

**2019 ESP-IUPB
WORLD CONGRESS**

**17th International Congress on Photobiology
18th Congress of the European Society for Photobiology**



LIGHT & LIFE

**BARCELONA
AUGUST, 25-30**

Final Program

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Welcome

Dear Colleagues,

On behalf of the Executive Committee of the European Society for Photobiology (ESP), the Executive Board of the International Union of Photobiology (IUPB), and the Congress Organizing Committee, we are delighted to welcome you to the World Congress on Light and Life (17th Congress of the International Union of Photobiology and 18th Congress of the European Society for Photobiology), this week in Barcelona.

This first joint ESP-IUPB global congress on light and life will provide a comprehensive international forum for the dissemination of the most recent research and technological developments in the photobiological sciences and in photomedicine, and it will offer a unique opportunity for presentation of the latest breakthroughs, exchange of new ideas, and for establishing global and far-reaching collaborations.

Barcelona is one of the most popular tourist destinations in Europe, a highly dynamic south-European and Mediterranean city with a unique mix of contemporary and historic architecture. Barcelona is a creative, modern and cosmopolitan city that offers a vast array of attractions such as the legacy of famous architect Antoni Gaudí, a large number of fine restaurants, 5 km of beaches, a medieval city center – the gothic quarter – the famous Ramblas avenue where you go to see and be seen... A city you will love.

A final word of thanks goes to all our sponsors for their invaluable support.

We wish you a memorable meeting.

Santi Nonell

President

European Society for Photobiology

John Spudich

President

International Union of Photobiology

General Information

Congress Chairs

Prof. Santi Nonell

President, European Society for Photobiology
IQS School of Engineering, University Ramon Llull,
Barcelona, Spain

Prof. John L. Spudich

President, International Union of Photobiology
University of Texas Health Science Center at Houston,
USA

Organizers

European Society for Photobiology

<https://www.photobiology.eu>

International Union of Photobiology

<http://www.iuphotobiology.org/>

Scientific Organizing Committee

Santi Nonell (Barcelona, Spain)
Miguel A. Miranda (Valencia, Spain)
John Spudich (Houston, USA)
Kristian Berg (Oslo, Norway)
Rex M. Tyrrell (Bath, UK)
Ann Webb (Manchester, UK)
Evelyne Sage (Paris, France)
Massimo Trotta (Bari, Italy)
Francesco Ghetti (Pisa, Italy)
Silvia E. Braslavsky (Mülheim, Germany)
Franz Trautinger (St. Pölten, Austria)

Local Organizing Committee

Santi Nonell
Montserrat Agut
Diego de Argila
Yolanda Gilaberte
Amadeu Llebaria
Maria Lluïsa Sagristá

Congress Organization

MCI Spain Event Services

C/ Tusset 32, 5th floor, 08006 Barcelona, Spain
photobiology2019@mci-group.com

Congress Venue

Hotel Crowne Plaza Barcelona Fira Center
Av. de Rius i Taulet, 1, 08004 Barcelona, Spain

Official Language

The conference language will be English with no translation facilities available.

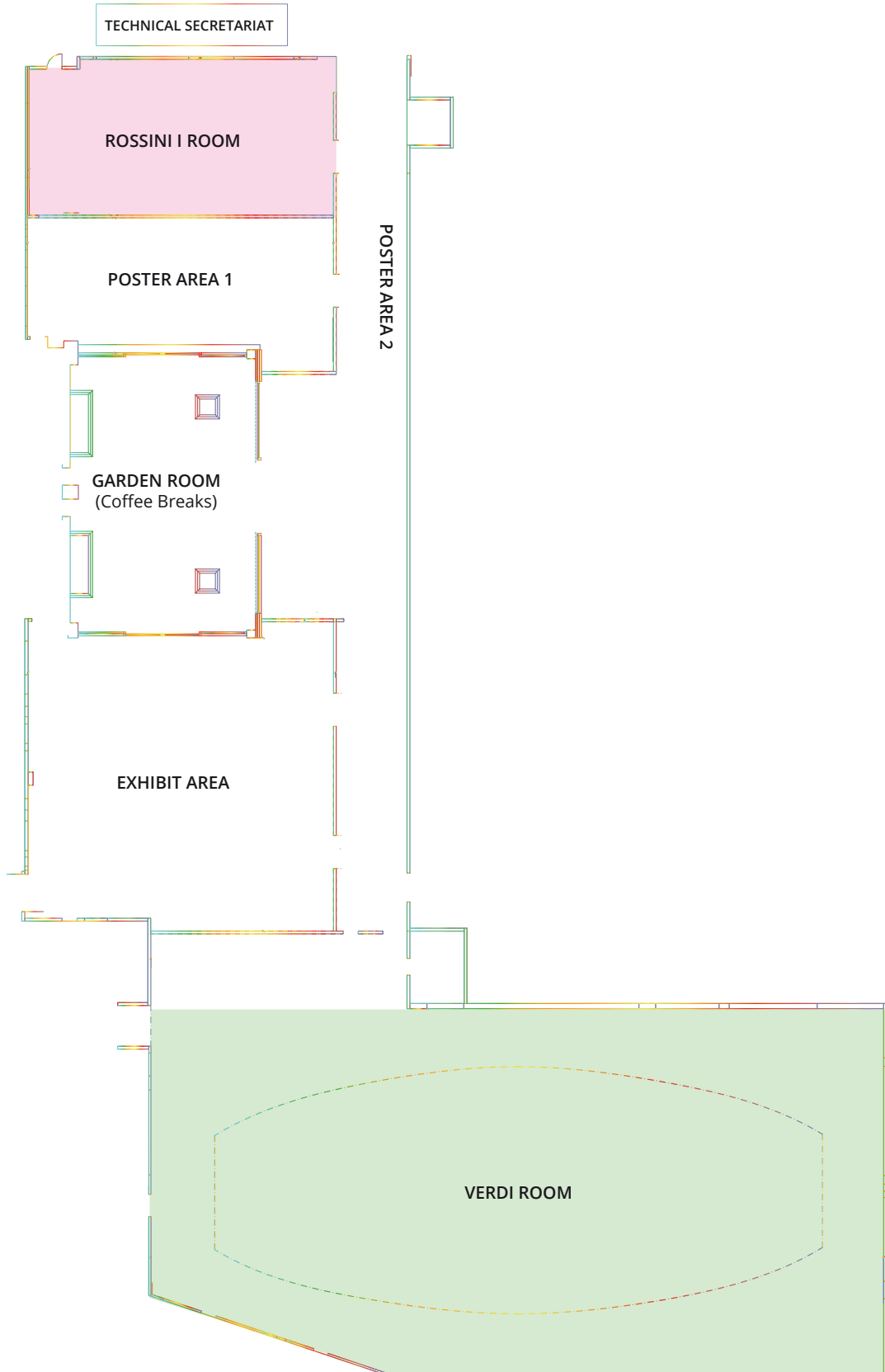
Registration

The Registration Desk/Technical Secretariat is located on the ground floor of the hotel at the far end of the foyer. The desk will be open with the following timetable:

Sunday 25th August: 13.00 - 19.00
Monday 26th August: 08.00 -18:00
Tuesday 27th August: 07.30 -18:00
Wednesday 28th August: 07.30 -18:00
Thursday 29th August: 08.30 -15:30
Friday 30th August: 08.30 -18:00

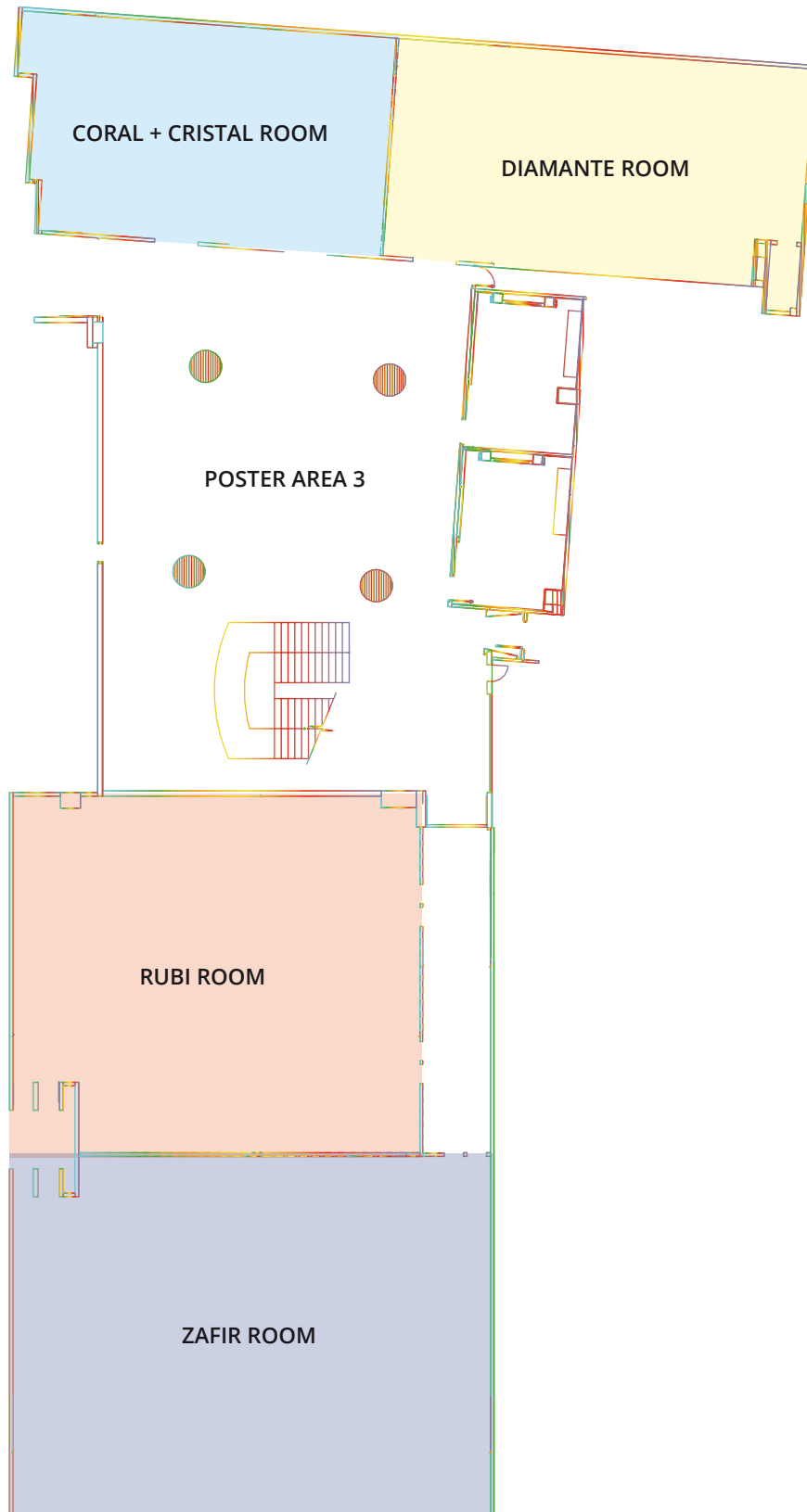
Venue Floor Plans

Ground Floor



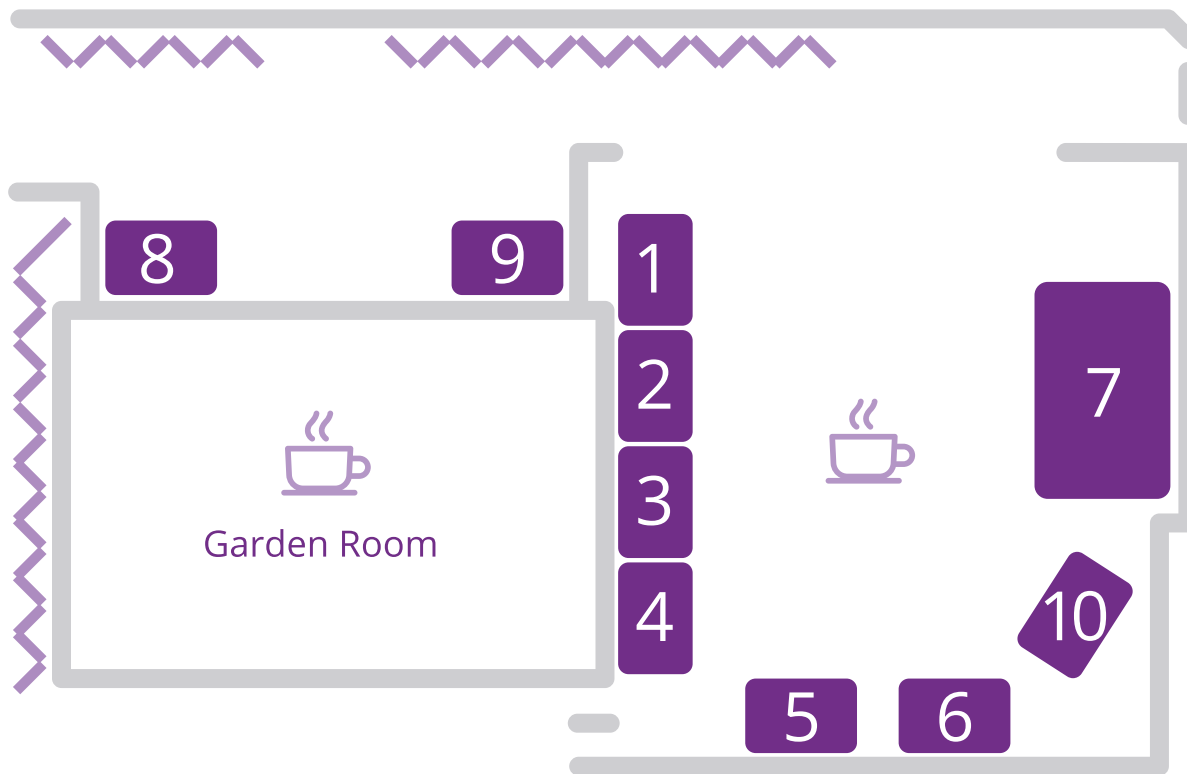
Venue Floor Plans

Lower Ground Floor



Venue Floor Plans

Commercial Exhibition



- 1 - PSI (Photon Systems Instruments)
- 2 - Dongsung Biopharm
- 3 - Edinburgh Instruments
- 4 - Mallinckrodt
- 5 - PorphyChem SAS
- 6 - Modulight
- 7 - Clinuvel
- 8 - LightOx
- 9 - Royal Society of Chemistry
- 10 - Luzchem

Program-at-a-Glance

Sunday 25th August

13:00-19:00	Registration
15:00-17:30	ESP Executive Committee Meeting 1 <i>Orotava Room</i>
17:45-18:00	Opening Ceremony <i>Verdi Room</i>
18:00-19:00	Presidential Lecture <i>Verdi Room</i>
19:00-21:00	Welcome Reception <i>Rubi + Zafir Room</i>

Monday 26th August

9:00-10:00	Plenary Lecture 1 <i>Verdi Room</i>
10:00-10:30	Coffee Break <i>Exhibit Area</i>
10:30-13:00	Parallel Symposia
13:45-14.45	Sponsored Satellite Lunch /Symposium - Mallinckrodt <i>Verdi Room</i>
15:00-16:00	Keynote Lectures 1-5
16:00-17:20	Parallel Symposia
17:20-17:50	Coffee Break <i>Exhibit Area</i>
17:50-19:00	Parallel Symposia (cont.)
19:00-20:00	IUPB Executive Board Meeting <i>Orotava Room</i>

