



20th Congress of the European Society for Photobiology

August 27 – 31 2023, Lyon, France

Program



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Program Outline

time	Sunday August 27	Monday August 28	Tuesday August 29	Wednesday August 30	Thursday August 31
08:00 - 08:30				Young investigator Awards	
08:30 - 09:00		information	keynote		keynote
09:00 - 09:30		keynote	keynote		keynote
09:30 - 10:00		3h15 sesssion (part 1)	3h sesssion (part 1)	3½h sesssion (part 1)	3h sesssion (part 1)
10:00 - 10:30					
10:30 - 11:00					
11:00 - 11:30		coffee break	coffee break	coffee break	coffee break
11:30 - 12:00		3h15 sesssion (part 2)	3h sesssion (part 2)	3½h sesssion (part 2)	3h sesssion (part 2)
12:00 - 12:30					
12:30 - 13:00					
13:00 - 13:30		Lunch	Lunch + Posters + EU projects (30 min) + Springer (90 min)	Lunch	Lunch
13:30 - 14:00					
14:00 - 14:30		keynote		3h sesssion (part 1)	keynote
14:30 - 15:00		keynote			3h sesssion (part 1)
15:00 - 15:30		3½h sesssion (part 1)	3h sesssion (part 1)	coffee break	
15:30 - 16:00				3h sesssion (part 2)	coffee break
16:00 - 16:30	registration	coffee break			3h sesssion (part 2)
16:30 - 17:00		3½h sesssion (part 2)	3h sesssion (part 2)	ESP general assembly	
17:00 - 17:30					
17:30 - 18:00					
18:00 - 18:30					
18:30 - 19:00					
19:00 - 19:30	Welcome reception			boat bording	
	inauguration			gala diner	
	keynote				

Sunday August 27

10h00-12h00: Meeting of ESP Executive Committee 1 (Mercure hotel)

16h00-18h30: Registration

INSA (congress venue)

19h00: Welcome reception

Restaurant **La Commune**

Inauguration

On behalf of the executive committee of the European Society for Photobiology

Amparo Faustino (president of ESP)

Welcome to ESP 2023

Thierry Douki (chair of the local organizing committee)

In the memory of Herbert Hönigsmann, ESP founding board member and ESP president 1989-1991

Franz Trautinger

Keynote lecture:

Chairperson: Amparo Faustino (Aveiro, Portugal)

Silvia Braslavsky (Mülheim an der Ruhr, Germany)

Photoscience as a Bridge to Peace

Monday August 28

Morning

8h30-8h45 Welcome words and practical information (main lecture hall)

8h45-9h15 Keynote Lecture (main lecture hall)

Chairperson: Gareth I. Jenkins (Glasgow, UK)

María Gabriela Lagorio (Buenos Aires, Argentina)

Fluorescence of living plants. From space to cells

9h15-13h00 Parallel sessions

Human antimicrobial PDT (ESP-ASP symposium) (main lecture hall)

Chairpersons: Tayyaba Hasan (Boston, USA), Joanna Nakonieczna (Gdansk, Poland)

9h15-11h00:

Invited speakers:

Yanfang Feng and Tayyaba Hasan (Boston, USA)

Portable Quantum Dot Electroluminescent (QDEL) Light Sources for Point of Care Photodynamic Treatment of Deep Wound MDR Infections

Luis Arnaut (Coimbra, Portugal)

How Small Photosensitizers Achieve Big Kills in Antimicrobial Photodynamic Therapy

Yolanda Gilaberte (Zaragoza, Spain)

Antimicrobial PDT in dermatology: combination is the key

Flash presentations:

Annette Wimmer: With blue light against biofilms: Berberine as natural photosensitizer for Photodynamic Inactivation of Gram+ and Gram- bacteria

Cristina Dias: Antimicrobial properties of marine origin materials obtained by a sustainable approach

Lucy Sinclair: Bactericidal Efficacy and Cytotoxic Responses of *Pseudomonas aeruginosa* to Low Irradiance 405-nm Light

11h00-11h30: Coffee break

11h30-13h00:

Invited speakers:

Joanna Nakonieczna (Gdansk, Poland)

Gallium porphyrin derivatives - can they be considered "antimicrobials" or are they just "disinfectants"?

