Viernes 29

SPECIAL SESSION ON PHOTONIC CRYSTALS

09.30 h | The Birth of the Photonic Bandgap Concept and its Application in Technology, as well as in Nature Eli Yablonovitch

11.00 h The birth of photonic crystal fibre and its many scientific and technical applications

Philip Russell

Inventor of Photonic Crystal Fibers Director, Max Planck Institute for the Science of Light, Erlangen, Germany 2015 OSA President

12.30 h Closing Remarks and Announcement of ISLiST 2019 and Diploma Deliverv

Light plays a vital role in our daily lives and is being an imperative cross-cutting discipline of science in the 21st century. Today, it is widely accepted that the present century will depend as much on Photonics as the 20th century depended on electronics.

ISLIST has been conceived as a great opportunity to review, actualize and improve the knowledge of scientists, professionals and technicians; to contribute to the education and to enhance the motivation of PhD students; to offer an ideal frame for networking and also to contribute to the education of the *citizens*. It is also a great opportunity to ensure that *policymakers, entrepreneurs,* and other key "actors" will be aware of the problem-solving potential of Photonics.

This international school is envisioned to be a worldwide top International forum (every fourth week of June) on Light Sciences and Technologies in Santander, Spain. In this 2018 edition the School is focused on Light in communications and sensing as main core that will be developed by sixteen (16) highly renowned professors and researchers from the most prestigious worldwide institutions and, as well, presidents of the most reputed international Photonic Scientific Organizations.

In addition, the attendees will have the opportunity to practice networking and interchange Knowledge and experiences during the Reception by the City Council of Santander.

Colaboración Prysmian **OSA** 100 lensa de CANTABRIA Group AYUNTAMIENTO DE SANTANDER SPIE. (A) AMBAR B-PHOI BRUSSELS ΜB **INNOUA** ERZIA 🔶 oz 🕅 🛆 Grupo Álava SIL SEDOPTICA Ì

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 \rightarrow A partir del 18 de junio de 2018

Tel. 942 29 88 00 / 942 29 88 10

Palacio de la Magdalena

39005 Santander

Fax 942 29 88 20

de 9.00 a 14.00 h

Santander

Horario

INFORMACIÓN GENERAL

 \rightarrow Hasta el 15 de junio de 2018 Santander Campus de Las Llamas Avda. de los Castros, 42 39005 Santander Tel. 942 29 87 00 / 942 29 87 10 Fax 942 29 87 27 informacion@sa.uimp.es

Madrid

de 16.00 a 18.00 h (excepto viernes) C/ Isaac Peral, 23 28040 Madrid Tel. 91 592 06 31 / 91 592 06 33 Fax 91 592 06 40 / 91 543 08 97 alumnos@uimp.es

Horario

de 9.00 a 14.00 h

PLAZOS

 \rightarrow Plazo de solicitud de becas

Hasta el día 28 de mayo, para los cursos que comiencen antes del 6 de julio de 2018

Desde el 8 de mayo de 2018 (Plazas limitadas)

Hasta el día 15 de junio, para los cursos que comiencen a partir del día 9 de julio de 2018

→ Código 63TX | Tarifa: C | ECTS: 1



Santander 2018

Escuela

Del 25 al 29 de junio



III International School on Light Sciences and Technologies. ISLiST

José Miguel López-Higuera

Patrocinio

18-002-0





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de 16.00 a 18.00 h (excepto viernes)

→ Apertura de matrícula

Santander 2018

Programa académico

ESCUELA III International School on Light Sciences and Technologies. ISLIST

Dirección José Miguel López-Higuera

Professor in Electronics and Photonics Head of the Photonics Engineering Group University of Cantabria

Secretaría

Adolfo Cobo García Professor Photonics Engineering Group University of Cantabria

Del 25 al 29 de junio de 2018

Lunes 25

WHY LIGHT MATTERS FOR COMMUNICATIONS AND SENSING?