Parallel Symposia: 2hr 30mins

Morning

Symposium ENV-4 | *Coral + Cristal Room*

Symposium MED-13 | *Zafir Room*

Symposium PCHEM-1 | *Rubí Room*

Symposium PDT-1 | *Verdi Room*

Symposium PLANT-6 | *Rossini I Room*

Symposium SENS-2 | *Diamante Room*

Afternoon

Symposium ENV-2 | *Coral + Cristal Room*

Symposium MED-14 | *Zafir Room*

Symposium PCHEM-4 | *Rubí Room*

Symposium PDT-6 | *Verdi Room*

Symposium PLANT-7 | *Rossini I Room*

Symposium SENS-7 | *Diamante Room*

Program-at-a-Glance

Tuesday 27th August

8:00-9:00	Short Communications
9:00-10:20	Parallel Symposia
10:20-10:50	Coffee Break <i>Exhibit Area</i>
10:50-12:00	Parallel Symposia (Cont.)
12:00-13:00	Young Investigator Award Lecture <i>Verdi Room</i>
13:00-16:00	Lunch / Poster Session <i>Poster Areas</i>
13:00-16:00	PPS Editorial Board <i>Orotava Room</i>
16:00-17:20	Parallel Symposia
17:20-17:50	Coffee Break <i>Exhibit Area</i>
17:50-19:00	Parallel Symposia (cont.)
19:00-20:00	ESP General Assembly <i>Verdi Room</i>

Parallel Symposia: 2hr 30mins

Morning

Symposium ENV-1 | *Coral + Cristal Room*

Symposium MED-8 | *Zafir Room*

Symposium PCHEM-5 | *Rubí Room*

Symposium PDT-8 | *Verdi Room*

Symposium PLANT-5 | *Rossini I Room*

Symposium SENS-5 | *Diamante Room*

Afternoon

Symposium ENV-3 | *Coral + Cristal Room*

Symposium MED-5 | *Zafir Room*

Symposium PCHEM-6 | *Rubí Room*

Symposium PDT-2 | *Verdi Room*

Symposium PLANT-2 | *Rossini I Room*

Symposium SENS-9 | *Diamante Room*

Short Communications

Symposium PCHEM-11 | *Verdi Room*

Symposium SENS-11 | *Diamante Room*

Symposium PLANT-11 | *Rossini I Room*

Symposium PDT-11 | *Zafir Room*

Symposium PDT-12 | *Rubí Room*

Symposium PDT-13 | *Coral + Cristal Room*

Program-at-a-Glance

Wednesday 28th August

8:00-9:00	Keynote Lecture 6 <i>Verdi Room</i>
9:00-10:20	Parallel Symposia
10:20-10:50	Coffee Break <i>Exhibit Area</i>
10:50-12:00	Parallel Symposia
12:00-13:00	Edna Roe lecture Finsen lecture <i>Verdi Room</i>
13:45-14:45	Sponsored Satellite Lunch /Symposium Clinuvel <i>Verdi Room</i>
15:00-16:00	Finsen Medal lecture 1 <i>Verdi Room</i>
16:00-17:20	Parallel Symposia
17:20-17:50	Coffee Break <i>Exhibit Area</i>
17:50-19:00	Parallel Symposia (cont.)
19:00-20:00	IUPB General Assembly <i>Verdi Room</i>
19:00-20:00	ESP Education and Training Activities <i>Diamante Room</i>

Parallel Symposia: 2hr 30mins

Morning

Symposium MED-6	<i>Zafir Room</i>
Symposium MED-9	<i>Coral + Cristal Room</i>
Symposium PCHEM-10	<i>Rubí Room</i>
Symposium PDT- 9	<i>Verdi Room</i>
Symposium PLANT- 4	<i>Rossini I Room</i>
Symposium SENS- 8	<i>Diamante Room</i>

Afternoon

Symposium MED-11	<i>Zafir Room</i>
Symposium MED-10	<i>Coral + Cristal Room</i>
Symposium PCHEM- 2	<i>Rubí Room</i>
Symposium PDT- 7	<i>Verdi Room</i>
Symposium PLANT- 9	<i>Rossini I Room</i>
Symposium SENS- 10	<i>Diamante Room</i>

Program-at-a-Glance

Thursday 29th August

9:00-10:20	Parallel Symposia/Keynote Lecture 7 (<i>Zafir Room</i>)
10:20-10:50	Coffee Break <i>Exhibit Area</i>
10:50-12:00	Parallel Symposia (Cont.)
12:00-13:00	Plenary Lecture 2 <i>Verdi Room</i>
13:45-14:45	Sponsored Satellite Lunch /Symposium Clinuvel <i>Verdi Room</i>
15:00-17:30	Parallel Symposia
19:00-00:00	Gala Dinner and Medal Award Ceremony <i>Finca Mas Solers</i> (Limited Places - ticket only) Transport leaving Crowne Plaza 19.00

Parallel Symposia: 2hr 30mins

Morning

Symposium MED-15* | *Zafir Room*

Symposium MED-3 | *Coral + Cristal Room*

Symposium PCHEM-9 | *Rubí Room*

Symposium PDT-3 | *Verdi Room*

Symposium PLANT-3 | *Rossini I Room*

Symposium SENS-3 | *Diamante Room*

Afternoon

Symposium ENV-5 | *Coral + Cristal Room*

Symposium MED-12 | *Zafir Room*

Symposium PCHEM-3 | *Rubí Room*

Symposium PDT-10 | *Verdi Room*

Symposium PLANT-1 | *Rossini I Room*

Symposium SENS-6 | *Diamante Room*

* 90 minutes. After break we will have keynote lecture 7 (Zafir Room)

Program-at-a-Glance

Friday 30th August

9:00-10:20	Parallel Symposia
10:20-10:50	Coffee Break <i>Exhibit Area</i>
10:50-12:00	Parallel Symposia (Cont.)
12:00-13:00	Finsen Medal Lecture 2 <i>Verdi Room</i>
13:00- 13:45	Official Congress Group Photo (<i>Leaving from hotel lobby at 13.10</i>)
13:45-14:45	Lunch
15:00-16:00	Finsen Medal Lecture 3 <i>Verdi Room</i>
16:00-17:20	Parallel Symposia
17:20-17:50	Coffee Break <i>Exhibit Area</i>
17:50-19:00	Parallel Symposia (cont.)
19:00-20:00	ESP Executive Committee Meeting 2 <i>Orotava Room</i>

Parallel Symposia: 2hr 30mins

Morning

Symposium MED-1 | *Zafir Room*

Symposium MED-2 | *Coral + Cristal Room*

Symposium PCHEM-7 | *Rubí Room*

Symposium PDT-5 | *Verdi Room*

Symposium PLANT-10 | *Rossini I Room*

Symposium SENS-4 | *Diamante Room*

Afternoon

Symposium MED-4 | *Zafir Room*

Symposium MED-7 | *Coral + Cristal Room*

Symposium PCHEM-8 | *Rubí Room*

Symposium PDT-4 | *Verdi Room*

Symposium PLANT-8 | *Rossini I Room*

Symposium SENS-1 | *Diamante Room*

Full Program

Sunday 25th August

Time	Session	Room
13:00-19:00	Registration	
15:00-17.30	ESP Executive Committee Meeting1	Orotava Room
17:45-18:00	Opening	Verdi Room
18:00-19.00	Presidential Lecture Chair: Santi Nonell (Spain) / John Spudich (USA) Title: Microbial Rhodopsins: Diversity, Mechanisms, and Optogenetic Applications / Barcelona: Light and Life John Spudich (USA) / Santi Nonell (Spain)	Verdi Room
19:00-21.00	Welcome Reception	Rubi + Zafir Room

Full Program

Monday, 26th August

Time	Session	Room
9:00-10:00	Plenary Lecture 1 Chair: Amadeu Llebaria (Spain) Title: Controlling the Fate and Function of Proteins With Photopharmacology Dirk Trauner (Austria)	Verdi Room
10:00-10:30	Coffee break	Exhibit Area
10:30-13:00	Parallel Symposia	
10:30-13:00	Symposium ENV-4: Algal Photobiology Chair: Félix L. Figueroa (Spain)	Coral + Cristal Room
10:30 - 10:50	IL - Biological weighting functions for microalgal responses to ultraviolet radiation Patrick Neale (USA)	
10:50 - 11:10	IL - UV photoprotection by red alga extracts with high content of polyphenols and mycosporine like aminoacids Félix L. Figueroa (Spain)	
11:10 - 11:30	IL - Photoregulatory roles for bilins in green algae John Clark Lagarias (USA)	
11:30 - 11:50	IL - UV photoprotectors in seaweeds: a brief proteomic insight Fungyi Chow (Brazil)	
11:50 - 12:10	IL - The Use of Mycosporine-like Amino Acids for Skin Photoprotection Karl Lawrence (UK)	
12:10 - 12:30	IL - Use of light emitting diodes (LEDs) for the industrial production of microalgae João Varela (Portugal)	
12:30 - 12:35	OC - Impacts of UV-B radiation on the viability and physiology of Red Sea phytoplankton Sebastian Overmans (Saudi Arabia)	
12:35 - 12:40	OC - Structural light manipulation for photosynthesis in diatoms Johannes Wilhelm Goessling (Portugal)	
12:40 - 12:45	OC - Photomorphogenesis of <i>Cyanobium gracile</i> . Permanent excitonic decoupling of light-harvesting phycobilisomes from photosynthetic reaction centers in red-light grown cells Gábor Bernát (Hungary)	
12:45 - 12:50	OC - Alteration of the photosynthetic activity of <i>Euglena gracilis</i> algae by residues of 17 β -estradiol hormones after exposure to O ₃ / UV Gilmar Erzinger (Brazil)	
12:50 - 12:55	OC- Photonic Properties of Cyanobacterial Cells Helder Carmen (UK)	
12:55 - 13:00	OC - Ecophysiological responses under increased temperatures mediated by future climate change scenarios on species o intertidal macroalgae Paula S.M. Celis-Plá (Chile)	

Full Program

Monday, 26th August

Time	Session	Room
10:30-13:00	Symposium MED-13: Drug Photosensitivity Chair: Virginie Lhiaubet-Vallet (Spain)	Zafir Room
10:30 - 10:50	IL - Clinical manifestations of drug photosensitivity Margarida Goncalo (Portugal)	
10:50 - 11:10	IL - Clinical aspects of drug photosensitivity Sally Ibbotson (UK)	
11:10 - 11:30	IL - Photochemistry of Drug Photosensitization Virginie Lhiaubet-Vallet (Spain)	
11:30 - 11:50	IL - Looking for Photochemotherapeutic Properties of Fluoroquinolones: Phototoxicity Enhancement Francisco Bosca (Spain)	
11:50 - 12:10	IL - Photocleavage of Blebbistatin as a One-Photon Blue or Two-Photon Near-Infrared Light-Gated Hydroxyl Radical Photocage David Lee Phillips (china)	
12:10 - 12:30	IL - Photobinding to Human Serum Albumin by β -Lactams and Trifluoromethylphenol-Containing Drugs Concepción González-Bello (Spain)	
12:30 - 12:50	IL - Knowledge is power: Understanding the action of photodrugs and their side effects by molecular modeling and simulation Antonio Monari (France)	
12:50 - 12:55	OC - Investigating Pirfenidone-induced phototoxicity: a critical drug for Idiopathic Pulmonary Fibrosis. Victoria McGuire (UK)	
12:55 - 13:00	OC - Design of a new sunscreen-based photocaged system. A mechanistic study based on a model and its application in a ketoprofen-oxybenzone dyad. Mauricio Lineros-Rosa (Spain)	

Full Program

Monday, 26th August

Time	Session	Room
10:30-13:00	Symposium PCHEM-1 : Photopharmacology Chair: Amadeu Llebaria (Spain)	Rubí Room
10:30 - 10:50	IL - Modern Optical Approaches for Dissecting Neuromodulatory Circuits and Signaling in Behavior Michael Bruchas (USA)	
10:50 - 11:10	IL - Photochromic Antifolate for Light-Activated Cancer Chemotherapy Pau Gorostiza (Spain)	
11:10 - 11:30	IL - Towards theranostic applications of photopharmacology Wiktor Szymanski (Netherland)	
11:30 - 11:50	IL - Photopharmacology of G protein-coupled adenosine receptors Francisco Ciruela (Spain)	
11:50 - 12:10	IL - Allosteric photoswitchable ligands to control GPCR activity with light Amadeu Llebaria (Spain)	
12:10 - 12:30	IL - Relieving Pain Through Deep Brain Photopharmacological Stimulation Cyril Goudet (France)	
12:30 -12:40	OC - Synthetic photoswitchable neurotransmitters based on bridged azobenzenes Jordi Hernando (Spain)	
12:40 - 12:50	OC - Exploring the effects of photoswitching agents on kinase activity regulation Theo Rodat (Germany)	
12:50 - 13:00	OC - Photoactivation of metal-based anticancer prodrugs in a bioorthogonal fashion Alessio Terenzi (Spain)	

Full Program

Monday, 26th August

Time	Session	Room
10:30-13:00	Symposium PDT-1 : ALA-based PDT and photodiagnosis Chair: Norbert Lange (Switzerland)	Verdi Room
10:30 - 10:50	IL - 20 years of 5-ALA derivatives : Lessons learned and new perspectives Norbert Lange (Switzerland)	
10:50 - 11:10	IL - Dual functions of ALA in activation of PDT Zvi Malik (Israel)	
11:10 - 11:30	IL - Strategies for Enhanced Intracellular Porphyrin Generation and PDT using ALA Derivatives Sandy MacRobert (UK)	
11:30 - 11:50	IL - Response to ALA-PDT in 3D ovarian cancer and in vivo models of peritoneal dissemination Adriana Casas (Argentina)	
11:50 - 12:10	IL - Optimisation strategies for ALA-PDT of non-melanoma skin cancer: results of a translational research approach Ben Novak (Germany)	
12:10 - 12:20	OC - Targeting the ultraviolet a-induced labile iron release to improve the effectiveness of topical aminolevulinate-based photodynamic therapy of skin cells Dana Beiki (UK)	
12:20 - 12:30	OC - Service improvement and research to increase confidence in daylight Photodynamic Therapy delivered in the UK Ewan Eadie (UK)	
12:30 - 12:40	OC - SmartPDT: smartphone-enabled daylight PDT based on solar radiation dosimetry using Earth Observation satellites Luke McLellan (UK)	
12:40 - 12:50	OC - Investigation of 5-ALA/5-FU combination therapy using NIR-emitting Ag2S quantum dots Gözde Demirci (Turkey)	

Full Program

Monday, 26th August

Time	Session	Room
10:30-13:00	Symposium PLANT-6: Artificial Photosynthesis Chair: Sebastiano Campagna (Italy)	Rossini I Room
10:30 - 10:50	IL - Hybrid Photosynthetic Enzymes as Photoactive Soft Materials Massimo Trotta (Italy)	
10:50 - 11:10	IL - Polypyridine Transition Metal Complexes as Homogeneous Catalysts for Artificial Photosynthesis Randolph Thummel (USA)	
11:10 - 11:30	IL - Multicomponent metal polypyridine complexes for molecular-based artificial photosynthesis Sebastiano Campagna (Italy)	
11:30 - 11:50	IL - Molecular Photocatalysis Towards Solar Water Splitting and Carbon Dioxide Reduction Ken Sakai (Japan)	
11:50 - 12:10	IL - Supramolecular Architectures for Artificial Photosynthesis Marcella Bonchio (Italy)	
12:10 - 12:30	IL - Semi-artificial photosynthesis: a platform to study and rewire photosynthesis Jenny Zhang (UK)	
12:30 - 12:50	IL - Proton coupled electron transfer in artificial photosynthetic constructs Thomas A. Moore (USA)	
12:50 - 12:55	OC - Photocatalytic Reduction of CO ₂ using novel supramolecular Ru(II)-Re(I) complexes and a NAD(P)H model compound and a benzoimidazole derivative as electron donors. Ambra Maria Cancelliere (Italy)	
12:55 - 13:00	OC - Semi-Artificial Photosynthesis Nicolas Plumere (Germany)	