Oral communications:

Francesca Giuntini: Photoantimicrobial activity of porphyrin-functionalised bioactive glass scaffolds

Yue Xiao: Targeted bactericidal activity of ruthenium complexes by NO release under irradiation

Klaudia Szymczak: Photodynamic inactivation with novel gallium metalloporphyrin: the non-antibiotic method to overcome *S. aureus* and *P. aeruginosa* biofilms

Agata Wozniak-Pawlikowska: Novel gallium photosensitizers in light-dependent action as an antivirulence strategy against the *Staphylococcus aureus* and *Pseudomonas aeruginosa*

Melanin: the light and the dark (room 1)

Chairpersons: Antony R. Young (London, UK), Tadeusz Sarna (Krakow, Poland)

9h15-11h00:

Invited speakers:

Tadeusz Sarna (Krakow, Poland)

The physicochemical basis for phototoxicity of melanin pigments

Michal Sarna (Krakow, Poland)

Photoprotective properties of melanin obtained from induced pluripotent stem cell-derived melanocytes

Sandra Del Bino-Nokin (Aulnay-sous-Bois, France)

Melanin content in skin of variable pigmentation and its impact on photoprotection

Oral communication:

Alois W. Schmalwieser: Skin colour and pigmentation of Austrian farming families

11h00-11h30: coffee break

11h30-13h00:

Invited speakers:

Andrea Hanel (Kuopio, Finland)

Skin colour and vitamin D: An archeogenomic approach

Antony R Young (London, UK)

The impact of melanin on vitamin D synthesis

Oral communication:

Ana Borrego-Sánchez: Towards the understanding of the interaction of melanin dioxetanes with DNA

Joanna Turner: Estimation of erythema radiation reflectance based on photopic weighted reflected irradiance

Plants, UV radiation, and environmental change (room 2)

Chairperson: Janet Bornman (Perth, Australia)

9h15-11h00:

Invited speakers:

Germar Bernhard (San Diego, USA)

The benefits of the Montreal Protocol for stratospheric ozone, UV radiation, climate, and the biosphere

Barry Lomax (Loughborough, UK)

Stratospheric ozone collapse, UV-B radiation, and the end-Permian mass extinction

Jorunn Olsen (Ås, Norway)

Does UV-B radiation affect plant responses to ionising radiation and vice versa?

11h00-11h30: coffee break

11h30-12h05:

Invited speakers:

Anthony Andradý (Rayleigh, USA)

UV Radiation, Microplastics, and Biology

Flash presentation:

Sheona Noemi Innes: Photochemical and growth response to inclusion of algal biomass in the growth medium of lettuce (*Lactuca sativa*).

Bioluminescence (room 3)

Chairpersons: Elisa Michelini (Bologna, Italy), Daniel Roca-Sanjuan (Valencia, Spain),

Invited speakers:

9h15-11h00:

Invited speakers:

Elisa Michelini (Bologna, Italy)

The contribution of bioluminescence to the 2030 Agenda for Sustainable Development: novel biosensors for point-of-need applications

Daniel Roca-Sanjuan (Valencia, Spain)

On the electronic-structure features of the chemical excitation phenomena

Isabelle Navizet (Paris, France)

Bioluminescent systems: challenges in modelling their absorption and emission spectra

Oral communications:

Sergio Adan-Bermudez: Detection of endogenous porphyrins in bacteria using hollow-core photonic crystal fibres

11h00-11h30: coffee break

11h30-13h00:

Invited speakers:

Martin Marek (Brno, Czech Republic)

Illuminating the mechanism and allosteric behavior of NanoLuc luciferase

Oral communications:

Juliana Cuéllar-Zuquin: Unravelling the mechanism of melanin dioxetane chemiexcitation in the context of DNA damage

Houda Moumene: QM/MM calculations and spectra modelling of the Nanoluc-Furimamide bioluminescent system

Josep Alberola Boloix: Chemiexcitation of indole-like biomolecules and their role in DNA damage: a quantum-chemistry perspective

Flash presentations:

