

Optics Education and Outreach V

Wednesday 22 August 2018

Conference Sessions At A Glance

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- 1: Formal Education
 - 2: International Day of Light
 - 3: Education Hands On
 - 4: Outreach Programs
- Posters-Wednesday

Important Dates

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Abstract Due:
7 February 2018

Author Notification:
16 April 2018

Manuscript Due Date:
25 July 2018

Conference Committee

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Conference Chair

[G. Groot Gregory](#), Synopsys, Inc. (United States)

Program Committee

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[Donn M. Silberman](#), Starrett Kinematic Engineering, Inc. (United States)

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[María J. Yzuel](#), Univ. Autónoma de Barcelona (Spain)

[Mourad Zghal](#), Univ. of Carthage (Tunisia)

WEDNESDAY 22 AUGUST

[Show All Abstracts](#)

Session 1: Formal Education

Wednesday 22 August 2018
8:00 AM - 10:20 AM
Location: Conv. Ctr. Room 28A

Session Chair: [Paul B. Ruffin](#), Alabama A&M Univ. (United States)

Lighting education and outreach at Rose-Hulman Institute of Technology

Paper 10741-1

Time: 8:00 AM - 8:20 AM

Author(s): Robert M. Bunch, Charles Joenathan, Rose-Hulman Institute of Technology (United States)


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Fundamentals of silicon photonics: a course for upperclassmen in optical engineering

Paper 10741-2

Time: 8:20 AM - 8:40 AM

Author(s): Azad Siahmakoun, Rose-Hulman Institute of Technology (United States)


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Implementing optics courses in dual engineering university programs: challenges and perspectives

Paper 10741-3

Time: 8:40 AM - 9:00 AM

Author(s): Janine Brennförder, Cornelius F. Hahlweg, bbw Hochschule (Germany)


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Photonics technician education in Michigan: an update

Paper 10741-4

Time: 9:00 AM - 9:20 AM


Author(s): Anca L. Sala, Baker College (United States)

[Add To My Schedule](#) **Impact of undergraduate research participation in characterization of materials**

Paper 10741-5

Time: 9:20 AM - 9:40 AM


Author(s): Aschalew Kassu, Carlton Farley, Jonathan Mills, Anup Sharma, Paul Ruffin, Alabama A&M Univ. (United States)

[Add To My Schedule](#) **Optics training programs for primary teachers: using the new Mexican education program**

Paper 10741-6

Time: 9:40 AM - 10:00 AM


Author(s): Cristina Elizabeth Solano, Charvel M. López, Centro de Investigaciones en Óptica, A.C. (Mexico)

[Add To My Schedule](#) **Seeing the light: Introducing optics/photonics through middle school mathematics**

Paper 10741-7

Time: 10:00 AM - 10:20 AM

Author(s): Matthew J. Donnelly, Saint Bernard School (United States); Judith Donnelly, Problem Based Learning Projects (United States); Joseph M. Park, Saint Bernard School (United States)

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Coffee Break 10:20 AM - 10:50 AM

**Session 2:
International Day of Light**

Wednesday 22 August 2018

10:50 AM - 12:00 PM

Location: Conv. Ctr. Room 28A

Session Chair: [Perla Marlene Viera-González](#), Univ. Autónoma de Nuevo León (Mexico)**The first International Day of Light in Spain (Invited Paper)**

Paper 10741-8

Time: 10:50 AM - 11:20 AM


Author(s): Ignacio Moreno, Univ. Miguel Hernández de Elche (Spain); María J. Yzuel, Univ. Autónoma de Barcelona (Spain); María L. Calvo, Universidad Complutense de Madrid (Spain)

[Add To My Schedule](#) **An optics and photonics exhibit that reunites, educates and, engages: a meeting with light**

Paper 10741-9

Time: 11:20 AM - 11:40 AM


Author(s): Jean-Christophe Gauthier, Madison Rilling, Guillaume Allain, Frédéric Jobin, Alex Côté, Xavier Dallaire, Simon Duval, Clément Frayssinous, Samuel Gouin, Sébastien Magnan, Vincent Michaud-Belleau, Univ. Laval (Canada)

[Add To My Schedule](#) **Student-led outreach and public engagement activities at the University of Southampton to celebrate the inaugural International Day of Light**

Paper 10741-10

Time: 11:40 AM - 12:00 PM

Author(s): Callum J. Stirling, Andrei L. Donko, Neda Baktash, Katarzyna Grabska, Angeles L. Camacho Rosales, Dean T. Clarke, Jake J. Prentice, Matthew T. Posner, Optoelectronics Research Ctr. (United Kingdom)

