

PROCEEDINGS OF SPIE

Optics Education and Outreach V

G. Groot Gregory

Editor

22 August 2018

San Diego, California, United States

Sponsored and Published by
SPIE

Volume 10741

Proceedings of SPIE 0277-786X, V. 10741

SPIE is an international society advancing an interdisciplinary approach to the science and application of light.

Optics Education and Outreach V, edited by G. Groot Gregory, Proc. of SPIE Vol. 10741, 1074101
© 2018 SPIE · CCC code: 0277-786X/18/\$18 · doi: 10.1117/12.2515612

Proc. of SPIE Vol. 10741 1074101-1

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Please use the following format to cite material from these proceedings:

Author(s), "Title of Paper," in *Optics Education and Outreach V*, edited by G. Groot Gregory, Proceedings of SPIE Vol. 10741 (SPIE, Bellingham, WA, 2018) Seven-digit Article CID Number.

ISSN: 0277-786X

ISSN: 1996-756X (electronic)

ISBN: 9781510620537

ISBN: 9781510620544 (electronic)

Published by

SPIE

P.O. Box 10, Bellingham, Washington 98227-0010 USA

Telephone +1 360 676 3290 (Pacific Time) · Fax +1 360 647 1445

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Printed in the United States of America.

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Introduction

This year, in San Diego, California, we held the fifth conference on Optics Education and Outreach. This conference reported on activities from sharing the wonders of science and optics to the formal processes used to educate the next generation of scientists and engineers.

The conference was well attended and included four oral sessions and one poster session. Audience participation led to the sharing of new ideas with the speakers and attendees. The oral sessions were titled: Formal Education, International Day of Light, Education Hands On, and Outreach Programs. These sessions were also held during the 2016 Optics + Photonics meeting.

The first session reported on formal optics programs from undergraduates at Rose-Hulman, to job focused programs and to educating primary school teachers and children. One program from the bbw Hochschule in Berlin described a shared program for job training students entering company positions, including the challenges of alternating between 3 months in class and 3 months on the job. Saint Bernard School in the state of Connecticut described how optics can be employed to bring Math into context. And we learned how optical experts are helping teachers in Mexico overcome deficiencies in how textbooks present optical phenomenon. Outreach to the public was a common tool used for education and recruitment.

Programs celebrating light on the first International Day of Light were shared in the second session. Efforts in Spain, Great Britain and Canada comprised the submissions. Spain's Light Painting and a display in front of Canada's Parliament were examples of public engagement at all levels of the community.

The Education Hands On session described experiences from several groups bringing optical sciences to new communities. Irvine Valley College gives students hands on experiences building lasers learning patience and perseverance, especially the first-time students attempt alignment. We also learned ways to show basic optics from the double slit to quantum optics.

Outreach Programs rounded out the oral conference, although outreach was common in all sessions and the posters. This year's outreach session was driven by students working closely in their communities. The University of Exeter, winner of the 2017 SPIE Outreach Games, was invited to share their programs. It was a pleasure to also see how many groups are learning from previous reports. Several presenters had seen past activities, built upon the ideas and added new improvements shared at the conference.

My thanks go to those who helped make this conference a success, especially the authors, audience, SPIE staff, and program committee. The authors share the credit for making this conference an unqualified success. The audience built upon this success by being active and asking engaging questions. SPIE staff ensured that everything ran smoothly before, during, and after the meeting. The program committee provided excellent assistance to ensure the quality of the content while also presiding over a number of the sessions. It was composed of Valdis Blūms, Robert Bunch, Anna Consortini, Barbara A. Darnell, Judith Donnelly, Khaled J. Habib, Nicholas Kochan, Brian Monacelli, Joseph J. Niemela, Anne-Sophie Poulin-Girard, Paul Ruffin, Donn M. Silberman, Corrie Smeaton, Cristina Solano, Perla M. Viera-González, Desiré Whitmore, Maria Josefa Yzuel and Mourad Zghal.

The conference will return in two years. If you would like to assist with the 2020 or later conference, please contact me. We look forward to seeing you in 2020!

G. Groot Gregory