Mathilde Seinfeld: A joint experimental and computational study on the influence of packing on organic compounds luminescence and singlet oxygen generation in the condensed phase

Dario Santantonio: Developing a SWIR/NIR Imaging System for Singlet Oxygen Detection in Biologically Relevant Environments

13h00 – 14h00 Lunch

Afternoon

14h00-14h30 Keynote Lecture (main lecture hall)

Chairperson: Franz Trautinger (Wien, Austria)

Janet Bornman (Perth, Australia)

ESP, a life dedicated to all things photo and biological

14h30-15h00 Keynote Lecture (main lecture hall)

Chairperson: Santi-Nonell (Barcelona, Spain)

Michel Sliwa (Lille, France)

The synergy of time-resolved optical spectroscopy and crystallography to reveal the mechanism of photo-switchable proteins.

15h00-19h00 Parallel sessions

Photoprotection (main lecture hall)

Symposium sponsored by **NAOS**

Chairpersons: Henry Lim (Detroit, USA), Yolanda Gilaberte (Zaragoza, Spain), Hamid-Reza Rezvani (Bordeaux, France)

15h00-16h30:

Invited speakers:

Hamid-Reza Rezvani (Bordeaux, France)

DNA repair-deficient models, useful tools for assessing the mechanism of natural photoprotection and property of photoprotective agents

Sandra Trompezinski (Aix-en-Provence, France)

In vivo biomarkers study to evaluate photoprotection products

Antony R. Young (London, UK)

Light sources for phototesting of sunscreens

16h30-17h00: Coffee break

17h00-19h00:

Invited speakers:

Yolanda Gilaberte (Zaragoza, Spain)

New developments in UV filters

Henry Lim (Detroit, USA)

Personalized photoprotection

Salvador González Rodríguez (Madrid, Spain)

Natural photoprotective agents

Oral communications:

Furkan Akif Ince: Photoprotection by Vitamin D Compounds: Identifying Markers that Predict Efficacy in Preventing Carcinogenesis

Carine Jacques: A multiomic approach to understand solar exposure impact on skin ecosystem and evaluate a new SPF50+ sunscreen efficacy

Emergent PS in PDT (room 1)

Chairpersons: Stéphanie Lhez (Limoges, France), Francesca Giuntini (Liverpool UK)

15h00-16h30:

Invited speakers:

Bruno Therrien (Neuchatel, Switzerland)

Ruthenium Complexes in Photo-Dynamic Therapy

Vincent Sol (Limoges, France)

Synthesis, characterizations and properties of new phenalenone derivatives for photo-antibacterial activities and drug delivery.

Stéphanie Lhez (Limoges, France)

Free base porphyrin-cyanine dye conjugate: synthesis and optical properties

16h30-17h00: coffee break

17h00-19h00:

Invited speakers:

Enrico Caruso (Varese, Italy)

BODIPY: an emerging class of new photosensitizers

Oral communications:

Sarah Haywood-Small: Water-Soluble Truncated Fatty Acid-Porphyrin Conjugates Provide Photo-Sensitiser Activity for Photodynamic Therapy in Malignant Mesothelioma: 2D versus 3D cell culture conditions.

Eurico Lima: Dansylpiperazino-bearing squaraines: an open door to new molecules with phototherapeutic interest

Vicente Marchán: Novel photosensitizers for combating hypoxic tumors

Cyrille Monnereau: Small distorted Pi-conjugated molecules as emerging photosensitizers in PDT

Odrun Gederaas: Pharmacokinetics of disulphonated tetraphenyl chlorin (fimaporfin/TPCS2a) in a rat glioma model

Alejandro Prieto Castañeda: New approaches on BODIPY-based photosensitizers: Solutions to dark toxicity towards the improvement of photodynamic therapy and phototheragnosis

Communications in health and skin photobiology (room 2)

Chairpersons: Peter Philipsen (Copenhagen, Denmark), Thierry Douki (Grenoble, France)

15h00-16h30

Oral communications:

Huang Chiao Huang: Photodynamic therapy overcomes ABC transporters-mediated multidrug resistance

Lise Aubry: Toxicological impact of photodegraded organic tattoo pigments on human cultured keratinocytes

