

OPTICA  
FOUNDATION

2022 ANNUAL REPORT

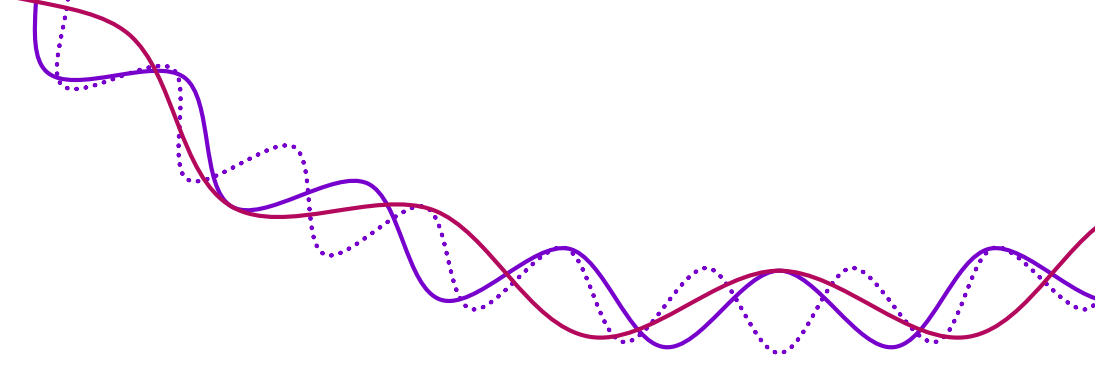
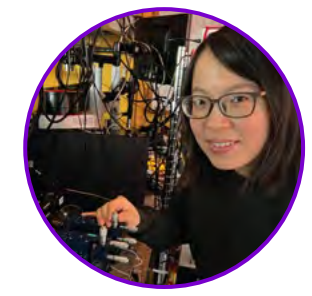
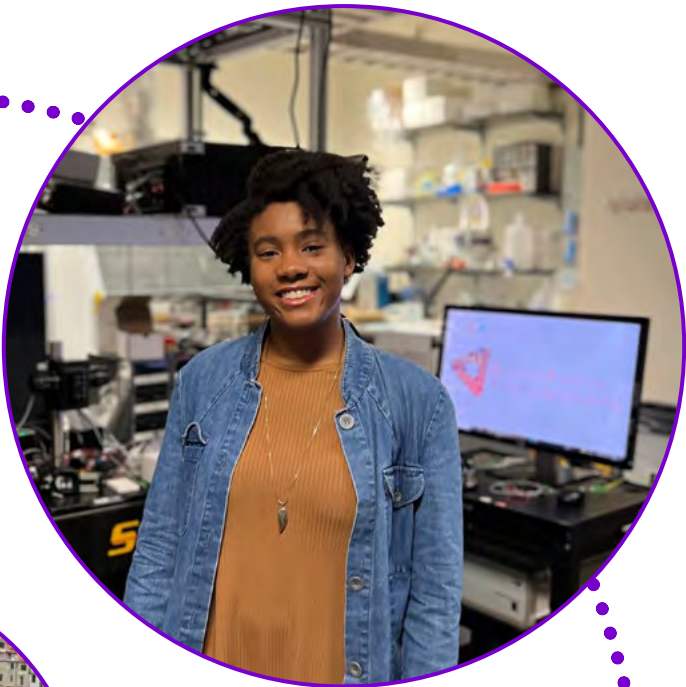
**We are the next  
generation.**



20 ANNIVERSARY

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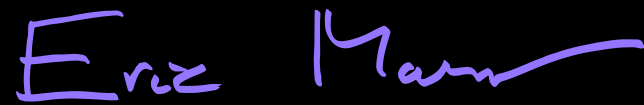


# Introduction

This year marks the 20th anniversary of the Optica Foundation. The foundation has grown into a community of donors supporting beneficiaries through a broad suite of opportunities – from the Siegman School on Lasers, to numerous scholarships, the Couillaud Prize in Ultrafast Lasers, the Deutsch Fellowship in Biomedical Optics, travel grants, and prizes. We focus on support for students and early-career professionals and preparing them for careers in optics and photonics.

In celebration of the past twenty years, we are thrilled to recognize the first winners of the Optica Foundation Challenge ([optica.org/FoundationChallenge](http://optica.org/FoundationChallenge)) who each received US\$100,000 prizes to support their proposals to use photonics and change the world (view the winners on pages 6-7). We also announced the Theodor W. Hänsch Prize in Quantum Optics, a US\$20,000 prize for an early-career professional created in partnership with Menlo Systems, Thorlabs and Hamamatsu Photonics ([optica.org/HaenschPrize](http://optica.org/HaenschPrize)). Our next report will feature the first winner who will be recognized at Quantum 2.0 in June 2023.