10.15 h | Opening Ceremony

11.00 h | The Science of Invisibility Cloaks and Metamaterials John Pendry Inventor of the Metamaterials. The Blackett Laboratory, Imperial College London, UK

 12.10 h
 Optical fiber communication: Challenges and opportunities

 Peter Andrekson
 Director, FORCE Laboratory at the Microtechnology and Nanoscience

 Department Chalmers University of Technology, Sweden

LIGHT IN COMMUNICATIONS

15.30 h | Breaking the Optical Fiber Shannon Limit Through Full Control of the Optical Field Peter Winzer Chair, Optical Transmission Systems and Networks Bell-Nokya Labs, USA 16.40 h | Advances in Analog and RF Photonics José Capmany Head, Photonics Research Labs at iTEAM Institute, Technical University of Valencia, Spain

Martes 26

LIGHT IN THE NANOSCALE AND COMMUNICATIONS

09.30 h | Controlling Light on the Nanoscale John Pendry

11.00 h | LiFi-High Speed Wireless Networking using Nano-Metre Waves Harald Haas Director of LIFI Research Development Centre, Scotland, UK

12.10 h | Spatial mode manipulation in communications and imaging Joel Carpenter School of Information Technology, University of Queensland, Australia

CHALLENGES ON COMMUNICATIONS

15.30 h | Round Table I Light on Communications: Challenges to face

Challenges on Analog and RF Communications José Capmany Challenges on Digital Communications Peter Winzer Challenges on Fiber Nonlinearities and their use in mixed Photonic-Digital Systems Peter Andrekson Challenges on LIFI Communications Harald Haas Silicon Photonics and other forms of Optical Communications Eli Yablonovitch Inventor of the Photonic Crystal Director, NSF Center for Energy Efficient Electronics Science, University of California, Berkeley, US

Moderación José Miguel López-Higuera

Miércoles 27

LIGHT IN SILICON PHOTONICS AND SENSING

09.30 h | Smart Light based Sensors José Miguel López-Higuera

11.00 h | Forward-looking LIDAR for aircraft: research results, lessons learned and trends Nikolaus P. Schmitt Past Senior Expert, Optronic Systems, Airbus Group Innovations, Muenchen, Germany

12.10 h | Advanced Silicon Photonics for Communications and Sensing Pavel Cheben Principal Researcher, National Research Council of Canada, Canada

LIGHT ON FIBER BASED SENSORS

15.30 h | Optical fiber Sensor Networks: State of the art and trends Manuel López-Amo Head, Optical Communications Group of Public University of Navarre, Pamplona, Spain

16.40 h | Optical fiber Distributed Sensors Miguel González Herráez Head, Photonics Engineering Group of Univ. of Alcalá de Henares, Madrid, Spain

17.55 h | ISLiST Family Photo

SPECIAL EVENT

18.05 h | Santander Council Reception

Jueves 28

LIGHT BASED SENSORS

09.30 h | Photonics as a key-enabling technology: From disruptive research to successful innovation with societal impact Hugo Thienpont

Director, Brussels Photonics Team Vrije Universiteit Brussel, Brussels, Belgium

11.00 h | Biomedical optical sensors and imaging: opportunities for guided waves David Sampson

Vice-Provost, Research&Innovation, University of Surrey, UK; Head, OBEL, University of Western Australia

12.10 h | POF Sensors for Aircraft Structural and Engine health Monitoring Joseba Zubía Zaballa

Head, POF based Sensors Group, University of the Basque country, Spain

CHALLENGES IN SENSING

15.30 h | Round Table II Challenges in Sensing Using Light

General Challenges on Photonic Sensing to face on XXI century Hugo Thienpont Challenges on Silicon Photonics for Communications and Sensing Pavel Cheben Challenges to face on Photonic sensing for the aerospace Nikolaus P. Schmitt Challenges on Biomedical Optical Sensors David Sampson

Moderación José Miguel López-Higuera