Peter Philipsen: Assessment of candidate action spectra for vitamin D3 using a set of lamps with spectra of different qualities

Dietrich Averbeck: Focus on the importance of photoinduced effects on mitochondria and their biological and phototherapeutic consequences

Nan Gao: Development of peptide-based tools to measure cellular free heme after UVA irradiation

Francesco Garzella: Characterization of the GafChromicTM EBT film as 2D sensor for UV and blue-light dosimetry

16h30-17h00: coffee break

17h00-18h00

Thierry Douki: DNA photoproducts outside of the nucleus as biomarkers of the genotoxicity of UV radiation

Christopher Kremslehner: 3D human organotypic epidermal skin equivalents containing UVB-pretreated and labeled keratinocytes as a model system for multimodal analytical investigation of tissues

Roger Bresoli-Obach: NIR/SWIR microscope: a new approach for imaging biologically relevant samples

Celina Pihl: Oral supplementation with quercetin and fisetin potentiates photocarcinogenesis in UVR exposed hairless mice

Flash presentations in PDT (room 2)

Chairperson: Santi Nonell Marrugat (Barcelona, Spain)

18h15-19h10:

Flash presentations:

Maria Tesa: Combining Photoluminescence and Transient Absorption Spectroscopy for Photodynamic Therapy Research

Laura Espinar: A Type-I Photosensitiser for Hypoxic Photodynamic Therapy

Ester D'agostino: Synthesis and connection of two chromophores: a promising Glyco-OPE-Porphirin and its aggregation properties.

Pietro Bertolotti: Membrane potential modulation in bacteria via push-pull azobenzene

Mine Demir: 5-ALA Mediated PDT/Radiotherapy Combination for Breast Cancer Using Gold Chalcogenides

Andreas Fellner: Fly into the light: Treating fruit fly *Drosophila melanogaster* with Photodynamic Inactivation based on Na-Mg-chlorophyllin

Beata Kruszewska-Naczek: Genes encoding proteins engaged in DNA repair are important in the response of bacteria to antimicrobial Blue Light

Linda Jernej: Photodynamic Inactivation in Agriculture: Combating Fungal Phytopathogens Resistant to Conventional Treatment

Martina Mušković: Amphiphilic cationic tripyridiniumporphyrins and their Zn(II) complexes: the influence of the irradiation wavelength and the length of the alkyl chain

Maria Alexandra Cucu: Designing in vitro aPDT experiments from A to Z by optical methods only

Maria Bartolomeu: A study of Wastewater Disinfection with Photodynamic Treatment and its Ecotoxicological Effects

Intact organisms and photosynthetic biohybrids (room 3)

Chairpersons: Matteo Grattieri (Bari, Italy), Massimo Trotta (Bari, Italy)

15h00-16h30:

Invited speakers:

Massimo Trotta (Bari, Italy)

The mighty power of photosynthesis

Matteo Grattieri (Bari, Italy)

The Biotic/Abiotic Interface in Photosynthetic Bacteria-Based Biohybrid Electrochemical Systems

Melania Reggente: (Lausanne, Switzerland)

Bioengineering anodes for biophotovoltaic (BPV) applications

16h30-17h00: Coffee break

17h00-19h00:

Invited speakers:

Rossella Labarile (Bari, Italy)

In situ polydopamine coating for enhanced electron transfer from photosynthetic bacteria

Noam Adir (Haifa, Israel)

Live Cell Based Bio-Photoelectrochemical Cells for Clean Solar Energy Conversion

Oral communications:

Pierluigi Lasala: Enhancing microbial biophotoanodes efficiency with functionalized gold nanostructures

Romain Rouxel: Light-harvesting processes in green sulfur bacteria in vivo

Nikolay Ryzhkov: Electric polarization effect on photosynthetic efficiency, non-photochemical quenching and photovoltaic performance of intact *Limnospira indica* based photoelectrodes

Cesar Vicente-Garcia: Diatom Microalgae: Overlooked Candidates for the Construction of Robust Biophotovoltaic Devices

Morning

8h30-9h00 Keynote Lecture (main lecture hall)

