optical scientists and engineers who believe their expertise can be utilized to improve society beyond the bench. The program is intended to encourage people of exceptional talent to pursue their newfound passion. Each year, one OSA member is presented a “no strings” stipend of US$50,000. This fellowship is an investment in a person’s commitment to advancing science through non-traditional career paths (e.g. public policy, government, and journalism), and is given in support of the individual, not a project. Araceli Venegas-Gómez, University of Strathclyde, UK, was selected as the inaugural Milton and Rosalind Chang Pivoting Fellow recipient. She will focus on advancing awareness and understanding of quantum technologies and policy.

“I want to become a global ambassador advocating quantum technologies in order to build a stronger network of stakeholders from industry and academia, federal labs and government.”

– 2019 Pivoting Fellow Araceli Venegas-Gomez

Take a CHANCE on CHANGE.

OSA.ORG/PIVOTING
The OSA Foundation and Coherent recognize the first recipient of the Bernard J. Couillaud Prize at CLEO.

The Bernard J. Couillaud Prize is a merit-based $25,000 prize honoring the extraordinary contributions of laser physics pioneer, Bernard J. Couillaud. Launched in 2018, the first recipient David Carlson was selected. Couillaud Prize winners have total research freedom for work advancing basic research or for translating an idea into a commercial innovation. The prize money is expected to help the recipient in her or his pursuit of the most compelling and interesting research issues in ultrafast optics.

“David Carlson’s research is an example of the kind of studies that Bernard believed it was important to identify and support, because it is clearly interesting from a purely intellectual standpoint, and it also has very strong potential to solve problems in several real-world situations.”

– John Ambroseo, CEO, Coherent
PROGRAM PORTFOLIO

In 2019, The OSA Foundation allocated nearly US$1.1M from its Annual Fund and Foundation Endowments to support programs such as OSA Student Chapter grants, the Siegman, Innovation and Subsea Schools, Women in Science, Technology, Engineering and Entrepreneurship (WiSTEE), youth outreach, corporate fellowships, diversity and inclusion, travel grants, scholarships, prizes and awards. By supporting global programs that provide mentorship and career development opportunities for students and early-career professionals, we deliver valuable resources that inspire and empower the next generation.

SCHOOLS

The **Siegman International School on Lasers** provides graduate students with in-depth learning on lasers and their applications from internationally recognized academic and industry leaders. This week-long program consists of lectures, networking events, professional development programming, and poster presentations. In 2019, the Siegman School was hosted at the University of Rochester, USA by Jonathan Zuegel, Laboratory for Laser Energetics and P. Scott Carney, Institute of Optics, with 94 students in attendance from 27 countries (37% developing nations) and women making up 39% of attendees. In total, this school has hosted 509 students since 2015. The 2020 school will be in Warsaw, Poland, and the Shanghai Institute of Optics and Fine Mechanics, Shanghai, China, will host in 2021.

Two new features this year include: The Zuegel Family Scholarships and The Burton J. McMurtry Student

The **Innovation School** is a highly-interactive program perfect for those seeking to participate in the innovation economy – as an innovator at his or her company, at a start-up venture, or as an entrepreneur. In 2019, there were 29 attendees (35% women) from 10 countries. The school is hosted at OSA’s global headquarters in Washington, DC, USA.

Paper Prize. Jon Zuegel and his family created a 10-year endowment providing merit-based scholarships for students annually. Virginia Siegman, Thomas Baer and Robert Byer all from Stanford University USA, created a 10-year endowment to fund a student paper prize in honor of Siegman’s first post-doc, Burt McMurtry. The paper competition considers poster and oral presentations.

“**One of the best summer schools I’ve ever attended.**”

– Siegman School attendees with donors Jon and Barbara Zuegel
PROFESSIONAL DEVELOPMENT

Presented by the OSAF and The Wellman Center for Photomedicine (WCP) at the Mass. General Hospital, the Thomas F. Deutsch Fellowship honors the extraordinary contributions Dr. Deutsch made to the field of Biomedical Optics. This one-year multidisciplinary Fellowship fosters interactions between researchers from diverse fields of science and medicine explicitly. It supports post-doctoral investigators pursuing training in either primary or clinical research. The 2019 recipient is Vicente Parot, Harvard University, USA.