Throughout the following pages, you will see the many exceptional beneficiaries of our programs and the names of our donors. Thank you to all who have become a part of the foundation's community. We look forward to your continued support.



Eric Mazur  
Chair, Optica Foundation Board of Directors  
2017 Optica President



# Our Impact

**US\$2.8M**

invested in training and support.

**11,200+**

beneficiaries impacted by our programs.

**1,000**

engaged as reviewers, committee members, speakers, mentors and donors.

**US\$0**

spent on overhead and operating costs.\*

\*Labor and overhead is covered by Optica to ensure all donations go directly to programs and beneficiaries.



# Celebrating 20 Years

## OPTICA FOUNDATION CHALLENGE

Launched in celebration of the foundation's 20th anniversary, the Optica Foundation Challenge supports early-career members with the opportunity to leverage optics and photonics in driving new scientific discoveries and breakthroughs to transform our world. We received 93 proposals from individuals worldwide outlining how they would solve global challenges in three categories: environment, health and information. Ten winners received US\$100,000 prizes to use as seed money as well mentoring and speaking opportunities.

### Environment



**Dismas Choge**  
University of Eldoret, Kenya



**Ashim Dhakal**  
Phutung Research Institute, Nepal



**Michela Florinda Picardi**  
ICFO – Institut de Ciències Fotòniques, Spain



**Wanvisa Talataisong Suranaree**  
University of Technology, Thailand

### Health



**Guangwei Hu**  
Nanyang Technological University, Singapore



**Xingchen Ji**  
Shanghai Jiao Tong University, China



**Florian Willomitzer**  
Wyant College of Optical Sciences, University of Arizona, USA

### Information



**Chaoran Huang**  
Chinese University of Hong Kong, Hong Kong



**Mark Lawrence**  
Washington University in St. Louis, USA

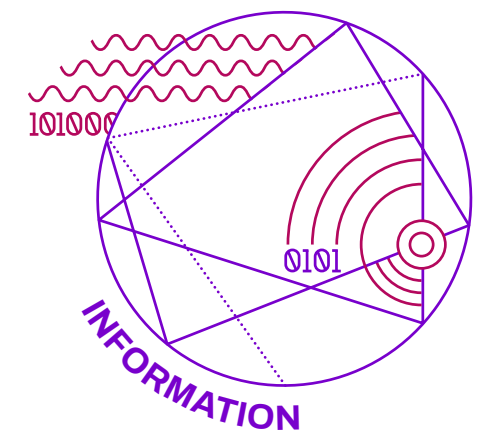
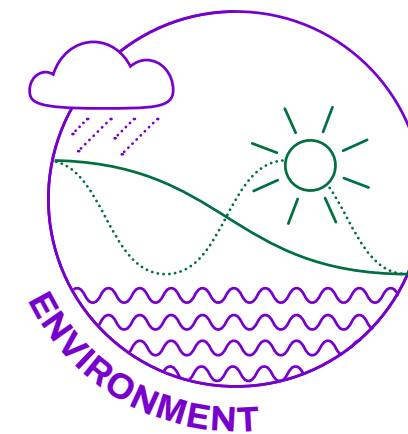


**Mengjie Yu**  
University of Southern California, USA

### Selection Committee

**Alan E. Willner**, University of Southern California, USA, Chair  
**Majid Ebrahim-Zadeh**, ICFO – Institut de Ciències Fotòniques, Spain  
**Andrew Forbes**, University of Witwatersrand, South Africa  
**Thomas G. Giallorenzi**, US Naval Research Laboratory (retired), USA  
**Fumio Koyama**, Tokyo Institute of Technology, Japan  
**Xiang Liu**, Huawei Technologies, China  
**Miles John Padgett**, University of Glasgow, UK  
**Jannick P. Rolland**, University of Rochester, USA  
**Ulrike K. Woggon**, Technische Universität Berlin, Germany

[optica.org/FoundationChallenge](http://optica.org/FoundationChallenge)



# Prizes & Competitions

## COULLAUD PRIZE IN ULTRAFAST LASERS

The Bernard J. Couillaud Prize provides the opportunity for an early-career professional to pursue a compelling and innovative project that has the potential to make a meaningful and positive impact on the science and applications of ultrafast lasers.



**Chiara Trovatello**  
*Columbia University, USA*

for the challenges and innovative solutions associated with her work in optical parametric oscillators and amplifiers.