Full Program

Monday, 26th August

Time	Session	Room
10:30-13:00	Symposium SENS-2 Rhodopsins from Eukaryotes and their Optogenetic Application Chair: Peter Hegemann (Germany)	Diamante Room
10:30-10:50	IL - Molecular Engineering of Microbial Rhodopsins Peter Hegemann (Germany)	
10:50-11:10	IL - Rhodopsin cyclases, novel catalysts for the optogenetic control of cGMP and cAMP Matthias Broser (Germany)	
11:10-11:30	IL - Excited-state dynamics in UV and near-IR absorbing microbial rhodopsins John Kennis (Netherlands)	
11:30-11:50	IL - Channelrhodopsins with photo-convertible tags to access a new dimension Matthias Prigge (Germany)	
11:50-12:10	IL - ON-bipolar cell-targeted optogenetic gene therapy with engineered melanopsin-mGluR6 chimeras to restore pattern vision in mice Sonja Kleinlogel (Switzerland)	
12:10-12:30	IL - Metabotropic Optogenetics: The next generation of OptoXRs Elliot Gerrard (Australia)	
12:30-12:50	IL - Engineering photoreceptors into optogenetic tools for the control and understanding of cellular processes in animal and plant systems Matias Zurbriggen (Germany)	
13:45-14:45	Sponsored Satellite Lunch /Symposium - Mallinckrodt Chair: Robert Knobler (Vienna)	Verdi Room
13:45-14:00	The role of psoralens and lights in tumor cell apoptosis Giorgia Miolo (Italy)	
14:00-14:15	Mechanisms of action □ What is new in ECP immunomodulation Peter Wolf (Austria)	
14:15 - 14:30	ECP Immunomodulation – Clinical Utility in Dermatology Ulrike Just (Vienna)	
14:30 – 14:45	Open discussion and closing remarks	
15:00-16:00	Keynote Lecture 1 Chair: Miguel A. Miranda (Spain) Dynamics and Mechanism of UVR8 Photoreceptor Donping Zhong (USA)	Rossini I Room

Full Program

Monday, 26th August

Time	Session	Room
15:00-16:00	Keynote Lecture 2 Chair: Jesús M. de la Fuente (Spain) Light-induced hyperthermia for oncology and disinfection Romain Quidant (Spain)	Zafir Room
15:00-16:00	Keynote Lecture 3 Chair: Gonzalo Cosa (Canada) Imaging Phototoxicity and Photodamage in Cells by Fluorescence Microscopy Thomas Gensch (Germany)	Rubí Room
15:00-16:00	Keynote Lecture 4 Chair: Alexander Greer (USA) Singlet Oxygen Photophysics: Revisiting the Past to Recalibrate the Present and Redefine the Future Peter Ogilby (Denmark)	Diamante Room
15:00-16:00	Keynote Lecture 5 Chair: Aba Losi (Italy) X-ray crystallography of light-activated proteins □ watching them work as a function of time or light fluence Antoine Royant (France)	Verdi Room
16:00-17:20	Parallel Symposia	
16:00-17:20	Symposium ENV-2: UV radiation and rapid climate change: implications for plants and ecosystem Chairs: Janet Bornman (Australia) / Yolanda Sola (Spain)	Coral + Cristal Room
16:00 - 16:20	IL- Climate change, ozone and UV radiation: where we are and what we might expect. Ann Webb (UK)	
16:20 - 16:40	IL - Observed influence of cloud properties on ultraviolet surface radiation David Mateos (Spain)	
16:40 - 17:00	IL - Solar erythemal irradiance from satellite and ground-based instruments: The influence of cloudiness Yolanda Sola (Spain)	
17:00 - 17:20	IL - Environmental effects of ozone-driven climate change in the Southern Hemisphere Sharon Robinson (Australia)	

Full Program

Monday, 26th August

Time	Session	Room
16:00-17:20	Symposium MED-14: Clinical Photosafety Chair: Douglas B. Learn (USA)	Zafir Room
16:00 - 16:25	IL - Preclinical Photosafety Evaluation: The Trigger for Clinical Photosafety Evaluation Douglas Learn (USA)	
16:25 - 16:50	IL - Photosafety Evaluation of Fragrance Materials: A Tiered Approach Using Both Alternative Methods and Confirmatory Testing in Humans Gretchen Ritacco (USA)	
16:50 - 17:15	IL - The clinical evaluation of drug phototoxicity Sally Ibbotson (UK)	
16:00-17:20	Symposium PCHEM-4: Upconverting Nanoparticles Chair: Julia Pérez-Prieto (Spain)	Rubí Room
16:00 - 16:20	IL - Optical Properties of Different Types of Luminescent Nanocrystals at the Ensemble and Single Emitter Level Ute Resch-Genger (Germany)	
16:20 - 16:40	IL - Upconverting nanoparticles as reporters in ultrasensitive immunoassays Tero Soukka (Finland)	
16:40 - 17:00	IL - The Development of Sensing Platforms for the Detection of Substrates using Protein Bound Upconverting Phosphors Louise Natrajan (UK)	
17:00 - 17:20	IL - FRET with upconverting nanoparticles □ from fundamental understanding to applied biosensing Niko Hildebrandt (France)	
16:00-17:20	Symposium PDT-6: PDT and Oxygen Chair: Theresa Busch (USA)	Verdi Room
16:00 - 16:20	IL - A Role for Tumor Physiology in Personalization of Photodynamic Therapy Theresa Busch (USA)	
16:20 - 16:40	IL - Photoactivated chemotherapy in hypoxic cancer cells Sylvestre Bonnet (Netherlands)	
16:40 - 17:00	IL - Transition Metal Complexes as Photosensitizers for PDT and PCT Sherri McFarland (USA)	
17:00 - 17:20	IL - Direct imaging of singlet oxygen luminescence in blood vessels of dorsal skinfold window chamber model Buhong Li (China)	

Full Program

Monday, 26th August

Time	Session	Room
16:00-17:20	Symposium PLANT-7: Electronic Photosynthesis Chair: Eleni Stavrinidou (Sweden)	Rossini I Room
16:00 - 16:25	IL - Bioelectronics for monitoring and controlling plant physiology Eleni Stavrinidou (Sweden)	
16:25 - 16:50	IL - Bio Photo Voltaic (BPV) - development and possible areas of application Paolo Bombelli (UK)	
16:50 - 17:15	IL - Photoconverters from photosynthetic bacteria Gianluca Maria Farinola (Italy)	
16:00-17:20	Symposium SENS-7: The Phytochrome Diversity: Mechanisms Light Signal Integration and Applications in Optogenetics Chair: Wolfgang Gärtner(Germany)	Diamante Room
16:00 - 16:20	IL - Why and How are Phytochromes Knotted? Katrina Forest (USA)	
16:20 - 16:40	IL - Molecular determinants of asymmetric phytochrome activation and signaling Andreas Winkler (Austria)	
16:40 - 17:00	IL - Spectroscopic investigations on the photoconversion of bacteriophytochrome from picoseconds to milliseconds Janne Ihalainen (Finland)	
17:00 - 17:20	IL - Time-resolved serial femtosecond crystallography of phytochromes Allen M. Orville (UK)	
17:20-17:50	Coffee break	Exhibit Area
17:50-19:00	Parallel Symposia (cont)	Coral + Cristal Room
17:50-19:00	Symposium ENV-2: UV Radiation and Rapid Climate Change: Implications for Plants and Ecosystem Chairs: Janet Bornman (Australia) / Yolanda Sola (Spain)	
17:50 - 18:10	IL - The implications for plant ecology of altered UV exposure in a changing climate T. Matthew Robson (Finland)	
18:10 - 18:30	IL - Physiological plasticity complements the genetic adaptation of grapevine leaves to solar radiation* Éva Hideg (Hungary)	
18:30 - 18:50	IL - Hormone responses to short daily UV-B irradiation in tomato plants: what happens in the upper and below-ground organs? Alessia Mannucci (Italy)	

Full Program

Monday, 26th August

Time	Session	Room
17:50-19:00	Symposium MED-14: Clinical Photosafety Chair: Douglas B. Learn (USA)	Zafir Room
17:50 - 18:15	IL - Methodology to evaluate the photosensitivity potential of an investigational product in healthy volunteer subjects Jonathan Dosik MD (USA)	
18:15 - 18:40	Photosafety Evaluation Of Pharmaceuticals - Using Safety Margins To Support Human Risk Assessment Daniel Bauer (Switzerland)	
17:50-19:00	Symposium PCHEM-4: Upconverting Nanoparticles Chair: Julia Pérez-Prieto (Spain)	Rubí Room
17:50 - 18:10	IL - Biocompatibility assessment of up- and down-converting nanoparticles: implications of interferences with in vitro assays Ivana Vinković Vrček (Croatia)	
18:10 - 18:30	IL - Theranostic Application of Upconversion Nanoparticles with Tandem Sensitization Thomas Hirsch (Germany)	
18:30 - 18:50	IL - Upconversion nanomaterials for photobiological applications Julia Pérez-Prieto (Spain)	
17:50-19:00	Symposium PDT-6: PDT and Oxygen Chair: Theresa Busch (USA)	Verdi Room
17:50 - 18:10	IL - The Effect of Surgery on Outcomes in Intraoperative PDT: is great oxygenation an extinction level event for cancer? Keith Cengel (USA)	
18:10 - 18:30	IL - Fluence Rate Effects in Interstitial Photodynamic Therapy Gal Shafirstein (USA)	
18:30 - 18:50	IL - Effects of photodynamic therapy with redaporfin on tumor oxygenation and blood flow in lung and melanoma mouse models Janusz M. Dabrowski (Poland)	
18:50 - 19:00	OC - Study of the relationship between rnas2 and oxidative stress induced by PDT Enrico Caruso (Italy)	

Full Program

Monday, 26th August

Time	Session	Room
17:50-19:00	Symposium PLANT-7: Electronic Photosynthesis Chair: Eleni Stavrinidou (Sweden)	Rossini I Room
17:50 - 18:15	IL - Purple Bacterial Photosynthetic Complexes for Photoelectrochemical and Sensory Applications Swee Ching Tan (Singapore)	
18:15 - 18:40	IL - Manipulation of electron transfer in bacterial reaction centers Joann Williams (USA)	
17:50-19:00	Symposium SENS-7: The Phytochrome Diversity: Mechanisms Light Signal Integration and Applications in Optogenetics Chair: Wolfgang Gärtner(Germany)	Diamante Room
17:50 - 18:10	IL - Converting far-red phycobiliproteins into much brighter near-infrared fluorescent proteins Kai-Hong Zhao (China)	
18:10 - 18:30	IL - Solid-state NMR on red/far-red-absorbing bilin-binding GAF-domain photosensors Chen Song (Germany)	
18:30 - 18:50	IL - Structural Changes Observed by Infrared Difference Spectroscopy of a Phytochrome-Related Protein Composed of Three GAF Domains Qianzhao Xu (Germany)	
18:50 - 18:55	OC - Development of Optogenetic Tools for Plant Synthetic Biology Rocio Ochoa-Fernandez (Germany)	
18:55 - 19:00	OC - Optogenetically regulated receptor tyrosine kinases, based on bacteriophytochrome of <i>Deinococcus radiodurans</i> Anna Leopold (Finland)	

Full Program

Tuesday, 27th August

Time	Session	Room
19:00-20:00	IUPB Executive Board Meeting	Orotava Room
8:00-9:00	Short Communications	
8:00-9:00	Symposium PCHEM-11: Short Communications on Physical and Chemical Photobiology Chair: Cristina Flors (Spain)	Verdi Room
8:00 - 8:06	OC - Photodamage to lysozyme via Type I and Type II reactions sensitized by eye lens chromophores Ekaterina Savina (Russian Federation)	
8:06 - 8:12	OC - The interaction between biscarbocyanine dye and aromatic amino acids in albumin is essential for superoxide anion radical formation in photosensitization Alexandra Radchenko (Russian Federation)	
8:12 - 8:18	OC - Polymethine dyes as photosensitizers for photodynamic therapy Sonja Visentin (Italy)	
8:18 - 8:24	OC - Squaraines as sensitive turn on probes for quantitative detection of ct-DNA and proteins Sonja Visentin (Italy)	
8:24 - 8:30	OC - Delayed Luminescence by an in vitro model for the study of mechanism involved in Alzheimer's disease Rosaria Grasso (Italy)	
8:30 - 8:36	OC - Photoactive Nanoparticles as Switchable Ultra-Bright Labels of Eukaryotic and Bacteria Cells Eléna Ishow (France)	
8:36 - 8:42	OC - Nanostructures for Singlet Oxygen generation from diatoms microalgae Danilo Vona (Italy)	
8:42 - 8:48	OC - Light nanoscopy for labelled and naturally fluorescent systems Simona Streckaite (France)	
8:48 - 8:54	OC - Shedding light on the subtle E222Q mutation that relieves the photoswitching behaviour of fluorescent proteins Ranieri Bizzarri (Italy)	
8:54 - 9:00	OC - Label and Sound: Genetically encoded labels for Optoacoustic imaging Andre C. Stiel (Germany)	

Full Program

Tuesday, 27th August

Time	Session	Room
8:00-9:00	Symposium SENS-11: Short Communications on Photosensory Biology Chair: Silvia Braslavsky (Germany)	Diamante Room
8:00 - 8:07	OC - Toward photodynamic physiology of cholecystokinin 1 receptor with genetically encoded protein photosensitizer miniSOG Zong Jie Cui (China)	
8:07 - 8:14	OC - Mechanistic study of fatty acid photodecarboxylase - a new photoenzyme converting fatty acids to alkanes using visible light Pavel Müller (France)	
8:14 - 8:21	OC - Integrated optical characterization of light-sensitive protein films Szilvia Krekic (Hungary)	
8:21 - 8:28	OC - Interaction between two bacteriophytochromes and their signal transduction in <i>Agrobacterium fabrum</i> Peng Xue (Germany)	
8:28 - 8:35	OC - Phytochrome action and light-induced signal transduction in <i>Agrobacterium fabrum</i> Afaf Elkurdi (Germany)	
8:35 - 8:42	OC - Exploring the function of the iron-sulfur cluster in prokaryotic (6-4) photolyases Gero Kaeser (Germany)	
8:42 - 8:49	OC - Lights on and action: optogenetic control of microbial cell factories Fabienne Hilgers (Germany)	
8:49 - 8:56	OC - Engineering of simple ultrasensitive switches with optogenetic tools Christof Taxis (Germany)	

Full Program

Tuesday, 27th August

Time	Session	Room
8:00-9:00	Symposium PLANT-11 Short Communications on Plant Photobiology Chair: Massimo Trotta (Italy)	Rossini I Room
8:00 - 8:10	OC - Molecular evolution of the Orange Carotenoid Protein: inter-domain interaction and the role of the linker in carotenoid translocation Fernando Muzzopappa (France)	
8:10 - 8:20	OC - Structural, spectroscopic and functional characterization of HCPs Maria Agustina Dominguez Martin (USA)	
8:20 - 8:30	OC - Revealing the ultrafast dynamics of Orange Carotenoid Protein from Synechocystis using time-resolved absorption spectroscopy Stanisław Niziński (Poland)	
8:30 - 8:40	OC - Different roles for ApcD and ApcF in <i>Synechococcus elongatus</i> and <i>Synechocystis</i> sp. PCC 6803 phycobilisomes Pablo Ignacio Calzadilla (France)	
8:40 - 8:50	OC - Fast photoprotection (qE) in plants lacking minor light harvesting complexes and photosystem reaction cores Francesco Saccon (UK)	
8:50 - 9:00	OC - Silicified structures affect leaf optical properties of <i>Deschampsia cespitosa</i> from different habitats Mateja Graič (Slovenia)	