“My responsibilities entail conducting research to advance optical measurement technologies with the goal to improve medical diagnostics and treatment. Additionally, I am committed to further the OSAF outreach goals by sharing my research advances and my experience.”

– 2019 Deutsche Fellow Vicente Parot

The OSA Ambassador Program annually selects ten early-career professionals to provide career advice, technical knowledge, and mentorship by serving as traveling lecturers for chapters and sections, supporting professional development events at meetings, and engaging with their communities. Since 2016, 49 early-career OSA members have been named Ambassadors, impacting an estimated 2,500 individuals annually.

The Ivan P. Kaminow Outstanding Early Career Professional Prize is awarded annually to one OSA Early Career Professional Member. The recipient receives funding to attend the OSA Leadership Meeting in addition to an OSA-managed meeting of his or her choice. Recipients will also have the opportunity to be placed and mentored on OSA Committees, further enhancing their professional development. The 2019 recipient is Robert Woodward, Macquarie University, Australia. The Optics Suitcase is an innovative, interactive presentation package designed to introduce middle school students to the exciting range of concepts within the study
of light. In 2019 in partnership with the Rochester Local Section, 40 kits were distributed, impacting an estimated 3,000 students globally. OSA students and early-career members hone their presentation and teaching skills by using the suitcases in local schools and community events.

GRANTS

The **Incubic Milton Chang Travel Grants** are funded by an endowment from Milton and Rosalind Chang. This program provides 20 grants to students who present papers to travel to CLEO and the Frontiers in Optics/OSA’s Annual Meeting. Grants are usually awarded to the presenter and/or the first author of the paper. In 2019, 20 students from 6 countries received grants.

The **Jean Bennett Memorial Student Travel Grant** recognizes research excellence during Frontiers in Optics/OSA Annual Meeting. The 2019 recipient is Peter Schnauber, TU Berlin, Germany.

The **Robert S. Hilbert Memorial Student Travel Grant** provides travel support for three students researching optical engineering, lens design and/or illumination design. The 2019 recipients are Philippe Guay, Université Laval, Canada; Shun Fujii, Keio University, Japan; and Xinyang Su, Beijing Jiaotong University, China.

The **James P. Gordon Memorial Speakership on Quantum Information and Quantum Optics** is provided to a CLEO invited speaker. This speakership pays tribute to Dr. Gordon for his numerous high-impact contributions to quantum electronics and photonics, including the demonstration of the maser. The 2019 recipient is Mark Kasevich, Stanford University, USA.

DIVERSITY AND INCLUSION

Respect the Spectrum: We offered **Diversity and Inclusion Student Chapter Grants** encouraging our student leaders to plan events in celebration of the International Day of Women and Girls in Science (11 February) and/or LGBT Stem Day (5 July). Thirteen chapters from Argentina, Brazil, China, India, Mexico, Peru, Senegal, Spain, and Ukraine received grants to hold events to celebrate the International Day of Women and Girls in Science with a reported impact of at least 3,500 people. The events included everything from youth outreach programs to symposia featuring prominent women highlighting their research and careers. Seven chapters representing Brazil, Chile, Mexico, Spain and the UK created unique programs celebrating LGBT STEM Day with a reported impact of 1,850 people. The events included everything from Nerd Pride Day to outreach programs for the local community members.
SCHOLARSHIPS

The Boris P. Stoicheff Memorial Scholarship is awarded annually to a graduate student who has demonstrated both research excellence and significant service to the optics or physics community. The 2019 recipient is An Pan, Xi’an Institute of Optics and Precision Mechanics, China.

The Harvey M. Pollicove Memorial Scholarship is awarded annually to a student pursuing a degree in precision optics manufacturing. The 2019 recipient is Kelli Kiekens, University of Arizona, USA.

The Paul Anthony Bonenfant Memorial Scholarship is awarded annually to one undergraduate student enrolled in engineering and/or physical science program to attend a semester abroad program offered through his or her university. The 2019 recipient is Travis Sawyer, University of Arizona, USA.