### Selection Committee

**Marco Francesco Arrigoni**, Coherent Corp., USA  
**Jens Biegert**, ICFO - Institut de Ciències Fòtoniques, Spain  
**Clara Jody Saraceno**, Ruhr Universität Bochum, Germany  
**Tobias Steinle**, University of Stuttgart, Germany  
**Caterina Vozzi**, CNR-IFN, Italy

[optica.org/CouillaudPrize](https://optica.org/CouillaudPrize)

Founded by



## KAMINOW OUTSTANDING EARLY-CAREER PROFESSIONAL PRIZE

Established in 2012, the Ivan P. Kaminow Outstanding Early-Career Professional Prize honors Kaminow for his many contributions to the field, as well as his dedication to mentoring and inspiring early-career researchers. Each year, one early-career member is selected to acknowledge their volunteer efforts with both Optica and the community. This fund is sponsored by the Kaminow family, Intel Corporation and personal donations from the community.



**Sejeong Kim**  
*University of Melbourne, Australia*

for her dedication to the Nanophotonics Technical Group and youth outreach in Australia and South Korea.

### Selection Committee

**Alvaro Casas-Bedoya**, University of Sydney, Australia  
**Amol Choudhary**, Indian Institute of Technology Delhi, India  
**Adam J. Fleisher**, National Institute of Standards & Technology, USA  
**Chun-Hung (Frank) Kuo**, Mettler Toledo, USA  
**Carlos Lopez-Mariscal**, Underwater Photonics, Mexico  
**Antigone Marino**, National Research Council, Italy  
**Yoshitomo Okawachi**, Xscape Photonics Inc., USA  
**Mariia Pashchenko**, FZU AV CR, Czech Republic  
**Samuel Felipe Serna Otálvaro**, Massachusetts Institute of Technology, USA  
**Arlene Smith**, Molex, Inc, USA  
**Gabrielle M. Thomas**, Menlo Systems GmbH, Germany  
**Robert Ian Woodward**, Toshiba Europe Ltd., UK

[optica.org/KaminowPrize](https://optica.org/KaminowPrize)

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## CORNING PAPER COMPETITION

Established in 2007, The Corning Outstanding Student Paper Competition recognizes innovation, research excellence and presentation abilities in optical communications. To be eligible for consideration, students must submit a paper to OFC and opt-in to the competition during the submissions process.



**Weihan Xu**  
*Shanghai Jiao Tong University, China*

for his paper and presentation: “Fully Integrated Solid-State LiDAR Transmitter on a Multi-Layer Silicon-Nitride-on-Silicon Photonic Platform.”

[optica.org/CorningStudentPaper](https://optica.org/CorningStudentPaper)

## MAIMAN PAPER COMPETITION

The program recognizes student innovation, research excellence and presentation skills in the areas of laser technology and electro-optics. Finalists present their papers to a panel of meeting chairs virtually the week before the conference.



**Martin Zizlsperger**  
*University of Regensburg, Germany*

for his paper and presentation: “Ultrafast Nanoscopy of an Excitonic Insulator-Metal Transition in Twisted Bilayer WSe<sub>2</sub>.”

[optica.org/MaimanCompetition](https://optica.org/MaimanCompetition)

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## LI INNOVATION PRIZES

The Tingye Li Innovation Prizes are presented to an early-career professionals who have demonstrated innovative ideas in their accepted papers to OFC, the largest global conference and exhibition for optical communications and networking professionals, and CLEO, the premier conference for lasers and electro-optics.



**Hesham Sakr**  
*Lumenicity Limited, UK*

for his paper “Hollow Core NANFs with Five Nested Tubes and Record Low Loss at 850, 1060 1300, and 1625nm.”

OFC: [optica.org/LiPrizeOFC](https://optica.org/LiPrizeOFC)

**Armin Feist**  
*MPI for Multidisciplinary Sciences, Germany*

for his paper “Electron-photon correlations induced at a photonic integrated microresonator.”



CLEO: [optica.org/LiPrizeCLEO](https://optica.org/LiPrizeCLEO)



## SIMMONS & GORDON MEMORIAL SPEAKERSHIPS

Established in 2021, the Jane M. Simmons Memorial Speakership recognizes an invited speaker at OFC. This speakership was created to honor the legacy of Jane M. Simmons and her high-impact contributions to optical network architecture, design and planning. The prize has been endowed by the Family of Jane Simmons, and the honoree is selected by the OFC conference chairs.



**Manya Ghobadi**

*Massachusetts Institute of Technology, USA*

for her contribution to AI systems and optically interconnected networks, in particular, utilizing newly emerging photonic technologies in data centers.

[optica.org/SimmonSpeakership](https://optica.org/SimmonSpeakership)

Established in 2014, the James P. Gordon Memorial Endowment provides funding for a speakership on Quantum Information and Quantum Optics to a CLEO invited speaker. This program pays tribute to Jim's numerous high-impact contributions to quantum electronics and photonics, including the demonstration of the maser. This speakership is endowed by the Gordon family and supporters of the James P. Gordon Memorial Fund, and the honoree is selected by the CLEO chairs.



