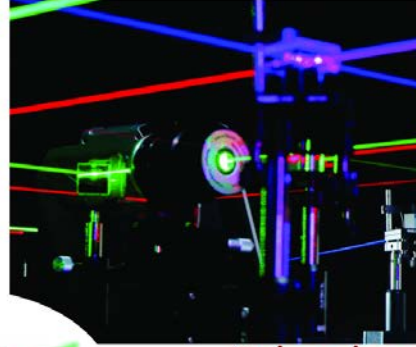
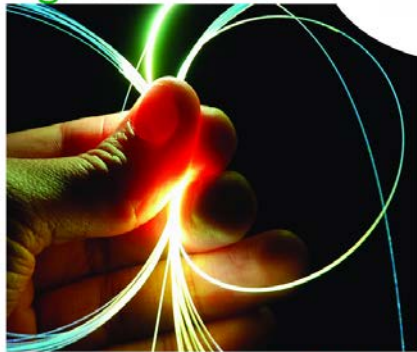




International
 Light Sciences



School on
 and Technologies



June 20-24, 2016

ISLIST



Santander, Spain

SPONSORS



COLLABORATORS



DIRECTOR:
José Miguel López Higuera
 Professor in Electronics and Photonics
 Head of the Photonic Engineering Group
 University of Cantabria

SECRETARIO:
Jesús Mirapeix Serrano
 Photonic Engineering Group
 University of Cantabria
 e-mail: jesus.mirapeix@unican.es



UIMP
UNIVERSIDAD INTERNACIONAL
MENÉNDEZ PELAYO



International School on Light Sciences and Technologies, ISLiST

June 20-24, 2016, Santander, Spain

The United Nations Organization (UN) has recognized the **key or essential** role of Light Sciences and Technologies (Photonics) to raise global awareness and proclaimed 2015 as the International Year of Light and Light-based Technologies. Aware of this key roll, the UIMP has decided to create the **International School on light Sciences and Technologies (ISLiST)**.

This school is envisioned to be a worldwide top International forum (every fourth week of June) in the framework of *the "university of universities"* in Santander, Spain. Each edition will have a main core in a specific application area and additional current hot topics. **Light in Life Science and Health** is the core of this edition.

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 citizens. It is also a great opportunity to ensure that policymakers, entrepreneurs, and others, will be aware of the problem-solving potential of Photonics.

Eighteen (18) **highly renowned** professors (including the Nobel Laureate Andre Geim) and researchers from the most prestigious world-wide institutions and, as well, presidents of the most reputed international Photonic Scientific Unions and some politicians will participate in this meeting.

The award ceremony of **Justiniano Casas Prize for Research in Optical Imaging** will be held in the frame of ISLiST. This Prize of The Spanish Optical Society Committee for Image Techniques is sponsored by INFAIMON S.L.

The Optical Society of America, OSA, which celebrates its 100th anniversary in 2016, will offer to ISLiST attendees the **OSA100 Reception**. This OSA event will be an optimum time to networking.

Prof. **Russell** will be invested **Doctor Honoris Causa by UIMP**. This prestigious honor will take place at a solemn ceremony to be held in the Royal Hall of the Palace of Magdalena.

To be able to reach this ambitious program this UIMP International School has been supported by several sponsors: **Gobierno de Cantabria, Fundación ACS** and **OSA**. It is also supported by several collaborators such as: **SPIE**-the International Society for Optics and Photonics; the **Official College of Physicians of Cantabria**; the Royal Society of Physics of Spain, **RSFE**; the Spanish Optical Society, **SEDOPTICA**; **AMBAR** Telecommunications, **OZ Optics, Lasing, INNOVA** Scientific, **Photonics21, B-Phot Brussels Photonic Team, Hotel Santemar** and the **Photonics Engineering Group** of the University of Cantabria.

The UIMP, the direction of the event and the scientific community using light are grateful with all invited speakers and with all sponsors and collaborators. Thank you so much!