Chairperson: Gang Zheng (Toronto, Canada)

Yong Zhang (Hong Kong, China)

Light-emitting Materials and Devices for Wireless Phototherapy

9h00-9h30 Keynote Lecture (main lecture hall)

Chairperson: Francesca Giuntini (Liverpool, UK)

Gareth I. Jenkins (Glasgow, UK)

UVR8 photoreceptor action in plant responses to UV-B radiation

9h30-13h00 Parallel sessions

Keratinocytic skin cancers (main lecture hall)

Chairperson: Franz Trautinger (St. Pölten, Austria)

9h30-11h00:

Invited speakers:

Franz Trautinger (St. Pölten, Austria)

Keratinocytic skin cancers: clinical presentation, epidemiology, and management

Thomas Haarmann-Stemmann (Düsseldorf, Germany)

Role of the aryl hydrocarbon receptor in the pathogenesis of cutaneous squamous cell carcinoma

11h00-11h30: Coffee break

11h30-13h00:

Invited speakers:

Yolanda Gilaberte (Zaragoza, Spain)

Sunscreens in the prevention of keratinocytic skin cancers

Oral communications:

Jonatan Riber Granborg: The accumulated UVR dose received on a sun vacation is directly reflected in the amount of cyclobutane thymine dimers in urine

Catharina M. Lerche: Characterization of keratinocyte cancer by mass spectrometry imaging

Katharina Rolfes: UVB radiation-induced skin carcinogenesis and the impact of low dose UVA irradiation

Communications in phototherapy and PDT (room 1)

Chairperson: Pål Kristian Selbo (Oslo, Norway), Patricia Vicendo (Toulouse, France)

9h30-11h00:

Oral communications:

Agnes Marco & Ilse Manet: Cyclodextrin polymers as carriers of three orthogonal therapeutic agents for the innovative combination of chemo- and phototherapies in hypoxic conditions

Saulius Bagdonas: Differences in photoinduced transformations of tetrapyrrolic compounds in the presence of L-ascorbate: influence of medium pH and serum albumin

Catalina Cortes: New Phenalenone like Sensitizers: Expand their use throughout the Blue-Shifted absorption

Veronika Huntosova: Nanoporous particles for targeted photodynamic therapy of cancer

Sofia Leo: The radiotherapeutic effects of photosensitizers: An overview of the physical, chemical, and biological mechanisms of radiodynamic therapy

Hilda Mercado-Urbe: Photoinactivation of E. coli enhanced by oxygen nanostructures.

11h00-11h30: coffee break

11h30-13h00:

Karolina Urbanowicz: Cationic BODIPY complexes based on organoboron scaffolds for microorganisms photoinactivation

Aleksandra Rapacka-Zdonczyk: Antimicrobial blue light-protective genes in Escherichia coli

Bianka Siewert: The Photoantimicrobial Power of Polyhydroxyanthraquinones

Matthew Tung: BODIPY Photosensitizers Modified with Chalcogenophenes

Li Zhong: 5-Aminolevulinic acid photodynamic therapy activates autophagy by reactive oxygen species to kill Mycobacterium abscessus

Natalia Burzyńska: Can Staphylococcus aureus develop tolerance to cyclic treatments of aPDI with novel gallium porphyrin derivative?

Light in dentistry (room 2)

Chairpersons: Ellen Bruzell (Oslo, Norway), Silvia Nuñez (São Paulo, Brazil)

Invited speakers:

9h30-11h00:

Ellen Bruzell (Oslo, Norway)

Blue light hazard from light curing devices for dental materials: 20 years of monitoring

Silvia Nuñez (São Paulo, Brazil)

Microbial resistance in oral cavity: challenges and opportunities in antimicrobial photodynamic therapy

Martha Simões Ribeiro (São Paulo, Brazil)

Light-based technologies in Dentistry: from basis to clinical practice

11h00-11h30: Coffee break

Communications in physical and chemical photobiology (room 3)

Chairperson: Jean-Luc Ravanat (Grenoble, France), Akos Banyasz (Lyon, France)

9h30-11h00:

Oral communications:

Gustavo Cardenas: Influence of the Protonation States on the Absorption and Emission Properties of Rhodopsins

Zong Jie Cui: Photodynamic Biology: Photodynamic Modulation of Physiologically Important Functional Proteins

Ariel García Fleitas: Influence of Structural Colour in Molecular Mechanism of Photosynthetic Light Harvesting in *Chondrus crispus*.