**Ekkehard Peik**

*Physikalisch Technische Bundesanstalt, Germany*

for his presentation "Optical Clocks with Trapped Ions."

[optica.org/GordonSpeakership](https://optica.org/GordonSpeakership)

## Ambassadors & Fellowships

### OPTICA AMBASSADORS

As emerging leaders in the optics and photonics community, Ambassadors will provide career advice, technical knowledge and mentorship with students and early-career professionals in the field by supporting professional development at meetings and engaging with their communities. New ambassadors are selected by previous classes.



**Rodrigo da Silva  
Benevides**

*ETH Zurich, Switzerland*



**Barbara Buades**

*MEETOPTICS, Spain*



**Brandon Busciano**

*Ciena Corporation, USA*



**Alessandra Carmichael-  
Martins**

*Indiana University  
Bloomington, USA*



**Sangyeon Cho**

*Massachusetts General  
Hospital and Harvard  
Medical School, USA*



**Jhonattan Cordoba  
Ramirez**

*Universidade Federal de  
Minas Gerais (UFMG), Brazil*



**Faezeh Gholami**

*IBM, USA*



**Alexander Jantzen**

*Aquark Technologies, UK*



**Hyeon Jeong Lee**

*Zhejiang University, China*



**Richard Zeltner**

*Menlo Systems GmHB,  
Germany*

[optica.org/Ambassadors](https://optica.org/Ambassadors)

## PIVOTING FELLOWSHIP

The Milton and Rosalind Chang Pivoting Fellowship provides unrestricted funding to talented, early-career optical scientists and engineers who believe their expertise can improve society outside of the lab.

### Selection Committee

**Thomas Baer**, Stanford University, USA, Chair

**Amy Eskilson**, Inrad Optics, USA

**Ursula Gibson**, Clemson University, USA

**Linda Smith**, Ceres Technology Advisors, Inc., USA

**Madison Rilling**, Optonique, Canada

**Araceli Venegas-Gomez**, Qureca, Spain

[optica.org/Pivoting](http://optica.org/Pivoting)



**Victor Ochoa-Gutierrez**  
*University of Glasgow, UK*

to support his transition from research to business and for his dedication to making oximetry more accessible to diverse populations.

## DEUTSCH FELLOWSHIP

Offered in partnership with the Massachusetts General Hospital (MGH) Wellman Center for Photomedicine, the Thomas F. Deutsch Fellowship specifically fosters interactions between researchers from diverse fields of science and medicine and supports post-doctoral investigators pursuing training in either basic or clinical research. This fellowship is endowed through donations from the Deutsch family, contributors from the optics and photonics community and a generous contribution from IPG Photonics.

**Fernanda Viana Cabral**  
*University of São Paulo, Brazil*

for her proposal to develop a novel superhydrophobic technology for singlet oxygen delivery as a breakthrough in photodynamic therapy.



### Selection Committee

**Maria Vinas-Pena**, Consejo Sup Investigaciones Cientificas, Spain, Chair

**Christina Schwarz**, University of Tübingen, Germany

**Giuliano Scarcelli**, University of Maryland College Park, USA

**Phaneendra Yalavarthy**, Indian Institute of Science, India

**Maciej Wojtkowski**, Institute of Physical Chemistry, Poland

**Mikhail Berezin**, Washington University, USA

[optica.org/Deutsch](http://optica.org/Deutsch)

In partnership with





# Scholarships

## AMPLIFY SCHOLARS

For its inaugural year, fifteen Black scientists received a US\$7,500 scholarship. In addition to the funding, recipients gain access to our global network of mentors and the supporting donors.



**Chenui Eugene Aban**  
University of Beau,  
Cameroon



**Adewale Akinyimika**  
Hebei University of  
Technology, China



**Akosua Boampong**  
Wellesley College, USA



**Jennifer Bragg**  
University of Arizona, USA



**Shayla Breedlove**  
University of Florida, USA



**Ayomikun Esan**  
University of Auckland,  
New Zealand



**Ibrahim Issah**  
Tampere University, Finland



**Rutendo Jakachira**  
Brown University, USA



**Arielle Joasil**  
Columbia University, USA



**Ngei Katumo**  
Karlsruhe Institute of  
Technology, Germany



**Hamidu M. Mbonde**  
McMaster University,  
Canada



**Sylvester Munyao**  
Multimedia University of  
Kenya, Kenya



**Ikechi Ndamati**  
McGill University, Canada



**Karabo Ndebele**  
Botswana Int'l Univ. of  
Science and Technology,  
Botswana



**Sheila Njoka**  
Multimedia University of  
Kenya, Kenya

### Selection Committee

Joshua Burrow, University of Dayton, USA  
 RJ Doidge, Thorlabs, USA  
 Michael Duncan, Optica, USA  
 George Dwapanyin, University of St. Andrews, UK  
 James Hilfiker, JA Woollam Inc., USA  
 Paul Ikechukwu Iroegbu, Chongqing University, China  
 Yaseera Ismail, University of Kwa-Zulu Natal, South Africa  
 Dikande Alain Moise, University of Buea, Cameroon  
 A. Boh Ruffin, Corning Incorporated, USA  
 Ramona Smith, OFS Optics, USA  
 John Weaver, IPG Photonics, USA