International School on Light Sciences and Technologies, ISLiST
June 20-24, 2016, Santander, Spain

PROGRAM

Monday, 20 / Why Light matters for Medicine and Health?

10:15 h / Opening Ceremony

11:00 h / **The Multi-Faceted World of Photonic Crystal Fibres**

Prof. Philip Russell

OSA Past President, **Director** of Max Planck Institute for the Science of Light, University Erlangen-Nuremberg, Germany.

12:10 h / **Light in Life Sciences and Health**

Prof. José Miguel López-Higuera

Head of Photonic Engineering Group, Universidad de Cantabria, Spain.

15:30 h / **Democratization of Next-Generation Imaging, Sensing and Diagnostics Tools through Computational Photonics**

Prof. Aydogan Ozcan

Director Bio&Nano-Photonics Laboratory, Chancellor's Professor, of California, Los Angeles, USA.

16:40 h / **Biological and Intracellular microlasers and their applications in medicine**

Prof. Seok-Hyun

Director of The Bio-Optics Lab. **Harvard** Medical School and faculty member at **MIT**, MA, Boston, USA.

Tuesday, 21 / Light in Medicine and Health Care

9:30 h / **Clinical Optoacoustic and Fluorescent Imaging**

Prof. Vasilis Ntziachristos

Director of Institute for Biological and Medical Imaging at the Helmholtz Zentrum München, Munich, Germany.

11:00 h / **Light in cancer management: Surgery, Medicine & Radiation Oncology**

Prof. Brian Pogue

Director of Center for Integrating Innovations in Imaging for Intervention (I4) Medicine, Dartmouth, USA.

12:10 h / **Biophotonics – a powerful tool for clinical diagnostics**

Prof. Jüergen Popp

Director of Leibniz Institute of Photonic Technology; Institute of Physical Chemistry & Abbe-Center of Photonics, Friedrich Schiller University, Jena, Germany.



International School on Light Sciences and Technologies, ISLiST
June 20-24, 2016, Santander, Spain

15:30 h / **Using diffuse light and speckle statistics to non-invasively measure blood flow; from theoretical foundations to clinical applications**

Prof. Turgut Durduran,

Head of the Medical Optics Group, Instituto de Ciencias Fotónicas, ICFO, Barcelona, Spain.

16:40 h / **Understanding, diagnosis and corrections of the eye using Light**

Prof. Susana Marcos

Director of Visual Optics and Biophotonics Lab, Instituto de Optica, Professor of Research, CSIC, Madrid, Spain

17:55 h Special Event

Justiniano Casas Prize Ceremony

The prize tries to stimulate research activity from its origins, in the framework of doctorate studies, and to foster the incorporation of new researchers in this field. This Prize of the Spanish Optical Society Committee for Image Techniques is Sponsored by INFAIMON SL.

Wednesday, 22 / **Light in Medicine, Health Care, Chemistry and Materials Processing**

9:30 h / **And the blind went back to see the light!**

Dr. Jeroni Nadal

Director of Department of Vitreo-Retina and Macula unit of the Barraquer Ophthalmology Centre, Barcelona, Spain.

11:00 h / **Round Table I: Light on life Sciences and health Challenges**

Prof. Aydogan Ozcan, Director Bio&Nano-Photonics Laboratory, Chancellor's Professor University of California, Los Angeles, USA

Challenges on photonics based telemedicine technologies toward next generation smart global health systems

Prof. Vasilis Ntziachristos, Director Institute for Biological and Medical Imaging at the Helmholtz Zentrum München, Munich, Germany

Challenges on Drug-Based Optical Agents: Infiltrating Clinics at Lower Risk

Prof. Brian Pogue, Director of Center for Integrating Innovations in Imaging for Intervention (I4) Medicine, Dartmouth, USA

Challenges on Light in neuro surgery and Photodynamic therapy to go to the real world

Prof. Jürgen Popp, Director Leibniz Institute of Photonic Technology; Inst. of Physical Chemistry, Friedrich Schiller University, Jena, Germany

Challenges on Endoscopic techniques for efficient and safe use into the clinical environment