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Lunch/Exhibition Break 12:00 PM - 1:30 PM

**Session 3:
Education Hands On**

Wednesday 22 August 2018

1:30 PM - 3:30 PM


Location: Conv. Ctr. Room 28A

Session Chair: [Anne-Sophie Poulin-Girard](#), Univ. Laval (Canada)**Ten years of photonic games: lessons learnt**

Paper 10741-17

Time: 1:30 PM - 1:50 PM

Author(s): Anne-Sophie Poulin-Girard, Geneviève Boudreau, Univ. Laval (Canada); Jérôme Landry, EXFO Inc. (Canada); Audrey Veillette, Teraxion (Canada); Marc-André Guérard, Eddyfi (Canada); Gabrielle Thériault, Gentec Electro-Optics Inc. (Canada); Alexandre April, Cégep Gameau (Canada)


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Taking large optical quantum states out of the lab: engaging pupils and the public on quantum photonics sciences

Paper 10741-11

Time: 1:50 PM - 2:10 PM


Author(s): Matthew T. Posner, Optoelectronics Research Ctr. (United Kingdom); Paolo L. Mennea, Paul C. Gow, Rex H. S. Bannerman, Sam Berry, Devin H. Smith, James C. Gates, Peter G. R. Smith, Univ. of Southampton (United Kingdom)

[Add To My Schedule](#) **Quantum state tomography made easy**

Paper 10741-12

Time: 2:10 PM - 2:30 PM


Author(s): Andrew Forbes, Adam Valles, Univ. of the Witwatersrand, Johannesburg (South Africa)

[Add To My Schedule](#) **Hands-on experimental and computer laboratory in optics: the Young double slit experiment**

Paper 10741-13

Time: 2:30 PM - 2:50 PM


Author(s): Hassen Ghalila, Ahmed Ammar, Youssef Majdi, Souad Lahmar, Zoubeida Dhaouadi, LSAMA Lab. (Tunisia), STO Society (Tunisia); Mourad Zghal, SUP'COM (Tunisia), STO Society (Tunisia); Zohra Ben Lakhdar, LSAMA Lab. (Tunisia), STO Society (Tunisia); Vasudevan Lakshminarayanan, Univ. of Waterloo (United States)

[Add To My Schedule](#) **Experiences integrating and using laser educational kits at Irvine Valley College's laser technology program**

Paper 10741-14

Time: 2:50 PM - 3:10 PM


Author(s): Donn M. Silberman, Starrett Kinematic Engineering, Inc. (United States), Optics Institute of Southern California (United States); Gabriel Blanks, eLas Americas (United States), Univ. of California, Irvine (United States); Stefan Forschner, eLas Americas (United States), Irvine Valley College (United States); Brian Monacelli, Desiré Whitmore, Irvine Valley College (United States); Debbie Donahue, eLas Americas (United States)

[Add To My Schedule](#) **Assessment of high-school engineering education outreach program employing project-based learning in astronomy and bio-optics within a college setting**

Paper 10741-15

Time: 3:10 PM - 3:30 PM

Author(s): Sunil Dehipawala, Regina Sullivan, Raul Armendariz, Vazgen Shekoyan, George Tremberger, David Lieberman, Tak Cheung, Queensborough Community College (United States)

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Coffee Break 3:30 PM - 4:00 PM

**Session 4:
Outreach Programs**

Wednesday 22 August 2018

4:00 PM - 5:40 PM


Location: Conv. Ctr. Room 28A

Session Chair: [Cristina Elizabeth Solano](#), Centro de Investigaciones en Óptica, A.C. (Mexico)**Reuse, recycle, and shine: using everyday objects to teach optics** (*Invited Paper*)

Paper 10741-16

Time: 4:00 PM - 4:20 PM


Author(s): Erick O. Burgos Parra, Univ. of Exeter (United Kingdom); Gloria D.L. R. Segovia Alvear, First Steps Community Playgroups (United Kingdom)

[Add To My Schedule](#) **The digital holography demonstration: a table-top setup for STEM-based outreach events**

Paper 10741-18

Time: 4:20 PM - 4:40 PM


Author(s): Douglas E. Thornton, Air Force Institute of Technology (United States); Mark Spencer, Air Force Institute of Technology (United States), Air Force Research Lab. (United States); Barton T. Plimmer, Air Force Research Lab. (United States); Davin Mao, Air Force Institute of Technology (United States)

[Add To My Schedule](#) **A low-cost do-it-yourself microscope kit for hands-on science education**