### Founding Donors US\$100,000+

Elsa Garmire & Robert H. Russell  
 Meta  
 Thorlabs

### Major Donors US\$10,000+

Federico Capasso  
 Corning Incorporated  
 IPG Photonics Corporation  
 J.A. Woollam Inc.  
 Eric Mazur  
 OFS Optics  
 Synopsys  
 James C. Wyant

[optica.org/AmplifyScholarship](https://optica.org/AmplifyScholarship)

## OPTICA WOMEN SCHOLARS

The first class of Optica Women Scholars was recognized in 2022. Twenty exceptional young scholar received a US\$10,000 scholarship. In addition to the funding, scholars gain access to our global network of mentors and the supporting donors.



**Emma Abbey**  
University of Victoria,  
Canada



**Dulce María Badia**  
University of Murcia,  
Spain



**Apoorva Bisht**  
University of Arkansas,  
Fayetteville, USA



**Jennifer Bragg**  
University of Arizona,  
USA



**Klaudia Dilcher**  
University of Warsaw,  
Poland



**Alice Drozdov**  
Univ. of Witswatersrand,  
South Africa



**Ilgim Efeturk**  
Izmir Institute of Technology,  
Turkey



**Mackenzie Essington**  
Western University,  
Canada



**Ana Garrigues Navarro**  
Universitat de València,  
Spain



**Anastasia Goulopoulos**  
University of Massachusetts  
Lowell, USA



**Jaclyn John**  
University of Arizona,  
USA



**Jodi Kreiner**  
University of Arizona,  
USA



**Elena Moreno**  
University of Murcia,  
Spain



**Maimuna Nagey**  
Multimedia University of  
Kenya, Kenya



**Lalitasri Nandivada**  
University of Waterloo,  
Canada



**Natasha Nehra**  
University of Texas, Austin,  
USA



**Isabella Pardo**  
University of Central Florida,  
USA



**Yaoqi Tang**  
Shanghai Jiao Tong  
University, China



**Trulani van der Heyde**  
University of Auckland,  
New Zealand



**María José Villamarín**  
Universidad San Francisco  
de Quito, Ecuador

### Selection Committee

**Shanti Bhattacharya**, Indian Institute of Technology Madras, India  
**Lisa Bickford**, Google, USA  
**Janet Fender**, USA  
**Jessica Pastor**, Coherent Corp., USA  
**Madison Rilling**, Optonique, Canada  
**Lydia Sanmarti**, ICFO, Spain  
**Katharine Schmidtke**, Meta, USA  
**Hui Sui**, Corning Incorporated, USA  
**Araceli Venegas Gomez**, Qureca, UK  
**Winston Way**, Lumentum, USA  
**Frank Chang**, Source Photonics, USA

### Founding Donors US\$100,000

Coherent Corp.  
 Corning Incorporated  
 Janet Fender & L. John Otten  
 Google  
 Innolight  
 Lumentum  
 Intel  
 Meta  
 Elizabeth Rogan  
 Source Photonics

### Major Donors US\$10,000+

Edmund Optics  
 Joseph W. and Hon Mai Goodman  
 Marvell Semiconductors Inc.  
 Optimax  
 Alice Sinclair  
 James C. Wyant

[optica.org/WomenScholars](https://optica.org/WomenScholars)



## CORNING WOMEN SCHOLARSHIP

The Corning Women in Optical Fiber Communications Scholarship supports gender diversity in the industry. This scholarship is a merit-based prize recognizing outstanding women studying optical communications and networking. Three scholars are recognized annual with a US\$3,000 scholarship and financial support to attend OFC.



**Sarah Chowdhury**  
Purdue University, USA



**Juniyali Nauriyal**  
University of Rochester, USA



**Fehmida Usmani**  
National University of Sciences & Technology, Islamabad, Pakistan

### Selection Committee

- Aleksandra Boskovic**, Corning Research & Development Corporation, USA
- Chi-Wai Chow**, National Yang Ming Chiao Tung University, Taiwan
- Maria Vasilica Ionescu**, Infinera Corporation, France
- Ju Han Lee**, University of Seoul, Republic of Korea
- Anastasiia Vasylenkova**, University College London, United Kingdom
- Jun Shan Wey**, Verizon Communications Inc., USA

[optica.org/CorningScholarship](https://optica.org/CorningScholarship)

In partnership with

# CORNING

## STOICHEFF SCHOLARSHIP

Established in 2011 with the Canadian Association of Physicists Foundation (CAPF), this program pays tribute to Boris P. Stoicheff. The scholarship is awarded to an undergraduate or graduate student who has demonstrated both research excellence and significant service the society or the physics community.