Full Program

Tuesday, 27th August

Time	Session	Room
8:00-9:00	Symposium PDT-11: Short Communications on antimicrobial PDT Chair: Montserrat Agut (Spain)	Zafir Room
8:00 - 8:05	OC - The combination of shock wave therapy and aPDI for the treatment of wound infections Lisa Karner (Austria)	
8:05 - 8:10	OC - Fighting Staphylococcus aureus resistance with light: the bright future of photo-activatable immunoconjugates Mafalda Bispo (Netherlands)	
8:10 - 8:15	OC - Photodynamic Inactivation of Campylobacter jejuni - an innate sensitivity Peter Walker (UK)	
8:15 - 8:20	OC - Antimicrobial Singlet Oxygen Photosensitizers Based on Glycodendrimeric [60] Fullerene Derivatives David García Fresnadillo (Spain)	
8:20 - 8:25	OC - Easy phenalenone functionalizations for antimicrobial activities and drug delivery Jérémy Godard (France)	
8:25 - 8:30	OC - Photodynamic inactivation of microorganisms and phototransformation of micropollutants: the water matrices role in the efficiency of the process Maria Bartolomeu (Portugal)	
8:30 - 8:35	OC - Lignin-stabilized metal nanoparticles: photo-induced antibacterial activity Anabel E. Lanterna (Canada)	
8:35 - 8:40	OC - Acetylated lignin nanoparticles as a vehicle for photosensitizers in Antimicrobial Photodynamic Treatment Nidia Maldonado-Carmona (France)	
8:40 - 8:45	OC - Exposure to visible light potentially results in decreased translational activity in the entomopathogenic fungus Metarhizium acridum Gilberto U. L. Braga (Brazil)	
8:45 - 8:50	OC - Fertile Egg Sanitation by Photoactivatable Pigments Aaron Stephan (USA)	
8:50 - 8:55	OC - Photodynamic inactivation of antibiotic-resistant bacteria and biofilms with nanomolar photosensitizer concentrations Mariette Pereira (Portugal)	

Full Program

Tuesday, 27th August

Time	Session	Room
8:00-9:00	Symposium PDT-12: Short Communications in Chemical PDT Chair: Kristian Berg (Norway)	Rubí Room
8:00 - 8:07	OC - Cyclodextrin-based photoactive liposomal nanoparticles for tumor targeting Ilya Yakavets (France)	
8:07 - 8:14	OC - Xylan-based nanoparticles for targeted photodynamic therapy Soukaina Bouramtane (France)	
8:14 - 8:21	OC - Towards nanosensors for the simultaneous monitoring of different intracellular reactive oxygen species: the chemistry of the probes Adrien Ratier (UK)	
8:21 - 8:28	OC - DNA-Activatable Photosensitizers based on Bioorthogonal Reactions Greta Linden (Germany)	
8:28 - 8:35	OC - Novel Ru(II) polypyridyl complexes as photodynamic therapy photosensitizers Marta Jakubaszek(France)	
8:35 - 8:42	OC - Development of organelle-targeting photosensitizers Ludmil Benov (Kuwait)	
8:42 - 8:49	OC - Development of targeted near infrared Ag ₂ S quantum dots for optical imaging and photodynamic therapy Mahshid Hashemkhani (Turkey)	
8:49: - 8:56	OC - Carboxamide bacteriochlorins as novel preformed photosensitizers for topical PDT of skin disorders Helder Soares (Portugal)	

Full Program

Tuesday, 27th August

Time	Session	Room
8:00-9:00	Symposium PDT-13: Short Communications on Cancer PDT Chair: M. Lluisa Sagristá (Spain)	Coral + Cristal Room
8:00 - 8:06	OC - Dynamic photophysics of porphyrin-lipid liposomes for theranostics Danielle M Charron (Canada)	
8:06 - 8:12	OC - Imaging guided nanoformulations with controlled excitation dynamics to enhance photodynamic therapy Tymish Y. Ohulchanskyy (China)	
8:12 - 8:18	OC - New Platforms for improving the treatment of glioblastoma by photodynamic therapy Ludivine Larue (France)	
8:18 - 8:24	OC - In vitro characterization of porphyrin-based photosensitizers Irene Jiménez Munguía (Russian Federation)	
8:24 - 8:30	OC - In vivo two-photon imaging of genetically encoded fluorescent biosensors unveils connexin-dependent signaling pathways stimulated by photodynamic therapy Chiara Nardin (Italy)	
8:30 - 8:36	OC - Quantification of Doxorubicin in endosomes of rat bladder cancer cells (AY27) by photochemical internalization Odrun A. Gederaas (Norway)	
8:36 - 8:42	OC - Combination therapy with methylene blue based photodynamic and rutoside for melanoma cancer cells khatereh khorsandi (Iran)	
8:42 - 8:48	OC - Preclinical treatment plan development for intraoperative photodynamic therapy using a novel optical surface applicator Sarah Chamberlain (USA)	
8:48 - 8:54	OC - Stimuli-responsive nanogels for dual photodynamic therapy and chemotherapy of cancer Aimie Rendle (UK)	

Full Program

Tuesday, 27th August

Time	Session	Room
09:00-10:20	Parallel Symposia	
09:00-10:20	Symposium ENV-1: UV Monitoring for Human Health Chair: Mario Blumthaler (Austria)	Coral + Cristal Room
9:00 - 9:20	IL - UV monitoring for human health Mario Blumthaler (Austria)	
9:20 - 9:40	IL - Solar UV radiation metrology: Supporting health and climate research Julian Gröbner (Switzerland)	
9:40 - 10:00	IL - UV monitoring at high latitudes: linking Arctic and Antarctic UV measurements Kaisa Lakkala (Finland)	
10:00 -10:20	IL - Expansion of the German solar UV monitoring network Sebastian Lorenz (Germany)	
09:00-10:20	Symposium MED-8: Phototherapy Chair: Giovanni Leone (Italy)	Zafir Room
9:00 - 9:20	IL - New technologies in phototherapy Giovanni Leone (Italy)	
9:20 - 9:40	IL - The place of UVA1 phototherapy in dermatology Sally Ibbotson (UK)	
9:40 - 10:00	IL - Phototherapy for cutaneous lymphomas. What's new. Franz Trautinger (Austria)	
10:00 - 10:20	IL - Photochemotherapy of chronic actinic dermatitis Ljubomir Novakovic (UK)	

Full Program

Tuesday, 27th August

Time	Session	Room
09:00-10:20	Symposium PCHEM-5: Type-I Photooxidation Processes Chair: Maurício Baptista (Brazil)	Rubí Room
9:00 - 9:20	IL - Photosensitized radical oxidation reactions of isolated and cellular DNA Jean Cadet (Canada)	
9:20 - 9:40	IL - One-electron oxidation of nucleobases and amino acids photosensitized by pterin Andrés H. Thomas (Argentina)	
9:40 - 10:00	IL - Exploiting cholesterol as a natural mechanistic probe for photosensitized oxidation reactions Albert Girotti (USA)	
10:00 - 10:20	IL - Interfacial strategies to study reactive oxygen intermediates produced using photosensitization Alexander Greer (USA)	
09:00-10:20	Symposium PDT-8: Excitations in PDT Chair: Celine Frochot (France)	Verdi Room
9:00 - 9:20	IL - Radioluminescent nanomaterials: towards deep tissue PDT activation during radiation therapy Anne-Laure Bulin (France)	
9:20 - 9:40	IL - Investigating the ultrasound effects of different chemical compounds to highlight the in vitro sonodynamic process Roberto Canaparo (Italy)	
9:40 - 10:00	IL - Molecular systems with two-photon excited photosensitizers for photodynamic therapy and theranostics. Valérie Heitz (France)	
10:00 - 10:20	IL - Development of chemiluminescent photosensitizers for self-activating photodynamic therapy Luís Pinto da Silva (Portugal)	

Full Program

Tuesday, 27th August

Time	Session	Room
09:00-10:20	Symposium PLANT-5: Photosynthetic Organisms as Biofactories Chair: Wim Vermaas (USA)	Rossini I Room
9:00 - 9:20	IL - Light-catalyzed production of fatty acids and their derivatives from CO ₂ using cyanobacteria Wim Vermaas (USA)	
9:20 - 9:40	IL - Towards sustainable production of biofuels by milking of the cyanobacterial cells engineered for free fatty acid production. Tatsuo Omata (Japan)	
9:40 - 10:00	IL - Targeted gene repression (CRISPRi) applied to cyanobacteria for rapid and multiplex metabolic engineering Paul Hudson (Sweden)	
10:00 - 10:20	IL - A plant-derived cocaine hydrolase prevents cocaine overdose lethality and attenuates cocaine-induced drug seeking behavior Tsafrir Mor (USA)	
09:00-10:20	Symposium SENS-5: Blue Light and UV Receptors. In Memoriam Winslow Briggs. Chair: John Christie (UK)	Diamante Room
9:00 - 9:20	IL - Engineering the phototropin photocycle to modulate plant growth John Christie (UK)	
9:20 - 9:40	IL - Detecting light direction in the hypocotyl of Arabidopsis thaliana Christian Fankhauser (Switzerland)	
9:40 - 10:00	IL - Phototropin-dependent signalling in the green microalga Chlamydomonas reinhardtii Dimitris Petroutsos (France)	
10:00 - 10:20	IL -RGS-LOV Photoreceptors Brian Chow (USA)	
10:20-10:50	Coffee break	Exhibit Area

Full Program

Tuesday, 27th August

Time	Session	Room
10:50-12:00	Parallel Symposia (Cont)	
10:50-12:00z	Symposium ENV-1: UV Monitoring for Human Health Chair: Mario Blumthaler (Austria)	Coral + Cristal Room
10:50 - 11:00	OC - Data from environmental UV monitoring: Weighting by action spectra Terje Christensen (Norway)	
11:00 - 11:20	IL - Personal UV exposure from ambient UV radiation Alois W. Schmalwieser (Austria)	
11:20 - 11:30	OC - Measurements of the head and neck exposure distributions of solar UV radiation demands on skin cancer prevention measures Peter M. Knuschke (Germany)	
11:30 - 11:50	IL - Is exposure to UV radiation a viable choice for vitamin D production in northern Europe of today? Ann Webb (UK)	
10:50-12:00	Symposium MED-8: Phototherapy Chair: Giovanni Leone (Italy)	Zafir Room
10:50 - 11:10	IL - phototherapy of vitiligo Agustin Alomar (Spain)	
11:10 - 11:30	IL - Phototherapy versus new drugs for atopic dermatitis Piergiacomo Calzavara-Pinton (Italy)	
11:30 - 11:50	IL - Phototherapy for psoriasis in the era of biologics and small molecule inhibitors. Henry W. Lim. (USA)	
11:50 - 11:55	OC - UVA therapy & UVA enhances Brusatol-Mediated inhibition of melanoma growth Julia Li Zhong (China)	
11:55 -12:00	OC - Action spectrum of nitric oxide release from skin Bethany Ferris (UK)	

Full Program

Tuesday, 27th August

Time	Session	Room
10:50-12:00	Symposium PCHEM-5: Type-I Photooxidation Processes Chair: Maurício Baptista (Brazil)	Rubí Room
10:50 - 11:10	IL - Contact-dependent photosensitized oxidation within membranes and the efficiency of PDT photosensitizers Maurício Baptista (Brazil)	
11:10 - 11:30	IL - Beyond PDT type I and II: molecular mechanisms of photoactivated chemotherapy Sylvestre Bonnet (Netherlands)	
11:30 - 11:50	IL - Revisiting the mechanism of biomolecules photooxidation as sensitized by riboflavin in relation to human health and food quality Daniel R. Cardoso (Brazil)	
11:50 - 11:55	OC - Effect of pH on photoinduced radical reactions between amino acids and chromophores of human eye lens Yuliya Zhuravleva (Russian Federation)	
11:55 -12:00	OC - Antioxidant action of Resveratrol in the prevention of guanine one-electron oxidation Carolinal Lorente (Argentina)	
10:50-12:00	Symposium PDT-8: Excitations in PDT Chair: Celine Frochot (France)	Verdi Room
10:50 - 11:10	IL - Tissue-depth independent light-based cancer therapy Samuel Achilefu (USA)	
11:10 - 11:30	IL - Photodynamic therapy beacon: from small molecule to nanoparticle Juan Chen (Canada)	
11:30 - 11:50	IL - Photodynamic therapy for actinic keratosis on the forehead and scalp: a randomized, controlled, clinical study evaluating a Light Emitting Fabric (LEF) Serge Mordon (France)	
11:50 - 12:00	OC - X-ray induced PDT with scintillating nanoparticles Philippe Arnoux (France)	
10:50-12:00	Symposium PLANT-5: Photosynthetic Organisms as Biofactories Chair: Wim Vermaas (USA)	Rossini I Room
10:50 - 11:10	IL - Photosynthetic microbes as cell factories for sustainable bioproduction Himadri Pakrasi (USA)	
11:10 - 11:30	IL - Microalgae as sustainable photosynthetic green cell factories for the synthetic production of hydrocarbons Olaf Kruse (Germany)	
11:30 - 11:45	OC - Purple bacteria & saline photo-bioelectrochemical systems: elucidating salt adaptation mechanisms Matteo Grattieri (USA)	

Full Program

Tuesday, 27th August

Time	Session	Room
10:50-12:00	Symposium SENS-5: Blue Light and UV Receptors. In Memoriam Winslow Briggs. Chair: John Christie (UK)	Diamante Room
10:50 - 11:10	IL -UV-B photoreceptor signalling Roman Ulm (Switzerland)	
11:10 - 11:30	IL -Native mass spectrometry reveals the conformational diversity of the UVR8 photoreceptor Alex Jones (UK)	
11:30 - 11:50	IL -BES1 regulated BEE1 controls photoperiodic flowering downstream of blue light signaling pathway in Arabidopsis Yawen Liu (China)	
12:00-13:00	Young Investigator Award Lecture Chair: Massimo Trotta (Italy)	Verdi Room
12:00 - 12:30	Title: Deciphering the role of PDT to enhance the therapeutic efficacy of dual anticancer therapy Pilar Acedo (UK)	
12.30 - 13:00	The enthralling challenge of harvesting photoexcited electrons from intact bacterial cells Matteo Grattieri (USA)	
13:00-16:00	Lunch / Poster Session	Poster Areas
13:00-16:00	PPS Editorial Board	Orotava Room
16:00-17:20	Parallel Symposia	
16:00-17:20	Symposium ENV-3: Vitamin D Chair: Mark Farrar (UK)	Coral + Cristal Room
16:00 - 16:25	IL -Contribution of nutrition science to the vitamin D field Kevin Cashman (Ireland)	
16:25 - 16:50	IL -Optimal sunscreen use, during a sun-holiday with a very high UV index, allows vitamin D synthesis without sunburn Antony Young (UK)	
16:50 - 17:15	IL -Pigment genes not skin pigmentation affect UVB-induced vitamin D. Hans Christian Wulf (Denmark)	