PRIZES & CONF. PAPER COMPETITIONS

The Corning Outstanding Student Paper Competition recognizes three students for innovation, research excellence, and presentation abilities in optical communications during OFC. The 2019 recipient is Ryota Tanomura, University of Tokyo, Japan (2019) Honorable mention is awarded to Duanni Huang, University of California, Santa Barbara, USA, and Xuwei Xue, TU/e, Netherlands.

The Emil Wolf Outstanding Student Paper Competition recognizes eight top presenters in each submission category at OSA’s Annual Meeting Frontiers in Optics.

Since 2015, the Women in Science, Technology, Engineering, and Entrepreneurship (WISTEE) and The OSA Foundation have hosted annual workshops focused on the careers of women in optics and photonics. Over 485 industry leaders, researchers, and students have participated in the program focused on career strategies to advance female leadership across career ranks and disciplines.

The Maiman Student Paper Competition recognizes innovation, research, and presentation excellence in the areas of laser technology and electro-optics during CLEO. The 2019 recipient is Simon Duval, Université Laval, Canada.

The Tingye Li Innovation Prize is presented to early career professionals who demonstrate innovative ideas in optics and photonics during the Optical Fiber Communication (OFC) Conference or the CLEO Conference. The 2019 recipients are Shai Tsesses, Technion- Israel Institute of Technology, Eric Numkam Fokoua, University of Southampton, UK.
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OSA Past President
Imperial College, UK

2019 INVESTMENT & IMPACT

Amount Invested by Program

<table>
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<tr>
<th>Program</th>
<th>Amount Invested</th>
<th>Total Number Impacted</th>
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</thead>
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<tr>
<td>TOTAL</td>
<td>US$1.1M</td>
<td>13,600</td>
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Note: Program disbursement and impact numbers reflect OSA Foundation 2019 activity only. Investment by The Optical Society in students, early-career professionals, global advocacy, diversity and inclusion and other programs not included.
THANK YOU, OSA FOUNDATION DONORS!

All donations to OSAF are matched by The Optical Society, doubling the impact of our donors. Additionally, all administrative fees are paid by OSA ensuring that donor gifts are used for programs, not overhead.

LEADERSHIP CIRCLE

Donors whose giving totals US$100,000 or above over the past ten years

<table>
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<th>Donor Name</th>
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<td>Milton Chang</td>
<td>Coherent Inc.</td>
<td>Google LLC</td>
<td>IPG Photonics Corp.</td>
<td>Jannick P. Rolland</td>
<td>Burton J. McMurtry*</td>
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<tr>
<td>Corning Inc.</td>
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<td>Estate of Patricia Wakeling*</td>
<td>Anonymous (1)</td>
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OPTICS TRUST

The Foundation’s planned giving program. The Optics Trust is a distinct group of individuals who include The OSA Foundation in their wills and estate plans. These donors will add to the legacy of the Foundation.

Gary C. Bjorklund
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“We named the OSA Foundation in our estate plan in 2003 to create a legacy that will inspire and empower students and early career professionals. As members of the Optics Trust, we support the OSA Foundation because it’s important to pay it forward to help make a lasting impact on the next generation of optics professionals.”

– Steve and Besty Fantone, 2020 OSA President
OPTICS CIRCLE

The OSA Foundation’s most generous supporters. Optics Circle members are a distinct group of individuals and organizations that donate US$1,000 or more in a year. These donations provide the support needed to ensure the success and impact of our programs.

We are also pleased to recognize our donors who have given consistently, and whose giving totals US$10,000 or more over the past ten years. These donors are highlighted in **GREEN**. Additionally, individual donors who have given consistently, and whose giving totals US$2,500 or more over the past ten years, are highlighted in **BLUE**.

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For full list of donors from 1 July 2018 through 31 December 2019, please see the March 2020 issue of Optics and Photonics News.
Applications for the second Subsea Optical Fiber Communications Summer School 2021 are due 15 September 2020. This school is a partnership with Google and the OSA Foundation. To learn more or apply, check out SubseaOFC.com.