**Kate Fenwick**  
University of Ottawa, Canada  
2022 Optica Student Chapter President

[optica.org/Stoicheff](https://optica.org/Stoicheff)

In partnership with



Canadian Association  
of Physicists  
Association canadienne  
des physiciens et physiciennes



# Schools & Training Programs

## SIEGMAN SCHOOL ON LASERS

The Siegman International School on Lasers completed its 8th cycle in Chęciny, Poland. We hosted 105 attendees (40% women) from 32 countries at this week-long event covering topics ranging from ultrafast lasers to machine learning to an intriguing talk titled “A gentle introduction to photonic quantum information.” The event was hosted at a unique conference center, the European Centre for Geological Education, owned by the University of Warsaw. It is located in the heart of an extinct quarry in the Holy Cross Mountains.

We awarded the Burton J. McMurtry Poster Prizes, a program created by Thomas Baer (2009 Optica President) and Robert Byer (1994 Optica President). McMurtry was Siegman’s first laser student.

The Zuegel Family Scholarships were also awarded to 10 students. Jon Zuegel, University of Rochester and his family, created a scholarship program for Siegman students after Zuegel hosted the school in 2019.

**Founding Donor**  
IPG Photonics Corporation

[optica.org/SiegmanSchool](https://optica.org/SiegmanSchool)



## SUBSEA OFC SCHOOL

The Subsea Optical Fiber Communications School, 10-16 July on the island of Backafallsbyn off of Sweden, successfully hosted 91+ people (attendees, speakers and industry representatives). This event featured lectures on optical transmission, cable powering, and network topologies from Google, Meta, Subcom, Alcatel Submarine Networks, NEC and others. We also hosted round table discussions on challenge areas and sessions with corporate representatives on career opportunities.

**Founding Contributors**  
Google  
SubOptic Foundation

**Contributors**  
Meta  
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Cisco  
EXFO  
Infinera  
NMSWorks  
Nokia  
OFS Optics  
Omantel  
OMS Group  
Sycomp  
Telecom Egypt  
TIS Sparkle

[optica.org/SubseaOFC](https://optica.org/SubseaOFC)





## CAREER ACCELERATOR

Career Accelerators focus on career paths and the professional and personal skills needed for success. We acquaint participants with the corporate world's culture, language, and methodology as they plan their transition from academia to industry.

The 2022 Career Accelerator hosted 69 attendees from 17 countries. The five-day immersive program featured 16 speakers representing leading photonics companies sharing insights on topics such as finance and accounting, marketing and sales, strategic planning, negotiation skills and the role of the product line manager.

[optica.org/CareerAccelerator](https://optica.org/CareerAccelerator)



## INNOVATION SCHOOL

We hosted our 6th Innovation School at Optica Headquarters from 12-16 June with 40 participants from 13 countries. The program, a week of product/solution development and customer/market research, resulted in 10 pitches. In addition to the immersive team activities to develop a company in four days, the attendees had the opportunity to meet and learn from experts representing leading industry companies such as Google, IonQ, Neurensence, Luminata, Lumentum and Thorlabs.

[optica.org/InnovationSchool](https://optica.org/InnovationSchool)





# Student Chapters

The Optica Foundation provides support to our 400+ [Optica Student Chapters](#) via grants for unique programs focused on professional development, education outreach, and diversity & inclusion. In 2022, US\$75,000 in grants were awarded to chapters for these programs.

Some examples of the programs we supported included:

The UDM Messina Optica Chapter, University of Messina, Italy hosted the COSMOS Festival for 600 attendees. The festival brought together both the chapter and the public with optical experiments and other content to help show the importance of our field.

The Stellenbosch Laser Student Chapter, University of Stellenbosch, South Africa hosted a road trip to the Eastern cape to visit local schools and raise awareness about optics and photonics--reaching nearly 300 kids in grades 8 - 12.

The FJNU Optica Student Chapter, Fujian Normal University visited a local middle school and offered several classes in optics and photonics including both experiments to build interest in science and presentations on the possible impact of the university's researchers.

The YSO Student Chapter and IPR Armenia Chapter, Yerevan State University and Institute for Physical Research, Armenia partnered to create a summer camp focused on laser printing bringing together high school and university students as well as local company representatives. They worked to solve challenges with laser printing and build awareness of the importance of photonics.