Full Program

Tuesday, 27th August

Time	Session	Room
16:00-17:20	Symposium MED-5: Melanocytes and Melanoma Chair: Lionel Larue (France)	Zafir Room
16:00 - 16:20	IL -Common mechanisms regulating neural crest stem cell development and melanoma formation Lukas Sommer (Switzerland)	
16:20 - 16:40	IL -The loss of dicer affects the integrin-mediated migration of melanocytes and their homing in the hair bulb Lionel Larue (France)	
16:40 - 17:00	IL -The fate of the pigment in epidermal keratinocytes: a cell biology point of view Cédric Delevoye (France)	
17:00 - 17:20	IL -Development of a reproducible model for studying post-inflammatory hyperpigmentation: evidence for a causal contribution of ambient light Francoise Bernerd (France)	
16:00-17:20	Symposium PCHEM-6: Type-II Photooxidation Processes Chair: Alec Greer (USA)	Rubí Room
16:00 - 16:20	IL -Generation of singlet oxygen and reactive oxygen species under mild conditions Torsten Linker (Germany)	
16:20 - 16:40	IL -Nanoscale imaging of amyloid photodynamic damage Cristina Flors (Spain)	
16:40 - 17:00	IL -Singlet-oxygen photosensitization in weakly-coupled floppy complexes Mario Barbatti (France)	
17:00 - 17:20	IL -Singlet molecular oxygen generated in dark process: Mechanistic studies using ¹⁸ O-labeled peroxides and ¹ O ₂ , mass spectrometry, and light emission measurements Paolo Di Mascio (Brazil)	
16:00-17:20	Symposium PDT-2: Targeted PDT Chair: Sandy MacRobert (UK)	Verdi Room
16:00 - 16:20	IL -Folate-targeted photosensitizer for the treatment of peritoneal metastasis of epithelial ovarian cancer by photodynamic therapy Céline Frochot (France)	
16:20 - 16:40	IL -Antibody-photosensitiser conjugates synthesis and photodynamic activity Ross Boyle (UK)	
16:40 - 17:00	IL -Targeted nanoparticles for chemo- and photo- killing of cancer differentiated and stem cells Francesca Moret (Italy)	
17:00 - 17:20	IL -Mesoporous silica-based nanoparticles for two-photon photodynamic therapy Jean-Olivier Durand (France)	

Full Program

Tuesday, 27th August

Time	Session	Room
16:00-17:20	Symposium PLANT-2: Photosystem II and Oxygen Evolution Chair: Richard Debus (USA)	Rossini I Room
16:00 - 16:25	IL -Mechanism of photosynthetic water oxidation Jian-Ren Shen (Japan)	
16:25 - 16:50	IL -Spectroscopic and scattering studies of photosystem II utilizing fs X-ray pulses Jan Kern (USA)	
16:50 - 17:15	IL -Quantum chemical studies of redox enzymes Per Siegbahn (Sweden)	
16:00-17:20	Symposium SENS-9: Time-Resolved Serial Crystallography of Light-Sensitive Proteins Chair: Sebastian Westenhoff (Sweden)	Diamante Room
16:00 - 16:20	IL -Photoactivation of bacterial phytochromes studied by time-resolved crystallography Sebastian Westenhoff (Sweden)	
16:20 - 16:40	IL -Observe while it happens: Catching photoreceptors in the act with free electron lasers and computer simulations Gerrit Groenhof (Finland)	
16:40 - 17:00	IL -On retinal isomerization in bacteriorhodopsin Ilme Schlichting (Germany)	
17:00 - 17:20	IL -A molecular movie of structural changes in the light-driven proton pump bacteriorhodopsin Eriko Nango (Japan)	
17:20-17:50	Coffee break	Exhibit Area

Full Program

Tuesday, 27th August

Time	Session	Room
17:50-19:00	Parallel Symposia (Cont)	
17:50-19:00	Symposium ENV-3: Vitamin D Chair: Mark Farrar (UK)	Coral + Cristal Room
17:50 - 18:15	IL -Interrelationships between dietary vitamin D, exposure to UV radiation and the faecal microbiome Prue Hart (Australia)	
18:15 - 18:40	IL -Photoprotection by calcitriol (1,25dihydroxyvitamin D) and related compounds. Rebecca S. Mason (Australia)	
18:40 - 19:00	IL -Seasonal sunlight exposure and vitamin D status in older adults Mark Farrar (UK)	
17:50-19:00	Symposium MED-5: Melanocytes and Melanoma Chair: Lionel Larue (France)	Zafir Room
17:50 - 17:55	OC - Sunlight: a double-edged sword for melanoma? Katie M. Dixon (Australia)	
17:55 - 18:00	OC - Visible light-induced melanogenesis in human skin can be reduced by the tyrosinase inhibitor isobutylamido-thiazolyl-resorcinol Ludger Kolbe (Germany)	
18:00 - 18:20	IL -The many roles of MITF in melanocytes and melanoma Eirikur Steingrimsson (Iceland)	
18:20 - 18:40	IL -The genetics of congenital melanocytic naevi Veronica Kinsler (UK)	
18:40 - 19:00	IL -Telomere length, naevi and melanoma Veronique Bataille (UK)	
17:50-19:00	Symposium PCHEM-6: Type-II Photooxidation Processes Chair: Alec Greer (USA)	Rubí Room
17:50 - 18:10	IL -Organic endoperoxides storing and releasing singlet oxygen Mathias Senge (Ireland)	
18:10 - 18:30	IL -Cucurbit[n]uril-based supramolecular photosensitizers Denis Fuentealba (Chile)	
18:30 - 18:50	IL - Highly sensitive detection of photosensitized singlet oxygen within photonic crystal fibre Anita Jones (UK)	
18:50 - 19:00	OC -Tracking singlet oxygen in hybrid nanomaterials and photosensitizer delivery systems Vladimir Kabanov (Canada)	

Full Program

Tuesday, 27th August

Time	Session	Room
17:50-19:00	Symposium PDT-2: Targeted PDT Chair: Sandy MacRobert (UK)	Verdi Room
17:50 - 18:10	IL -Transformable nanotheranostics for precision image-guided phototherapy Yuanpei Li (USA)	
18:10 - 18:30	IL -Light-controlled delivery of cancer immunotherapeutics Pål Kristian Selbo (Norway)	
18:30 - 18:40	OC -Selective targeting and photodynamic therapy of non-small cell lung cancer with peptide conjugated phthalocyanine gold nanocarriers Zoe R. Goddard (UK)	
18:40 - 18:50	OC -Nanobody-targeted photodynamic therapy selectively kills viral GPCR-expressing glioblastoma cells Vida Mashayekhi (Netherlands)	
18:50 - 19:00	OC -Molecular targeted photonanomedicines for cancer: a path from modular nanochemistry to in vivo specificity of delivery and destruction Girgis Obaid (USA)	
17:50-19:00	Symposium PLANT-2: Photosystem II and Oxygen Evolution Chair: Richard Debus (USA)	Rossini I Room
17:50 - 18:15	IL -A new intermediate in the activation of nature's water splitting cofactor Nick Cox (Australia)	
18:15 - 18:40	IL -Substrates of photosynthetic water oxidation Mun Hon Cheah (Sweden)	
18:40 - 19:05	IL -Much more than just electron transfer: Photosynthetic water oxidation investigated by time-resolved infrared spectroscopy Holger Dau (Germany)	

Full Program

Tuesday, 27th August

Time	Session	Room
17:50-19:00	Symposium SENS-9: Time-Resolved Serial Crystallography of Light-Sensitive Proteins Chair: Sebastian Westenhoff (Sweden)	Diamante Room
17:50 - 18:10	IL -Structural changes of oxygen-evolving PSII during S-state transitions and a possible mechanism for oxygen evolving reaction revealed by X-ray free laser pulses Michi Suga (Japan)	
18:10 - 18:30	IL -Water oxidation reaction of photosystem II studied using simultaneous X-ray crystallography and spectroscopy at XFELs Vittal Yachandra (USA)	
18:30 - 18:50	IL - Femtosecond X-ray experiments at european XFEL Christian Bressler (Germany)	
19:00-20:00	ESP General Assembly	Verdi Room

Full Program

Wednesday, 28th August

Time	Session	Room
8:00-9:00	Keynote Lecture 6: New light devices for Photodynamic Therapy Chair: Céline Frochot (France) Serge Mordon (France)	Verdi Room
9:00-10:20	Parallel Symposia	
9:00-10:20	Symposium MED-6: Novel Forms of Photoprotection Chair: Henry W. Lim (USA)	Zafir Room
9:00 - 9:20	IL - What do you really know about photoprotection? Harvey Lui (Canada)	
9:20 - 9:40	IL - The role of Polypodium leucotomos in photoprotection Salvador González Rodríguez (Spain)	
9:40 - 10:00	IL - Breakthrough in photoprotection: TriAsorB, a new UV filter Daniel Bacqueville (France)	
10:00 - 10:20	IL - Photoprotection by mycosporine-like amino acids (MAA) Antony Young (UK)	
9:00-10:20	Symposium MED-9: Photosensitivity Diseases Chair: Sally Ibbotson (UK)	Coral + Cristal Room
9:00 - 9:20	IL - Whats new on polymorphic light eruption Peter Wolf (Austria)	
9:20 - 9:40	IL - Solar urticaria Christophe Bedane (France)	
9:40 - 10:00	IL - Importance of genotype/phenotype correlation in Xeroderma Pigmentosum Hiva Fassihi (UK)	
10:00 - 10:20	IL - Quality of life and psychological comorbidity in the photodermatoses Kirsty Rutter (UK)	
9:00-10:20	Symposium PCHEM-10: Femtobiology Chair: Dongping Zhong (USA)	Rubi Room
9:00 - 9:20	IL - The mechanism of photosynthetic water-splitting revealed by femtosecond X-ray free electron lasers Jian-Ren Shen (Japan)	
9:20 - 9:40	IL - Primary isomerization reactions in Photoactive Yellow Protein in crystal and solution phases show distinct rates and structural intermediates John Kennis (Netherlands)	
9:40 - 10:00	IL - Ultrafast photoisomerization and role of protein environment in rhodopsins Hideki Kandori (Japan)	
10:00 - 10:20	IL - Picosecond to millisecond dynamics in the prototypical reversible photoswitchable protein dronpa Stephen Meech (UK)	

Full Program

Wednesday, 28th August

Time	Session	Room
9:00-10:20	Symposium PDT-9: PDT for Tissue Photobonding and Wound Closure Chair: Emilio Alarcon (Canada)	Verdi Room
9:00 - 9:25	IL - Hybrid hydrogels: an answer for skin tissue regeneration Manuel Ahumada (Chile)	
9:25 - 9:50	IL - From a conceptual proposal to the "future of wound healing": the translational path of Fractional Skin Grafting Walfre Franco (USA)	
9:50 - 10:15	IL - Preclinical studies of photocrosslinking technologies for tissue repair and regeneration Robert W. Redmond (USA)	
9:00-10:20	Symposium PLANT-4: Effect of UV Light on Plants Chair: Gareth Jenkins (UK)	Rossini I Room
9:00 - 9:20	IL - How do plants respond To UV-B in natural growth environments? Gareth Jenkins (UK)	
9:20 - 9:40	IL - Role of UVR8 photoreceptor in sunlight Neha Rai (Finland)	
9:40 - 9:50	OC - Cross-regulation between UV-B and visible light signalling in Arabidopsis Nicolas Tissot (Switzerland)	
9:50 - 10:10	IL - Signal transduction mediated by the plant UV-B photoreceptor UVR8 Yawen Liu (China)	
9:00-10:20	Symposium SENS-8: Cyanobacteriochromes. Characterization, Chromatic Adaptation and Applications in Optogenetics Chair: J. Clark Lagarias (USA)	Diamante Room
9:00 - 9:20	IL - Rational color-tuning designs on two cyanobacteriochrome lineages based on their natural diversity Rei Narikawa (Japan)	
9:20 - 9:40	IL - The origin of the red/green spectral tuning in the cyanobacteriochrome Slr1393g3 Igor Schapiro (Israel)	
9:40 - 10:00	IL - Unusual chromophore configuration and photoconversion mechanism in far red cyanobacteriochrome Xiaojing Yang (USA)	
10:00 - 10:20	IL - Planarization is an alternative photocycle initiation mechanism in the dynamics of the tri-cysteine violet/blue photoswitching cyanobacteriochrome from moorea producens Delmar Larsen (USA)	
10:20-10:50	Coffee break	Exhibit Area

Full Program

Wednesday, 28th August

Time	Session	Room
10:50-12:00	Parallel Symposia (Cont)	
10:50-12:00	Symposium MED-6: Novel Forms of Photoprotection Chair: Henry W. Lim (USA)	Zafir Room
10:50 - 11:05	IL - How Chinese herbs to prevent and rejuvenate photo-aged skin Leihong Flora Xiang (China)	
11:05 - 11:20	IL - Targeted photoprotection: Can sunscreens be adapted for specific use in dermatological disorders? Giovanni Leone (Italy)	
11:20 - 11:35	IL - Nicotinamide and keratinocyte cancer Diona Damian (Australia)	
11:35 - 11:50	IL - What advice should we give our patients on concerns about environmental impact of UV filters? Henry W. Lim (USA)	
11:50 - 12:00	OC - Uncovering the efficacy of a natural home-made sunscreen advocated by wellness bloggers on social media. Katie M. Dixon (Australia)	
10:50-12:00	Symposium MED-9: Photosensitivity Diseases Chair: Sally Ibbotson (UK)	Coral + Cristal Room
10:50 - 11:10	IL - Photoprotection in photosensitivity diseases Hans Christian Wulf (Denmark)	
11:10 - 11:30	IL - Topical photoallergy and photopatch testing Sally Ibbotson (UK)	
11:30 - 11:50	IL - Phototherapy for the photosensitivity diseases Jose-Manuel Carrascosa (Spain)	
11:50 - 12:00	OC - High levels of oxidatively generated DNA damage 8,5'-cyclo-2'-deoxyadenosine accumulate in the brain tissues of xeroderma pigmentosum group A gene-knockout mice Toshio Mori (Japan)	

Full Program

Wednesday, 28th August

Time	Session	Room
10:50-12:00	Symposium PCHEM-10: Femtobiology Chair: Dongping Zhong (USA)	Rubí Room
10:50 - 11:10	IL - Allosteric Regulation of Biological Function of Photoreceptor proteins Jiali Gao (USA)	
11:10 - 11:20	OC - Multiscale modeling of light harvesting in cryptophyte photosynthesis Carles Curutchet (Spain)	
11:20 - 11:30	OC - Non-standard electron transfer pathways in photolyases and cryptochromes Pascal Plaza (France)	
11:30 - 11:40	OC - First study of the photodynamics of a hydrozoan photo-switchable fluorescent protein: existence of different switching mechanisms. Lucas M. Uriarte (France)	
11:40 - 11:50	OC - Ultrafast light-induced electron transfer processes in flavoenzymes: radical product states and protein flexibility Marten Vos (France)	
10:50-12:00	Symposium PDT-9: PDT for Tissue Photobonding and Wound Closure Chair: Emilio Alarcon (Canada)	Verdi Room
10:50 - 11:15	IL - Photocrosslinking and corneal implants May Griffith (Canada)	
11:15 - 11:25	OC - Split face study comparing conventional mal photodynamic therapy in multiple actinic keratosis with complete time versus half-time red light led conventional illumination Montserrat Fernández Guarino (Spain)	
11:25 - 11:30	OC - Remotely activated bio-responsive peptide based matrices for soft tissue repair Marcelo Munoz (Canada)	
11:35- 12:00	IL - Light-activated biomimetic matrices for tissue repair Emilio I. Alarcon (Canada)	

Full Program

Wednesday, 28th August

Time	Session	Room
10:50-12:00	Symposium PLANT-4: Effect of UV Light on Plants Chair: Gareth Jenkins (UK)	Rossini I Room
10:50 - 11:10	IL - E2Fc and E2Fb transcription factors independently regulate plant growth under UV-B conditions in <i>Arabidopsis thaliana</i> . Paula Casati (Argentina)	
11:10 - 11:15	OC - Improving the stress tolerance of pepper seedlings via manipulating secondary metabolites with UV irradiation Kristóf Csepregi (Hungary)	
11:15 - 11:35	IL - Spectral cues prompting diurnal changes in leaf pigments T. Matthew Robson (Finland)	
11:35 - 11:55	IL - Using supplementary UV radiation to improve production of greenhouse crops: the example of cucumber (<i>Cucumis sativus</i>) Åke Strid (Sweden)	
11:55 - 12:00	OC - Let the sunshine in! Post-harvest UV-B radiation is able to affect the secondary metabolism in flesh of peach fruit Marco Santin (Italy)	
10:50-12:00	Symposium SENS-8: Cyanobacteriochromes. Characterization, Chromatic Adaptation and Applications in Optogenetics Chair: J. Clark Lagarias (USA)	Diamante Room
10:50 - 11:10	IL -Diverse chromatic acclimation processes responding to green and red light in the cyanobacteria phylum Yuu Hirose (Japan)	
11:10 - 11:30	IL -The role of cyanobacteriochromes in phototaxis Annegret Wilde (Germany)	
11:30 - 11:50	IL -Optogenetic applications of cyanobacteriochromes Jeffrey Tabor (USA)	
11:50 - 12:00	OC -Directional light perception for phototaxis in cyanobacteria Conrad Mullineaux (UK)	