Prof. JM López-Higuera, Director ISLiST, Moderator



International School on Light Sciences and Technologies, ISLIST
June 20-24, 2016, Santander, Spain

15:30 h / **Dynamic Monitoring of the Chemical Bond using Ultrafast Lasers**

Prof. Luis Bañares

Director of Center for Ultrafast Lasers University Complutense of Madrid, Spain

16:40 h / **Three Dimensional Writing and Material Functionalization by laser: Science and Technology**

Prof. Bertrand Pommellec

Director of Research **ICMMO**, University Paris-sud in University Paris-Saclay, France.

17:55 h Special Event

OSA100 Celebration Reception

The Optical Society of America, OSA, which celebrates its 100th anniversary in 2016, will offer to ISLIST attendees the OSA100 Reception. This OSA Happy Hour will be an optimum time to networking.

Thursday, 23

Morning: Light in Advanced Materials, Integrated Optics and Cultural Heritage

9:30 h / **Graphene, other atomically thin crystals and beyond**



Prof. Andre Geim

2010 Nobel Prize in Physics

Regius and Royal Society Research Professor, Centre for Mesoscience and Nanotechnology, University of Manchester, UK.

10:50 h / **Plastic Optical Fibers in Medicine and Communications: New generation and trends**

Prof. Yasuhiro Koike

Director of Keio Photonics Research Institute, Keio University, Japan.

12:00 h / **Exceptional Event: Doctor Honoris Causa Solemn Ceremony**



UIMP will confer the Doctor Honoris Causa distinction to Prof. Philip Russell by unanimous agreement of its Governing Council, who wanted to recognize his relevant contributions to the Sciences and Technologies of Light.

15:30 h / **Integrated Photonics: Applications in Defense and Space**

Prof. Javier Martí

Director of Nanophotonic Technology Centre, Universidad Politécnica de Valencia, Spain.



UIMP
UNIVERSIDAD INTERNACIONAL
MENÉNDEZ PELAYO



International School on Light Sciences and Technologies, ISLiST
June 20-24, 2016, Santander, Spain

16:40 h / **Light in Cultural Heritage**

Prof. Vincenzo Palleschi

Head of the Laboratory of Applied and Laser Spectroscopy of the Institute of Chemistry of Organometallic Compounds, National Research Council and Professor at University of Pisa, Italy.

Friday, 24 / Knowledge and Technique Transference

9:30 h / **The National Photonics Initiative**

Dr. R. Lieberman,

2016 SPIE President and President of Lumoptics LLC, California, USA

10:00 h / **The Miracle of the Start-up Nation**

Dra. Shirley Kutner,

Founder of BioJerusalem, Senior Strategic Consultant, Biotech/Biomed, Israel.

10:45 h / **Round Table II: Knowledge and Technique Transference**

Prof. Andre Geim, 2010 Nobel Prize, Regius and Royal Society Research Professor, University of Manchester, UK.

From the groundbreaking works to the real world applications

Dr. R. Lieberman, 2016 SPIE President, President of Lumoptics LLC, California, United States

SPIE actions to promote and to the Transference and exploitation of Knowledge&Technology

Prof. Yasuhiro Koike, Director, Keio Photonics Research Institute, Keio University, Japan

Insights for the success gained from Koike start-ups.

Prof. Javier Martí, Director, Nanophotonic Technology Centre, Universidad Politécnica de Valencia, Spain.

key topics for commercialization of Integrated optics based devices and systems

Dr. Shirley Kutner, Founder of BioJerusalem Senior Strategic Consultant, Biotech/Biomed, Israel

Insights from the success gained from BioJerusalem adventure

Prof. JM López-Higuera, Director ISLiST, Moderator

12:45 h / **Diploma Delivery**

13:00 h / **Closing Remarks and Announcement of ISLiST 2017.**

Note: All invited Speakers will be presented by the ISLiST Director or the Secretary.

For more details, please visit our website: <http://www.teisa.unican.es/ISLiST>