The University of Warsaw Optica Chapter, University of Warsaw, Poland, hosted OPTO 2022, a long-standing conference that brings together researchers in optics in the region for technical talks and professional development.

[optica.org/StudentChapters](https://optica.org/StudentChapters)



# Additional Opportunities

The foundation also offers a variety of travel and publishing grants. Programs active in 2022 included:

The [Incubic/Milton Change Travel Grants](#) supported 16 students attending either CLEO or Frontiers in Optics (FiO).

The [Robert S. Hilbert and the Jean Bennett Memorial Student Travel Grants](#) provided needed assistance to five students attending FiO.

Administered by Optica Publishing Group, the [S. R. Seshadri Publications Grant](#) supported publishing fees for 9 researchers from six countries.

We offered [Level Up Leadership](#), a new training program focused on leadership skills for early-career professionals. For the pilot program we hosted 30 ambassadors representing the 2016-2021 classes in Washington, DC.

In partnership with the Optical Interference Coatings (OIC) meeting, we created the [H. Angus Macleod Student Prize](#) to honor Macleod's legacy and amplify his passion for supporting and mentoring students. Macleod was a dedicated contributor to OIC, having served in many roles since 1991, including member and chair of the Program Committee and a member of the Optical Interference Coatings Advisory Committee. The first and third place winner was: Saaxewer Diop, Aix Marseille University, France and the second place winner was Phillip Rumsby, Polytechnique Montréal, Canada.



# 2022 Award and Medal Winners

The Optica awards program recognizes and celebrates the field's technical, research, education, business, leadership and service accomplishments. We encourage the community to consider nominating colleagues for these esteemed awards. The foundation manages the endowments for these recognitions.

[optica.org/Awards](https://optica.org/Awards)



## FREDERIC IVES MEDAL / JARUS W. QUINN PRIZE

**James C. Wyant**

*University of Arizona, College of Optical Sciences, USA*

for pioneering contributions in advancing the science and technology of quantitative interferometric metrology, his leadership as an educator and entrepreneur, and his visionary service to the global optics and photonics community.

## ESTHER HOFFMAN BELLER MEDAL

**Julie Bentley**

*University of Rochester, USA*

for her central role in shaping the optics education of countless undergraduate and graduate students.



## MAX BORN AWARD

**Yuri Kivshar**

*Australian National University, Australia*

for pioneering and ground-breaking research in nonlinear metamaterials and all-dielectric resonant metaphotonics that derives unique optical functionalities from electric and magnetic dipolar and multipolar Mie-type resonances underpinning new discoveries in nonlinear and topological nanophotonics.



## STEPHEN D. FANTONE DISTINGUISHED SERVICE AWARD

**Joseph A. Izatt**

*Duke University, USA*

for over 25 years of outstanding service to the optics community and Optica in areas as diverse as publications, conferences, strategic planning, and the Optica Board of Directors.

## MICHAEL S. FELD BIOPHOTONICS AWARD

**Valentina Emiliani**

*Vision Institute, CNRS, France*

for pioneering research on wavefront engineering in neurophotonics, which enabled the selective control of individual neurons in the intact brain using light and optogenetics, and initiated the era of all-optical brain control.



## PAUL F. FORMAN TEAM ENGINEERING EXCELLENCE AWARD

**Leica Microsystems EnFocus Intraoperative Optical Coherence Tomography Development Team**

for developing an optically brilliant, latency-free intrasurgical optical coherence tomography microscope that fully integrates into the ophthalmic surgical workflow, allowing a surgeon to see more and do more to preserve patient sight.

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for seminal developments in ultrafast nonlinear spectroscopy, which have heavily influenced the chemical physics spectroscopy landscape.