Full Program

Wednesday, 28th August

Time	Session	Room
12:00 - 12:30	Edna Roe Lecture Chair: Henry Lim (USA) Low level solar UVR effects on human skin across phototypes I-VI: benefit and harm Lesley Rhodes (UK)	Verdi Room
12:30 - 13:00	Finsen Lecture Chair: Vivienne Reeve (Australia) From Finsen to PhoCIS: How sunlight influences immune-mediated diseases Scott Byrne (Australia)	Verdi Room
13:45-14:45	Sponsored Satellite Lunch /Symposium Clinuvel - Photoprotection and Advances in Photomedicine	Verdi Room
15:00 -16:00	Finsen Medal Lecture 1 Chair: John Spudich (USA) Environmental photobiology: UV radiation, climate risks and challenges for sustainability Janet Bornman (Australia)	Verdi Room
16:00-17:20	Parallel Symposia	
16:00-17:20	Symposium MED-11: Photobiomodulation Chair: Michael Hamblin (UK) & James Carroll (UK)	Zafir Room
16:00 - 16:20	IL -Photobiomodulation for the brain: Has the light dawned? Michael R. Hamblin (UK)	
16:20 - 16:40	IL -Establishing Photobiomodulation (PBM) Therapy as a first-line medical treatment for oral mucositis. James Carroll (UK)	
16:40 - 17:00	IL -The potential of photobiomodulation to enhance angiogenesis and wound healing Peter Dungal (Austria)	
17:00 - 17:20	IL -The impact of photobiomodulation on lipid metabolism in neuronal cells Svitlana M. Levchenko (China)	

Full Program

Wednesday, 28th August

Time	Session	Room
16:00-17:20	Symposium MED-10: Dentistry Chair: Ellen Bruzell (Norway)	Coral + Cristal Room
16:00 - 16:30	IL - Light sources and light-dependent procedures in dentistry Ellen Bruzell (Norway)	
16:30 - 16:55	IL - Atomic force microscopy (AFM) study of the Photodynamic Effects on Enterococcus faecalis biofilms. Josep Arnabat-Dominguez (Spain)	
16:55 - 17:20	IL - Photodynamic treatment (PDT) of oral lichen planus (OLP) Sigrid I. Kvaal (Norway)	
16:00-17:20	Symposium PCHEM-2: Fluorescent Probes Chair: Gonzalo Cosa (Canada)	Rubí Room
16:00 - 16:20	IL - From single-molecule imaging to the brain: A circuitous route to new neural activity indicators Luke Lavis (USA)	
16:20 - 16:40	IL - Harnessing cyanine reactivity to prepare novel fluorophores for advanced imaging applications Martin Schnermann (USA)	
16:40 - 17:00	IL - Fluorescent molecular switches for superresolution microscopies Mariano Bossi (Germany)	
17:00 - 17:10	OC -Small particles, big improvement: Fluorescent nanoprobes for singlet oxygen and other reactive oxygen species detection in biological systems Roger Bresolí-Obach (Belgium)	
16:00-17:20	Symposium PDT-7: Immunology in PDT Chair: Mladen Korbelik (Canada)	Verdi Room
16:00 - 16:20	IL - Rapid tumor ablation therapies involve common stress response signaling networks and promotion of immune response against treated cancers Mladen Korbelik (Canada)	
16:20 - 16:40	IL - Photodynamic therapy in the era of cancer immunotherapy Jakub Golab (Poland)	
16:40 - 17:00	IL - Strategies to potentiate immune response after photodynamic therapy Michael R. Hamblin (UK)	
17:00 - 17:20	IL - Modeling surgery-induced inflammation as an effector of adjuvant therapy Theresa Busch (USA)	

Full Program

Wednesday, 28th August

Time	Session	Room
16:00-17:20	Symposium PLANT-9: Reactive Oxygen Species in Photosynthetic Organisms: Sensing and Defense Chair: Eva Hideg (Hungary)	Rossini I Room
16:00 - 16:20	IL - Coordination of chloroplastic and mitochondrial ROS signaling Jaakko Kangasjärvi (Finland)	
16:20 - 16:40	IL - Production of reactive oxygen species during leaf senescence Anja Krieger-Liszakay (France)	
16:40 - 17:00	IL - The use of genetically-encoded peroxide sensors to investigate light responses in Arabidopsis Nicholas Smirnoff (UK)	
17:00 - 17:20	IL - Taking sides in the battle of pro- and antioxidants: diverse roles of phenolic compounds in stressed plants Éva Hideg (Hungary)	
16:00-17:20	Symposium SENS-10: Cryptochromes. Mechanisms. Magnetoreception and UV Light Chair: Margaret Ahmad (France)	Diamante Room
16:00 - 16:20	IL - Photoreceptor signaling crosstalk in the regulation of plant responses to the environment Elena Monte (Spain)	
16:20 - 16:40	IL - Molecular mechanisms of human sleep timing Alina Patke (USA)	
16:40 - 17:00	IL - Combined magnetic and light effects on cryptochrome activity Thorsten Ritz (USA)	
17:00 - 17:20	IL - The magnetic compass of birds Roswitha Wiltschko (Germany)	
17:20-17:50	Coffee break	Exhibit Area

Full Program

Wednesday, 28th August

Time	Session	Room
17:50-19:00	Parallel Symposia (Cont)	
17:50-19:00	Symposium MED-11: Photobiomodulation Chair: Michael Hamblin (UK) & James Carroll (UK)	Zafir Room
17:50 - 18:10	IL -Photobiomodulation as a supporting high caries risk therapy Lidija Nemeth (Slovenia)	
18:10 - 18:30	IL -The effect of phototherapy with light emitting diodes on chronic wound healing Ksenija Cankar (Slovenia)	
18:30 - 18:40	OC -Biomodulation: A bonus in periodontal treatment Beatrijs Deruyter (Belgium)	
18:40 - 19:00	OC -Photobiomodulation at 660 nm accelerates wound healing via the JAK/STAT cellular pathway Heidi Abrahamse (South Africa)	
17:50-19:00	Symposium MED-10: Dentistry Chair: Ellen Bruzell (Norway)	
17:50 - 18:15	IL - Light-based antimicrobial approaches in dentistry □ chances and limitations Fabian Cieplik (Germany)	
18:15 - 18:40	IL - Antibacterial photodynamic therapy for treatment of oral biofilms related to periodontal and peri-implant diseases Håkon Valen (Norway)	
18:40 - 19:00	Presentation of the European Master degree in oral laser applications Josep Arnabat-Dominguez (Spain)	
17:50-19:00	Symposium PCHEM-2: Fluorescent Probes Chair: Gonzalo Cosa (Canada)	Rubí Room
17:50 - 18:00	OC -Illuminating biological microenvironments Kylie Yang (Australia)	
18:00 - 18:20	IL - Mapping microscopic viscosity and temperature using molecular rotors Marina Kuimova (UK)	
18:20 - 18:40	IL - Fluorogenic and chromogenic dyes and nanoparticles as bright probes for biology Andrey Klymchenko (France)	
18:40 - 19:00	IL - Live cell imaging of lipid peroxidation and associated byproducts Gonzalo Cosa (Canada)	

Full Program

Wednesday, 28th August

Time	Session	Room
17:50-19:00	Symposium PDT-7: Immunology in PDT Chair: Mladen Korbelik (Canada)	Verdi Room
17:50 - 18:10	IL - T cell-based Immuno-Photodynamic therapy of cancer Ferry Ossendorp (Netherlands)	
18:10 - 18:30	IL - Title to be confirmed M. Heger (Netherlands)	
18:30 - 18:40	OC -PDT-induced ProstaglandinE2 plays an unexpected beneficial role in the generation of anti-tumor immunity Riddhi Falk-Mahapatra (USA)	
18:40 - 18:50	OC -Exploring the potential for immune modulation triggered by nanobody-targeted photodynamic therapy Yingxin Yu (Netherlands)	
17:50-19:00	Symposium PLANT-9: Reactive Oxygen Species in Photosynthetic Organisms: Sensing and Defense Chair: Eva Hideg (Hungary)	Rossini I Room
17:50 - 18:00	OC -Antioxidant and more - The role of vitamin B6 in plant UV-acclimation Gyula Czégény (Hungary)	
18:00 - 18:20	IL - The abnormal formation of short-lived singlet oxygen threatens plants with programmed cell death: Studies in cell cultures and the Arabidopsis mutants aba1 and max4 Juan B. Arellano (Spain)	
18:20 - 18:40	IL - Nanobiotechnology approaches for understanding and engineering the role of plant ROS Juan Pablo Giraldo (USA)	
18:40 - 18:50	OC -An anionic porphyrin : TPPS , a good candidate for APDT in agronomy Veronica Ambrosini (France)	
18:50 - 19:00	OC -Photo-activated defense strategies in mushrooms □ An overlooked source for new photopharmaceuticals? Bianka Siewert (Austria)	

Full Program

Wednesday, 28th August

Time	Session	Room
17:50-19:00	Symposium SENS-10 Cryptochromes. Mechanisms. Magnetoreception and UV Light Chair: Margaret Ahmad (France)	Diamante Room
17:50 - 18:10	IL - Plant cryptochrome: mechanism of photoreception from infrared spectroscopy Tilman Kottke (Germany)	
18:10 - 18:30	IL - Circadian clock photoentrainment by Drosophila cryptochrome Brian R. Crane (USA)	
18:30 - 18:50	IL - Cryptochrome photoreceptor mechanism of activation and responsivity to electromagnetic fields. Margaret Ahmad (France)	
19:00-20:00	IUPB General Assembly / ESP Education and Training Activities	Verdi Room / Diamante Room

Full Program

Thursday, 29th August

Time	Session	Room
9:00-10:20	Parallel Symposia	
9:00-10:20	Symposium MED-15: Short Communications on Skin Photobiology Chair: Yolanda Gilaberte (Spain)	Zafir Room
9:00 - 9:10	OC - How to protect skin from visible light: models and methods of protection Eduardo Ruvolo (USA)	
9:10 - 9:20	OC - The Dutch solar intensity action plan Arjan van Dijk (Netherlands)	
9:20 - 9:30	OC - Identification of two independent UVB-induced cell death pathways in human dermal fibroblasts Anne-Sophie Gary (Canada)	
9:30 - 9:40	OC - Harnessing ultraviolet light to reduce metabolic dysfunction through nitric oxide Shelley Gorman (Australia)	
9:40 - 9:50	OC - Efficacy evaluation of an antioxidant complex on visible light-induced biologic effects Henry Lim / Indermeet Kohli (USA)	
9:50 - 10:00	OC - A role for vitamin D compounds in the prevention of melanoma Furkan Ince (Australia)	
10:00 - 10:10	OC - In silico simulation of the effect of sunscreen on direct DNA damage in different skin types Isla Barnard (UK)	
10:10 - 10:20	OC - Broad spectrum photoprotective potential of the macroalgae extracts from Gracilariopsis tenuifrons and Sargassum spp from Colombian Caribbean Stefanie Rincón Valencia (Colombia)	

Full Program

Thursday, 29th August

Time	Session	Room
9:00-10:20	Symposium MED-3: Photoimmunology and Photocarcinogenesis Chair: Scott Byrne (Australia)	Coral + Cristal Room
9:00 - 9:16	IL - Mechanisms by which narrowband UVB phototherapy may reduce conversion to multiple sclerosis by people with clinically isolated syndrome, a pre-form of MS Prue Hart (Australia)	
9:16 - 9:32	OC - Ultraviolet radiation lowers BP in a large haemodialysis cohort Richard Weller (UK)	
9:32 - 9:48	IL - Immunological mechanisms underlying successful phototherapy Peter Wolf (Austria)	
9:48 - 10:04	IL - Will holiday exposure to UVR change your immunity? Joanna Narbutt (Poland)	
10:04 - 10:20	IL - Immunomodulation of UV-induced immune suppression: the impact on squamous cell carcinoma establishment James Wells (Australia)	
9:00-10:20	Symposium PCHEM-9: Molecular Modelling and Simulation in Photobiological Systems Chair: Antonio Monari (France)	Rubí Room
9:00 - 9:20	IL - Photosensitization and photolesions production and evolution in DNA Antonio Monari (France)	
9:20 - 9:40	IL - QM/MM insights into the binding and chemistry of DNA photosensitizers Elise Dumont (France)	
9:40 - 10:00	IL - Photophysics and Photochemistry of Guanine Quadruplexes: insights from Quantum Mechanical calculations Roberto Improta (Italy)	
10:00 - 10:20	IL - The molecular mechanisms of light adaption in light-harvesting complexes of purple bacteria revealed by a multiscale modeling Michele Nottoli (Italy)	

Full Program

Thursday, 29th August

Time	Session	Room
9:00-10:20	Symposium PDT-3: Combination of PDT With Other Treatment Modalities Chair: Elena Reddi (Italy)	Verdi Room
9:00 - 9:20	IL - Developing light-based combination strategies to overcome resistance mechanisms in pancreatic cancer Pilar Acedo (UK)	
9:20 - 9:40	IL - Co-delivery of PDT photosensitizers and chemotherapeutics by nanoparticles favors synergic effects of combined treatments Elena Reddi (Italy)	
9:40 - 10:00	IL - Photodynamic therapy in the combined modality setting: Fluence rate as a factor Theresa Busch (USA)	
10:00 - 10:20	IL - Exploration of advanced photodynamic molecular beacons and nanophotosensitizing systems for targeted and enhanced photodynamic therapy Pui-Chi Lo (China)	
9:00-10:20	Symposium PLANT-3: Photoprotection in Photosynthetic Organisms Chair: Diana Kirilovsky (France)	Rossini I Room
9:00 - 9:20	IL - The mechanism of the OCP-FRP interaction regulating photoprotection in cyanobacteria Nikolai Sluchanko (Russian Federation)	
9:20 - 9:40	IL - Photoprotection in diatoms Claudia Büchel (Germany)	
9:40 - 10:00	IL - Algal photoprotection: Mechanism and signal transduction Jun Minagawa (Japan)	
10:00 - 10:20	IL - Dynamic feedback of the photosystem II reaction centre on photoprotection in plants Herbert van Amerongen (Netherlands)	

Full Program

Thursday, 29th August

Time	Session	Room
9:00-10:20	Symposium SENS-3: Retinal Proteins in Animals, Mechanisms. Vision Chair: Oliver Ernst (Canada)	Diamante Room
9:00 - 9:20	IL - Insights into the interaction between rhodopsin and its binding partners Oliver Ernst (Canada)	
9:20 - 9:40	IL - Molecular mechanism of arrestin binding to rhodopsin Vsevolod Gurevich (USA)	
9:40 - 10:00	IL - Structural and functional modulation of rod visual receptor, rhodopsin by non-retinoid small molecules derived from natural products Beata Jastrzebska (USA)	
10:00 - 10:20	IL - Efficiency of rod transduction activation by a single opsin molecule Vladimir Kefalov (USA)	
10:20-10:50	Coffee break	Exhibit Area
10:50-12:00	Parallel Symposia (Cont) /Keynote Lecture 7	Zafir Room
10:50-12:00	Symposium MED-15: Short Communications on Skin Photobiology Chair: Salvador González (Spain)	
10:50 - 11:00	OC - The cytoprotective potential of novel mitochondria-targeted iron chelators against UVA- and hydrogen peroxide-mediated oxidative cell death in Friedreich's ataxia fibroblasts Charareh Pourzand (UK)	
11:00 - 12:00	Keynote Lecture 7 Hot topics in photoprotection Yolanda Gilaberte (Spain)	