Paper 10741-19

Time: 4:40 PM - 5:00 PM


Author(s): Zoe Grier, Maria F. Soddu, Naomi Kenyatta, Sharlene A. Odame, Biobus, Inc. (United States); Joshua I. Sanders, Sanworks, LLC (United States); Latasha P. Wright, Francesca Anselmi, Biobus, Inc. (United States)

[Add To My Schedule](#) **Connecting with the community LASER-TEC and CCCC SPIE Student Chapter Outreach initiative**

Paper 10741-20

Time: 5:00 PM - 5:20 PM

Author(s): Isabelle Karis, Cameron T. Wiedholz, Central Carolina Community College (United States)


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Taking quantum entanglement out of the lab

Paper 10741-21

Time: 5:20 PM - 5:40 PM

Author(s): Paul C. Gow, James C. Gates, Rex H. S. Bannerman, Optoelectronics Research Ctr. (United Kingdom); Joshua Nunn, Univ. of Bath (United Kingdom); Matthew T. Posner, Paolo L. Mennea, Peter G. R. Smith, Optoelectronics Research Ctr. (United Kingdom)

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Session PWed: Posters-Wednesday

Wednesday 22 August 2018

5:30 PM - 7:30 PM

Location: Conv. Ctr. Room 20C


Conference attendees are invited to view the posters, enjoy light refreshments, ask questions, and network with colleagues in your field. Authors of poster papers will be present to answer questions concerning their papers. Attendees are required to wear their conference registration badges to the poster sessions. Poster authors, view poster presentation guidelines at <http://spie.org/OPPPosterGuidelines>.

Optics outreach activities: measuring learning outcomes

Paper 10741-22

Time: 5:30 PM - 7:30 PM


Author(s): Guillermo E. Sánchez-Guerrero, Perla M. Viera-González, Univ. Autónoma de Nuevo León (Mexico)

[Add To My Schedule](#) **Developing a four-tilted-mirror telescope as a student project**

Paper 10741-23

Time: 5:30 PM - 7:30 PM


Author(s): Gerald Fütterer, Hochschule Deggendorf Technologiecampus Teisnach (Germany); Andreas Sperl, Simon Killinger, Alexander Engelbrecht, Michael Werni, Waldemar Kraus, Technische Hochschule Deggendorf (Germany)

[Add To My Schedule](#) **Simple setup for wavelength estimation by using the Airy disk with didactical purposes**

Paper 10741-24

Time: 5:30 PM - 7:30 PM


Author(s): Alberto Uriel Rivera Ortega, Univ. Popular Autónoma del Estado de Puebla (Mexico)

[Add To My Schedule](#) **IDL in Monterrey: science, art and culture of light**

Paper 10741-25

Time: 5:30 PM - 7:30 PM


Author(s): Perla M. Viera-González, Guillermo E. Sánchez-Guerrero, Univ. Autónoma de Nuevo León (Mexico)

[Add To My Schedule](#) **All-Russian contest: "I am a Professional" in photonics: the first light**

Paper 10741-26

Time: 5:30 PM - 7:30 PM


Author(s): Anna O. Voznesenskaya, Galina E. Romanova, ITMO Univ. (Russian Federation)

[Add To My Schedule](#) **A do-it-yourself spectrograph kit for educational outreach in optics and photonics**

Paper 10741-27

Time: 5:30 PM - 7:30 PM


Author(s): Pradip R. Gatkine, Gregorio Zimmerman, Elizabeth Warner, Univ. of Maryland, College Park (United States)

[Add To My Schedule](#) **Understanding the basic concepts and tools in experimental quantum optics**

Paper 10741-28

Time: 5:30 PM - 7:30 PM


Author(s): Jorge A. Rojas-Santana, Dorilian Lopez-Mago, Tecnológico de Monterrey (Mexico)

[Add To My Schedule](#) **Development of an online hub for OSC outreach efforts**

Paper 10741-33

Time: 5:30 PM - 7:30 PM


Author(s): Emily Finan, Hillary Mathis, Améé Hennig, Michael J. Nofziger, The Univ. of Arizona (United States)

[Add To My Schedule](#) **Inspiring optics and photonics with arctic attitude**

Paper 10741-34

Time: 5:30 PM - 7:30 PM

Author(s): Tatiana I. Avsievich, Alexey Popov, Igor Meglinski, Univ. of Oulu (Finland)

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International Day of Light celebrations at the Karlsruhe Institute of Technology

Paper 10741-35

Time: 5:30 PM - 7:30 PM

Author(s): Badrinath Vadakkapattu Canthadai, Karlsruher Institut für Technologie (Germany)

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