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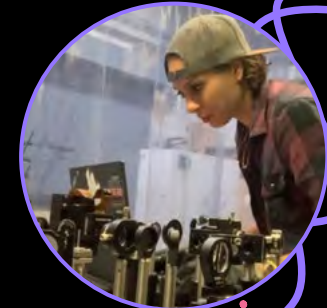
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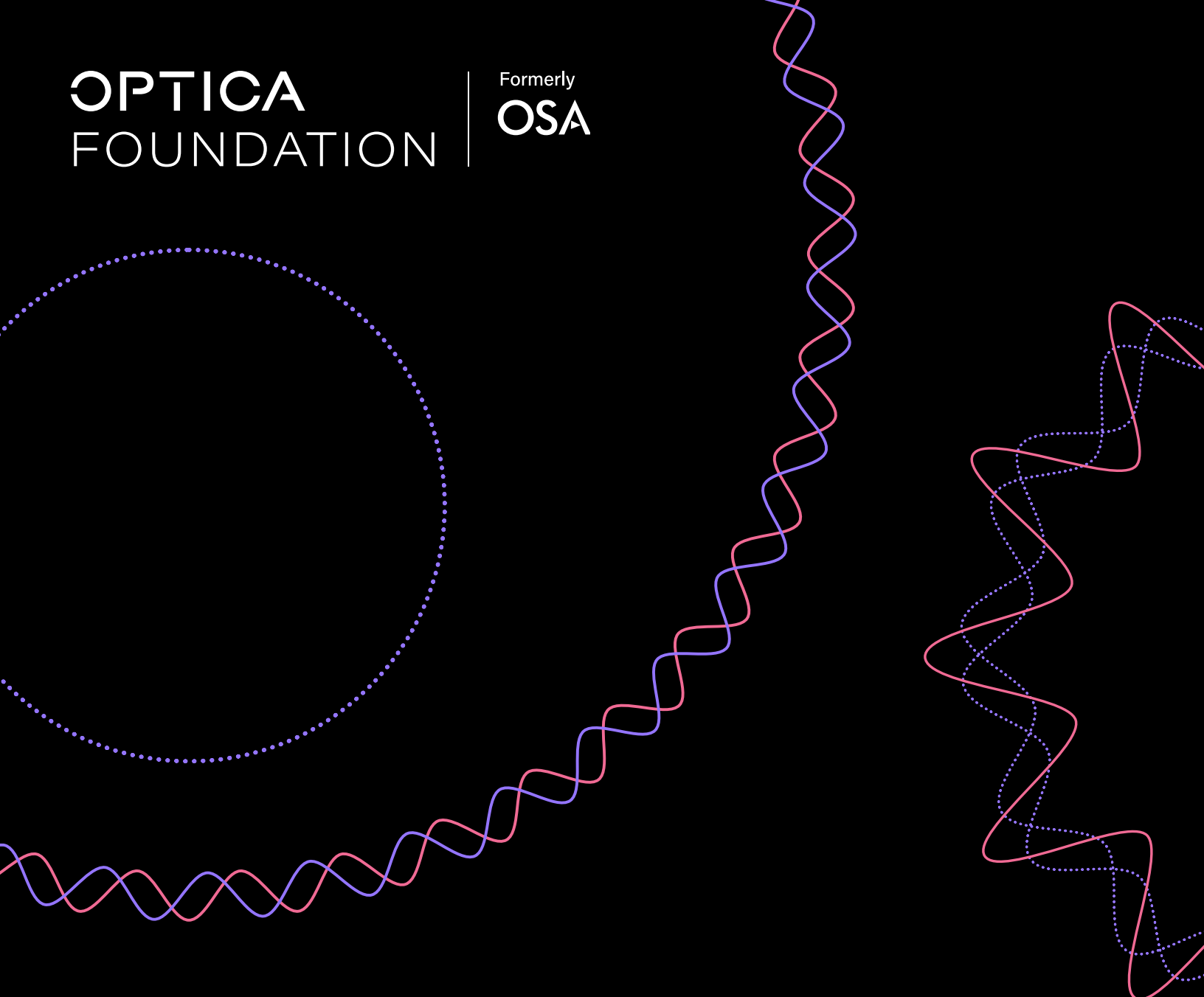
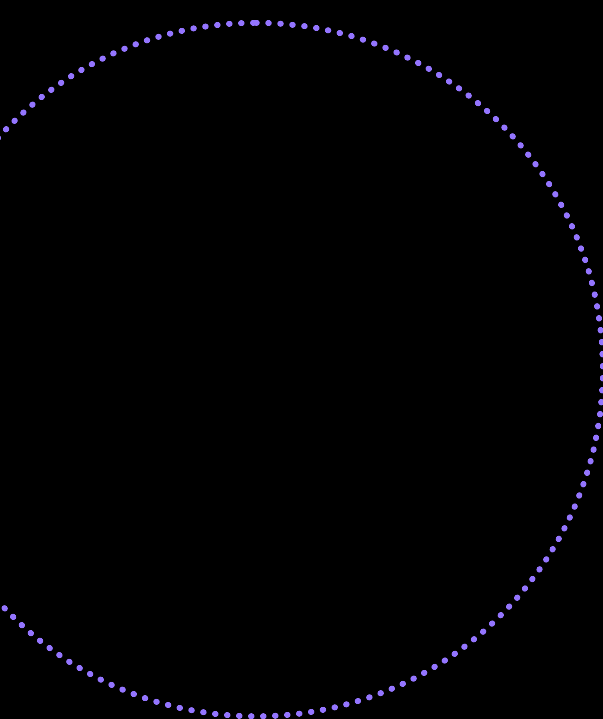
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