Full Program

Thursday, 29th August

Time	Session	Room
10:50-12:00	Symposium MED-3: Photoimmunology and Photocarcinogenesis Chair: Scott Byrne (Australia)	Coral + Cristal Room
10:50 - 11:00	OC - UVR life dose, skin phototype and skin cancer risk. □ Determined through their common relationship to solar lentiginos Peter Alshede Philipsen (Denmark)	
11:00 - 11:16	IL - Protection against UV-induced immunosuppression and carcinogenesis by oral treatment with a probiotic molecule. Daniel Gonzalez Maglio (Argentina)	
11:16- 11:32	IL - Platelet-activating Factor and UVB responses Jeffrey B. Travers (USA)	
11:32 - 11:48	IL - Exposure to ultraviolet radiation alters the skin-draining lymph node and plasma lipidome Scott Byrne (Australia)	
11:48 - 12:00	OC - Epigenetic Response of different cSCC (cutaneous Squamous Cell Carcinoma) cell lines to UV irradiation: Impact of UV-radiation modulated miRNAs in tumor progression and metastasis Rüdiger Greinert (Germany)	
10:50-12:00	Symposium PCHEM-9: Molecular Modelling and Simulation in Photobiological Systems Chair: Antonio Monari (France)	Rubí Room
10:50 - 11:10	IL - Modeling rhodopsin photosensitization to explain red vision Marco Marazzi (Spain)	
11:10 - 11:30	IL - Photo- and chemi-induced excited-state chemistry of interest in biology and medicine: DNA repair, luminol, and night vision Daniel Roca-Sanjuán (Spain)	
11:30 - 11:50	IL - Theoretical studies of bioluminescence of fireflies : how to predict the color ? Isabelle Navizet (France)	
11:50 - 12:00	OC - A QSPR study of triplet state photogeneration and singlet oxygen ($^1\Delta_g$) formation by organic photosensitizers Andrey Buglak (Russian Federation)	

Full Program

Thursday, 29th August

Time	Session	Room
10:50-12:00	Symposium PDT-3: Combination of PDT With Other Treatment Modalities Chair: Elena Reddi (Italy)	Verdi Room
10:50 - 11:10	IL - IL - Photodynamic Therapy (PDT)-inspired combinations: a special place in therapeutics? Tayyaba Hasan (USA)	
11:10 - 11:30	IL - Title to be confirmed Ferry Ossendorp (Netherlands)	
11:30 - 11:35	OC - Giving nanomedicine a boost: Increasing tumor nanoparticle uptake with subtherapeutic photodynamic therapy Marta Overchuk (Canada)	
11:35 - 11:40	OC - Rose Bengal-(KLAKLAK)2: a photosensitizer-peptide conjugate for treatment of melanoma Simon Porter (UK)	
11:40 - 11:45	OC - Photodynamic therapy (PDT) with TPCS2a/fimaporfin is equally efficient in ALDHdim and ALDHbright colon cancer cells Judith Jing Wen Wong (Norway)	
11:45 - 11:50	OC - Novel theranostic phototherapeutic metalloporphyrins for PDT and radiotherapy Jordon Sandland (UK)	
11:50 - 11:55	OC - Photodynamic therapy and Photochemical internalisation treatments in tumouroid models of ovarian cancer Layla Mohammad- Hadi (UK)	
11:55 - 12:00	OC - Indocyanine Green Loaded APTMS coated SPIONs for dual phototherapy of cancer and biofilms Kubra Bilici (Turkey)	
10:50-12:00	Symposium PLANT-3: Photoprotection in Photosynthetic Organisms Chair: Diana Kirilovsky (France)	Rossini I Room
10:50 - 11:10	IL - Regulation of photosynthetic light reactions □ an evolutionary perspective Eva-Mari Aro (Finland)	
11:10 - 11:30	IL - Structural adaptations of photosynthetic complex I enable ferredoxin-dependent electron transfer Marc M. Nowaczyk (Germany)	
11:30 - 11:50	IL - Cyanobacterial state transitions Diana Kirilovsky (France)	
11:50 - 11:55	OC -Non-photochemical quenching mechanisms in various photosynthetic proteins Tomas Polivka (Czech Republic)	
11:55 - 12:00	OC -Molecular anatomy of plant photoprotective switches: the sensitivity of PsbS to the environment, residue by residue Nicoletta Liguori (Netherlands)	

Full Program

Thursday, 29th August

Time	Session	Room
10:50-12:00	Symposium SENS-3: Retinal Proteins in Animals, Mechanisms. Vision Chair: Oliver Ernst (Canada)	Diamante Room
10:50 - 11:10	IL - Dark adaptation and light protection in vertebrate vision molecular evolution Pere Garriga (Spain)	
11:10 - 11:30	IL - Rhodopsin dynamics using an X-ray free electron laser. Valérie Panneels (Switzerland)	
11:30 - 11:50	IL - Coherent multidimensional studies of rhodopsin and bacteriorhodopsin \square strong vibrational nonadiabatic coupling \square sees \square the light R. J. Dwayne Miller (Germany)	
12:00-13:00	Plenary Lecture 2 Chair: Emilio Alarcón (Canada) Using light deep in the body Seok-Hyun Andy Yun (USA)	Verdi Room
13:45-14:45	Sponsored Satellite Lunch /Symposium Clinuvel Keynote presentation – Prof Colin Goding on the interaction of melanocytes and light	Verdi Room
15:00-17:30	Parallel Symposia	
15:00-17:30	Symposium ENV-5: Stomatal Responses to Light Chair: Alistair M. Hetherington (UK)	Coral + Cristal Room
15:00 - 15:20	IL - Stomatal responses to UV-A Alistair Hetherington (UK)	
15:20 - 15:40	IL - Metabolomics of red light-induced stomatal opening Sarah M. Assmann (USA)	
15:40 - 16:00	IL - Stomatal blue light response: impact on assimilation and water use efficiency Tracy Lawson (UK)	
16:00 - 16:20	IL - Optogenetic manipulation of stomatal kinetics improves plant growth and water use efficiency John Christie (UK)	
16:20 - 16:40	IL - Uncoupling daytime and nighttime stomatal dynamics Florent Pantin (France)	
16:40 - 17:00	IL - Environmental regulation of stomatal development Stuart Casson (UK)	
17:00 - 17:20	IL - Blue-light-induced guard cell starch degradation is required for fast stomatal opening kinetics Diana Santelia (Switzerland)	

Full Program

Thursday, 29th August

Time	Session	Room
15:00-17:30	Symposium MED-12: Synchrotron Radiation Chair: Peter Wobrauschek (Austria)	Zafir Room
15:00 - 15:30	IL - Review: Chemical imaging of biological samples at the micro- / nanometer scale using Synchrotron Radiation Peter Wobrauschek (Austria)	
15:30 - 16:00	IL - Assessing the effects of ovarian cancer treatments through Synchrotron radiation based X-ray analysis Brecht Laforce (Belgium)	
16:00 - 16:30	IL - Targeting antitumor copper complexes and imaging using synchrotron radiation at the cellular level Norbert Szoboszlai (Hungary)	
16:30 - 17:00	IL - Gadolinium mapping in bone by XRF spectroscopy Anna Turyanskaya (Austria)	
15:00-17:30	Symposium PCHEM-3: Nanobioplasmonics Chair: Belinda Heyne (Canada)	Rubí Room
15:00 - 15:20	IL - A photothermal lateral flow test for visual point of care detection Jesus M. de la Fuente (Spain)	
15:20 - 15:40	IL - Plasmonics with viruses Amy S. Blum (Canada)	
15:40 - 16:00	IL - Application of Surface-enhanced Raman scattering (SERS) for imaging bacterial bioactive metabolites Gustavo Bodelon (Spain)	
16:00 - 16:20	IL - Photoluminescence properties of biogenic and chemogenic selenium nanoparticles Elena Piacenza (Canada)	
16:20 - 16:40	OC- Evaluation of cell damage induced by irradiated Zinc-Phthalocyanine-gold dendrimeric nanoparticles in a breast cancer cell line Heidi Abrahamse (South Africa)	
16:40 - 17:00	IL - Plasmon-enhanced singlet oxygen production using hybrid metallic nanoparticles Belinda Heyne (Canada)	

Full Program

Thursday, 29th August

Time	Session	Room
15:00-17:30	Symposium PDT-10: PDT For Treatment of Inflammatory Diseases Chair: Qian Peng (Norway)	Verdi Room
15:00 - 15:20	IL - Extracorporeal photochemotherapy/ photopheresis Robert Knobler (Austria)	
15:20 - 15:40	IL - Modification of extracorporeal photopheresis with 5-aminolevulinic acid Qian Peng (Norway)	
15:40 - 16:00	IL - Photodynamic therapy can induce a non-specific protective immune response against bacterial arthritis Michael R. Hamblin (UK)	
16:00 - 16:20	IL - Photodynamic treatment (PDT) of an autoimmune, inflammatory disease of the oral mucosa Sigrid I. Kvaal (Norway)	
16:20 - 16:40	IL - Tumor PDT and stress signaling associated inflammation Mladen Korbelik (Canada)	
16:40 - 17:00	OC- Biologically-active phthalocyanines for target-specific antimicrobial PDT Vanya Mantareva (Bulgaria)	
17:00 - 17:20	IL - Clinical applications of ALA-PDT for healing of ulcers infected by methicillin-resistant Staphylococcus aureus or antibiotic-resistant Pseudomonas aeruginosa Motowo Nakajima (Japan)	

Full Program

Thursday, 29th August

Time	Session	Room
15:00-17:30	Symposium PLANT-1: Light Harvesting Complexes Chair: Noam Adir (Israel)	Rossini I Room
15:00 - 15:20	IL - Light harvesting by photosystem I: in vitro vs. in vivo Roberta Croce (Netherlands)	
15:20 - 15:40	IL - Searching for pigment clusters catalysing photoprotective response in the antenna system of higher plants Luca Dall'Osto (Italy)	
15:40 - 16:00	IL - Distributing the energy between Photosystem I and Photosystem II Emilie Wientjes (Netherlands)	
16:00 - 16:20	IL - Tuning energy transfer efficiency in light harvesting antenna of marine cyanobacteria in response to light intensity Nir Keren (Israel)	
16:20 - 16:40	IL - Phycocyanin can be significantly red-shifted in <i>A. marina</i> Phycobilisomes Noam Adir (Israel)	
16:40 - 17:00	IL - Phycobilisomes – secret life Michal Gwizdala (South Africa)	
17:00 - 17:20	IL - Construction of genetically encoded fluorescent temperature sensor derived from the photoactive Orange Carotenoid Protein Eugene G. Maksimov (Russian Federation)	
17:20 - 17:25	OC - Regulation of the photosynthetic light harvesting requires only the proton gradient and the major LHCII antenna complex. Alexander Ruban (UK)	
17:25 - 17:30	OC - Micro-scattering spectroscopy combined with PAM chlorophyll fluometry for simultaneous investigation of optical properties and photosynthesis Johannes Wilhelm Goessling (Portugal)	

Full Program

Thursday, 29th August

Time	Session	Room	
15:00-17:30	Symposium SENS-6: Flavin-Based Photofunctional Proteins. Evolution, Function and Applications Chair: Aba Losi (Italy)	Diamante Room	
15:00 - 15:20	IL - Comparative studies of LOV switching mechanisms and characteristics Kevin Gardner (USA)		
15:20 - 15:40	IL - Computational and structural studies of LOV domain photoreceptors reveals evolutionary selection of a divergent signaling pathway Brian Zoltowski (USA)		
15:40 - 16:00	IL - Light signal transduction through the global regulator BlsA, a BLUF-type photoreceptor from the human pathogen <i>Acinetobacter baumannii</i> María Alejandra Mussi (Argentina)		
16:00 - 16:20	IL - BLUF domain structural dynamics probed by the ultrafast transient infrared response of the noncanonical amino acid azidophenylalanine Stephen Meech (UK)		
16:20 - 16:40	IL - Controlling nucleic acids by light Andreas Möglich (Germany)		
16:40 - 17:00	IL - Flavin-binding fluorescent proteins as genetically-encoded singlet oxygen photosensitizers. Joaquim Torra (Spain)		
17:00 - 17:20	IL - Blue light photoreceptors from plant symbiotic bacteria Aba Losi (Italy)		
17:20 - 17:25	OC - Bioluminescence driven control of photosensory proteins Emmanuel Crespo (USA)		
17:25 - 17:30	OC - Insights into signal transduction in light-oxygen-voltage (LOV) receptors Julia Dietler (Germany)		
19:00-00:00	Gala Dinner and Medal Award Ceremony Finca Mas Solers <i>(Limited Places - ticket only)</i> Transport leaving Crowne Plaza 19.00		

Full Program

Friday, 30th August

Time	Session	Room
9:00-10:20	Parallel Symposia	
9:00-10:20	Symposium MED-1: DNA-Repair Chair: Kaoru Sugasawa (Japan)	Zafir Room
9:00 - 9:20	IL - Chromatin dynamics regulating recognition of UV-induced DNA photolesions Kaoru Sugasawa (Japan)	
9:20 - 9:40	IL - DNA damage detection in nucleosomes involves DNA register shifting Nicolas H. Thomä (Switzerland)	
9:40 - 10:00	IL - Structure and mechanism of pyrimidine-pyrimidone (6-4) photoproduct recognition by the Rad4/XPC nucleotide excision repair complex Jung Hyun Min (USA)	
10:00 - 10:20	IL - The XPA scaffold protein in the repair of UV-induced DNA lesions by human nucleotide excision repair Orlando D. Schärer (Republic of Korea)	
9:00-10:20	Symposium MED-2: Ocular Photobiology Chair: Joan Roberts (USA)	Coral + Cristal Room
9:00 - 9:20	IL - Review of Light Damage to the Human Eye Joan E. Roberts (USA)	
9:20 - 9:40	IL - A comparison of the anti-/pro-oxidative mechanisms of lutein, zeaxanthin and other carotenoids. Terence George Truscott (UK)	
9:40 - 10:00	IL - In vitro phototoxicity of RPE melanosomes and melanolipofuscin granules from older human donors Tadeusz Sarna (Poland)	
10:00 - 10:20	IL - Correcting for color blindness with assistive filters and light sources Donald McPherson (USA)	
9:00-10:20	Symposium PCHEM-7: DNA Damage Chair: Thierry Douki (France)	Rubí Room
9:00 - 9:20	IL - Looking at photosensitized damage in DNA and beyond Lluís Blancafort (Spain)	
9:20 - 9:40	IL - Effect of sequence context and sensitizer on direct and photosensitized photoproduct formation in DNA. John-Stephen Taylor (USA)	
9:40 - 10:00	IL - Formation of cyclobutane pyrimidine dimers by triplet energy transfer Miguel Miranda (Spain)	
10:00 - 10:20	IL - UV-induced genotoxic pathways leading to melanoma Thierry Douki (France)	

Full Program

Friday, 30th August

Time	Session	Room
9:00-10:20	Symposium PDT-5: Environmental aPDT Chair: Kristjan Plaetzer (Austria)	Verdi Room
9:00 - 9:20	IL - Using lignin for Antimicrobial PhotoDynamic Treatment Stéphanie Leroy-Lhez (France)	
9:20 - 9:40	IL - An insight into the potentiation effect of potassium Iodide on antimicrobial PDT efficacy M. Amparo F. Faustino (Portugal)	
9:40 - 10:00	IL - An efficient formulation based on cationic porphyrins to photoinactivate Gram positive and Gram negative bacteria: in vitro and ex vivo evaluation. Adelaide Almeida (Portugal)	
10:00 - 10:20	IL - Photodynamic materials for infection prevention in hospital environments Reza Ghiladi (USA)	
9:00-10:20	Symposium PLANT-10: Photoreceptors and Plant Development Chair: Carlos Ballaré (Argentina)	Rossini I Room
9:00 - 9:20	IL - Molecular basis of plant responses to UV-B Gareth Jenkins (UK)	
9:20 - 9:40	IL - Blinded by the light - chloroplast retrograde signals suppress seedling photomorphogenesis Charlotte Gommers (Netherlands)	
9:40 - 10:00	IL - Phytochrome signaling and the control of photomorphogenesis Meng Chen (USA)	
10:00 - 10:20	IL - Far-Red induced shoot-root signaling by a mobile transcription factor HY5 Kasper van Gelderen (Netherlands)	
9:00-10:20	Symposium SENS-4: Non-Visual and Non-Classical Animal Photoreceptors Chair: Akihisa Terakita (Japan)	Diamante Room
9:00 - 9:20	IL - Non-visual and non-classical animal photoreceptors: contribution of bistable nature of opsin to non-visual photoreception in teleost pineal organs Akihisa Terakita (Japan)	
9:20 - 9:40	IL - Vertebrate cryptochromes: Multiple roles in photoreception, photoperiodic time measurement, and magnetoreception Toshiyuki Okano (Japan)	
9:40 - 10:00	IL - From the structure of vertebrate and invertebrate rhodopsins to new applications in optogenetics Gebhard F.X. Schertler (Switzerland)	
10:00 - 10:20	IL - Opsins in the mammalian inner retina Jessica Rodgers (UK)	

10:20-10:50 **Coffee break**

Exhibit Area

Full Program

Friday, 30th August

Time	Session	Room
10:50-12:00	Parallel Symposia (Cont)	
10:50-12:00	Symposium MED-1: DNA-Repair Chair: Kaoru Sugasawa (Japan)	Zafir Room
10:50 - 11:10	IL - Detection of the sedDNA products of nucleotide excision repair in UVB-irradiated human skin Michael Kemp (USA)	
11:10 - 11:30	IL - Ubiquitin-mediated regulation of Nucleotide Excision Repair Wim Vermeulen (Netherlands)	
11:30 - 11:50	IL - Consequence of chronic low-dose UVB pre-stimulation of skin cells on their capacity to repair cyclobutane pyrimidine dimers Patrick J Rochette (Canada)	
11:50 - 11:55	OC - Molecular mutagenicity of cyclobutane pyrimidine dimer in mouse skin Hironobu Ikehata (Japan)	
11:55 - 12:00	OC - Insights of an Antarctic class II CPD-photolyase from the UVC-resistant strain <i>Sphingomonas</i> sp. UV9 Juan Jose Marizcurrena (Uruguay)	
10:50-12:00	Symposium MED-2: Ocular Photobiology Chair: Joan Roberts (USA)	
10:50 - 11:10	IL - Oxidized docosahexaenoate as the major photosensitizing component of retinal lipofuscin contributing to lipofuscin fluorescence Malgorzata Rozanowska (UK)	
11:10 - 11:30	IL - Photooxidation mediated by 11-cis and all-trans retinal in single photoreceptors Yiannis Koutalos (USA)	
11:30 - 11:50	IL - Estimating retinal exposures of intrinsically photosensitive retinal ganglion cells (ipRGCs) David Sliney (USA)	
11:50 - 11:55	OC - Acute epithelial cell dynamic responses to low dose UV radiation. Guy Lyons (Australia)	
11:55 - 12:00	OC - In vitro phototoxicity of rhodopsin photobleaching products in the retinal pigment epithelium (RPE) and the effect of antioxidants Magdalena Olchawa (Poland)	

Full Program

Friday, 30th August

Time	Session	Room
10:50-12:00	Symposium PCHEM-7: DNA Damage Chair: Thierry Douki (France)	Rubí Room
10:50 - 11:10	IL - DNA damage in human skin: Impact of wavelength and skin type Antony Young (UK)	
11:10 - 11:30	OC - Biphotonic chemistry of pyrimidine derivatives Ofelia R. Alzueta (Spain)	
11:30 - 11:50	OC - Photokinetics and photostabilisation of ethylhexyl methoxycinnamate Bernd Herzog (Germany)	
10:40-12:00	Symposium PDT-5: Environmental aPDT Chair: Kristjan Plaetzer (Austria)	Verdi Room
10:40 - 11:00	IL - Delivering photosensitizers with proteins: a biocompatible and low-cost approach for photosensitization-based food decontamination Pietro Delcanale (Spain)	
11:00 - 11:20	IL - Chlorophyllin-based photosensitization as innovative nonthermal approach to enhance microbial safety of fresh produce Zivile Luksiene (Lithuania)	
11:20 - 11:40	IL - Photodynamic control of Aedes aegypti larvae by using eosin methylene blue as photosensitizer Anderson R.L. Caires (Brazil)	
11:40 - 12:00	IL - Save the crop: Photodynamic inactivation based on chlorin e6 derivatives against phytopathogenic fungi and bacteria Kristjan Plaetzer (Austria)	
10:50-12:00	Symposium PLANT-10: Photoreceptors and Plant Development Chair: Carlos Ballaré (Argentina)	Rossini I Room
10:50 - 11:10	IL - The control of flowering transition in the presence of competing neighbors Vinicius Costa Galvão (Switzerland)	
11:10 - 11:30	IL - Soil salinity inhibits plant shade-avoidance Scott Hayes (Spain)	
11:30 - 11:50	IL - A light-dependent molecular link between growth and defense responses in Arabidopsis Carlos Ballaré (Argentina)	

Full Program

Friday, 30th August

Time	Session	Room
10:50-12:00	Symposium SENS-4: Non-Visual and Non-Classical Animal Photoreceptors Chair: Akihisa Terakita (Japan)	Diamante Room
10:50 - 11:10	IL - Phototransduction pathways in intrinsically-photosensitive retinal ganglion cells (ipRGCs) Zheng Jiang (USA)	
11:10 - 11:30	IL - Physiological function of non-classical photoreceptors in vertebrate retina: Retinal photoreceptors regulating light-induced body color changes in zebrafish Daisuke Kojima (Japan)	
11:30 - 11:50	IL - Retinal Muller glial cells in the developing retina of birds express the non-visual opsin Opn3 and respond to blue light Mario Eduardo Guido (Argentina)	
12:00-13:00	Finsen Medal Lecture 2 Chair: Evelyne Sage (France) Time-resolved energetics and structural volume changes in photosensor proteins Silvia Braslavsky (Germany)	Verdi Room
13:00-13:45	Official Congress Group Photo (Leaving from hotel lobby at 13.10)	
13:45-14:45	Lunch	
15:00-16:00	Finsen Medal Lecture 3 Chair: Franz Trautinger (Austria) The future of photodermatology Henry W. Lim (USA)	Verdi Room
16:00-17:20	Parallel Symposia	
16:00-17:20	Symposium MED-4: Photoaging Chair: Rachel Watson (UK)	Zafir Room
16:00 - 16:20	IL - The pathophysiology of photodamage Rachel Watson (UK)	
16:20 - 16:40	IL - UV-induced photodamage in skin of colour Abigail Langton (UK)	
16:40 - 17:00	IL - Title to be confirmed Giuseppe Valacchi (USA)	
17:00 - 17:20	IL - Combined exposure to UVA1 and polycyclic aromatic hydrocarbons impairs histological quality in reconstructed epidermis Ariane Dimitrov (France)	

Full Program

Friday, 30th August

Time	Session	Room
16:00-17:20	Symposium MED-7: Imaging Chair: Harvey Lui (Canada)	Coral + Cristal Room
16:00 - 16:20	IL - Confocal microscopy: Where are we in 2019? Salvador González Rodríguez (Spain)	
16:20 - 16:40	IIIL - Can confocal microscopy predict molecular behavior in skin tumors? Francesca Farnetani (Italy)	
16:40 - 17:00	IL - Polarization speckle and in vivo skin applications Tim Lee (Canada)	
17:00 - 17:20	IL - Are light based diagnostic methods too sensitive for skin cancer? Franz Trautinger (Austria)	
16:00-17:20	Symposium PCHEM-8: Artificial Photosynthesis Chair: Ana Moore (USA)	
16:00 - 16:20	IL - Engineering quantum coherence in bio-inspired systems for efficient solar-energy conversion Elisabet Romero (Spain)	
16:20 - 16:40	IL - Carotenoids crystalloids inside chromoplasts exhibit singlet exciton fission Manuel Llansola-Portoles (France)	
16:40 - 17:00	IL - Molecular modules for artificial photosynthesis Ally Aukauloo (France)	
17:00 - 17:20	IL - Artificial photosynthesis at low pH Javier Concepcion (USA)	
16:00-17:20	Symposium PDT-4: Human Antimicrobial PDT Chair: Tim Maisch (Germany)	Verdi Room
16:00 - 16:20	IL - Antimicrobial photodynamic therapy for inactivation of bacterial biofilms Fabian Cieplik (Germany)	
16:20 - 16:40	IL - Must have or nice to have- mathematical aspects for analysis of antimicrobial photodynamic therapy data Karl-Anton Hiller (Germany)	
16:40 - 17:00	IL - Human topical antimicrobial photodynamic therapy (aPDT) Alison Mackay (UK)	
17:00 - 17:20	IL - Antifungal photodynamic treatment: from Candida and Trichophyton spp. to new emerging pathogens Gilberto Ú. L. Braga (Brazil)	

Full Program

Friday, 30th August

Time	Session	Room
16:00-17:20	Symposium PLANT-8: Circadian Clock in Plants, Algae and Cyanobacteria Chair: David Somers (USA)	Rossini I Room
16:00 - 16:20	IL - A role for the nuclear pore in nucleocytoplasmic partitioning and the maintenance of temperature compensation in the plant circadian clock David Somers (USA)	
16:20 - 16:40	IL - How proteins can tell time Andy LiWang (USA)	
16:40 - 17:00	IL - Phytochrome interacting factor: regulation of photosynthetic entrainment of the plant circadian oscillator Rachel Green (Israel)	
17:00 - 17:20	IL - Dynamic plasticity of the arabidopsis circadian oscillator in response to sugar signals Alex Webb (UK)	
16:00-17:20	Symposium SENS-1: Retinal Proteins in Microbes: Diversity and Mechanisms Chair: Hideki Kandori (Japan)	Diamante Room
16:00 - 16:20	IL - Dynamics of bacteriorhodopsin activation studied at synchrotrons and x-ray lasers Joerg Standfuss (Switzerland)	
16:20 - 16:40	IL - Proton transfer reactions in retinal proteins: from bacteriorhodopsin to channelrhodopsin-2 Victor A. Lorenz-Fonfria (Spain)	
16:40 - 17:00	IL - Natural anion channelrhodopsins (ACRs): diversity and mechanisms Elena G. Govorunova (USA)	
17:00 - 17:20	IL - A bottom-up approach to utilizing microbial rhodopsins for optogenetics Yuki Sudo (Japan)	
17:20-17:50	Coffee break	Exhibit Area

Full Program

Friday, 30th August

Time	Session	Room
17:50-19:00	Parallel Symposia (Cont)	
17:50-19:00	Symposium MED-4: Photoaging Chair: Rachel Watson (UK)	Zafir Room
17:50 - 18:10	IL - Benefits of UVR exposure: studying the impact of age and ethnicity on cutaneous vitamin D production Mark Farrar (UK)	
18:10 - 18:30	IL - Title to be confirmed Mike Bell (UK)	
18:30 - 18:40	OC - Infrared and visible light in sun damage Catherine Bonn (UK)	
17:50-19:00	Symposium MED-7: Imaging Chair: Harvey Lui (Canada)	Coral + Cristal Room
17:50 - 18:10	IL - In vivo multiphoton multimodality microscopy imaging and multiphoton photothermolysis therapy Haishan Zeng (Canada)	
18:10 - 18:30	IL - Non-invasive detection of skin cancer using Raman Spectroscopy Sunil Kalia (Canada)	
18:30 - 18:50	IL - Multimodal optical evaluation of vitiligo Harvey Lui (Canada)	
18:50 - 18:55	OC - Longitudinal study of the skin responses to uvb challenges using non-invasive multimodality microscopy Giselle (Yunxian) Tian (Canada)	
18:55 - 19:00	OC - Automated immuno-histo-enzymatic investigation of metabolic enzyme activity and spatial allocation of UVB-pretreated normal human keratinocytes in epidermal skin equivalents Florian Gruber (Austria)	

Full Program

Friday, 30th August

Time	Session	Room
17:50-19:00	Symposium PCHEM-8: Artificial Photosynthesis Chair: Ana Moore (USA)	Rubí Room
17:50 - 18:10	IL - Multiple proton transfers coupled to a single electron transfer in artificial photosynthetic constructs Ana L. Moore (USA)	
18:10 - 18:30	IL - Charge carrier dynamics in carbon nitride photocatalysts and heterojunctions Robert Godin (Canada)	
18:30 - 18:50	IL - Molecular materials for artificial photosynthesis Antoni Llobet (Spain)	
18:50 - 18:55	OC - ASAPs □ Artificial Simplified Autotrophic Protocells Emiliano Altamura (Italy)	
18:55 - 19:00	OC - Photosynthetic multicompartment artificial cell for ATP production Paola Albanese (Italy)	
17:50-19:00	Symposium PDT-4: Human Antimicrobial PDT Chair: Tim Maisch (Germany)	Verdi Room
17:50 - 18:10	IL - Antimicrobial photodynamic therapy for treatment of oral biofilm associated diseases - where we are Håkon Valen (Norway)	
18:10 - 18:30	IL - General factors that determine bacterial susceptibility to antimicrobial photodynamic inactivation. Joanna Nakonieczna (Poland)	
18:30 - 18:50	IL - Mutants of E. coli, which lack antioxidant enzymes, are more susceptible towards type-1 mechanism of action of photoantimicrobials compared to type-2 photoantimicrobials Tim Maisch (Germany)	
18:50 - 18:55	OC - Antimicrobial photodynamic inactivation and antimicrobial blue light: successful antibiotic adjuvant for the eradication of extensively drug-resistant pathogens and possible tolerance development. Mariusz Grinholc (Poland)	
18:55 - 19:00	OC - Controlled formation and antibacterial activity of phthalocyanine-based nanodots Anzhela Galstyan (Germany)	

Full Program

Friday, 30th August

Time	Session	Room
17:50-19:00	Symposium PLANT-8: Circadian Clock in Plants, Algae and Cyanobacteria Chair: David Somers (USA)	Rossini I Room
17:50 - 18:10	IL - Cellular circadian timekeeping and dynamic regulation of magnesium Gerben van Ooijen (UK)	
18:10 - 18:30	IL - Origination of the circadian clock system in stem cells regulates cell differentiation in <i>Arabidopsis thaliana</i> . Motomu Endo (Japan)	
17:50-19:00	Symposium SENS-1: Retinal Proteins in Microbes: Diversity and Mechanisms Chair: Hideki Kandori (Japan)	Diamante Room
17:50 - 18:10	IL - A new group of Antarctic microbial rhodopsins with inward proton-pumping capability Leonid Brown (Canada)	
18:10 - 18:30	IL - The search for new microbial rhodopsins using metagenomics Oded Beja (Israel)	
18:30 - 18:50	IL - Retinal proteins in microbes: diversity and mechanisms Hideki Kandori (Japan)	
19:00-20:00	Executive Committee Meeting 2	Orotava Room

Sponsors & Exhibitors