Stefan Haacke & Krystyna Herasymenko: Ultrafast excited state dynamics of archae-rhodopsin 3 and its mutants

Matilde Ibba: Photophysics of sunscreen-based photocages containing avobenzene

Francesca Laneri: Green Synthesis of Near-Infrared Plasmonic Gold Nanostructures by Pomegranate Extract and Their Supramolecular Assembling with Chemo- and Photo-Therapeutics

11h00-11h30: Coffee break

11h30-12h50:

Anna Theresa Ott: Sequence-Dependent Interaction between Amotosalen and DNA

Juan Antonio Soler Orenes: Photophysical properties and in vitro phototoxic effect of adapalene

Marcel Fuciman: Changes of ICT State Dynamics of 8'-apo- β -Carotenal Induced by External Voltage in Electrochemical Cell

ESP2023 Thesis Award

Carla Arnau del Valle: A highly photostable and versatile two-photon fluorescent probe for the detection of intracellular nitric oxide concentrations in macrophages and endothelial cells

Flash presentations:

Cornelia Böhm: Structural Determinants of Bacteriophytochrome Photocycle

Letícia Da Mata Lazinski: Synthesis of hemiindigoids as photoswitchable entities: a spatiotemporal handling of enzyme activity using light

Linda Eijssink: Shining Light on the Mutual Interaction of Photo-responsive Labels and Biomolecules

David T. Griffin: The effects of delivery irradiance on the antibacterial efficacy of 222 nm Far-UVC light

Plant circadian biology (room 4)

Chairperson: David Somers (Columbus, USA)

9h30-11h00:

Invited speakers:

David Somers (Columbus, USA)

The essential role of TOC1 phosphorylation in selective gene regulation

Chloe Zubieta (Grenoble, France)

It's just a phase: Structural characterization of LLPS and its role in temperature sensing in plants

Marian Nohales (Valencia, Spain)

Mechanistic insights into the circadian gating of the response to limiting light conditions in Arabidopsis

[11h00-11h30: coffee break](#)

[11h30-12h00:](#)

Colleen Doherty (Raleigh, USA)

Time and Stress: How Climate Change Impacts the Circadian Regulation of Stress Responses

[Flash presentations on plants and photosynthetic organisms \(Room 4\)](#)

Chairperson: Massimo Trotta (Bari, Italy)

[12h00-12h40:](#)

Flash presentations:

Jarne Berentsen: Optimizing Chloroplast Expansion Microscopy

Maria Agustina Dominguez Martin: Characterization of photosynthesis and photoprotection mechanisms in marine cyanobacteria

Paloma Lizondo Aranda: Nitrogen-Doped Indium Quantum Dots for plant-plant nutrient transfer

Luis Gustavo Teixeira Alves Duarte: De novo proteins as biogenic matrices for creating excitonically coupled dimers with charge-transfer character

Aneta Prochwicz: Characterisation of the impact of chloroplast avoidance on photosynthetic efficiency of plants in fluctuating light

Aleksandra Giza: Regulation of phototropin promoters from Arabidopsis thaliana

Pankaj Goyal: The phenomenon of light-responsive cellulose synthesis in bacteria

Yuna Mori: Development of chlorosome-type artificial photosynthetic antenna efficiently absorbing green light

[13h00-15h30 Poster session](#)

[13h00 – 15h00 Buffet \(lobby\)](#)

[13h15-14h00 EU funding round table \(main lecture hall\)](#)

Speakers:

Kristian Berg (Oslo, Norway)

Santi Nonell (Barcelona, Spain)

Stéphanie Lhez (Limoges, France)

[14h00-15h30 Springer session \(main lecture hall\)](#)

Speakers:

Sofia Costa & Cansu Caya

Antimicrobial PDT

P1	Maria Bartolomeu	A study of Wastewater Disinfection with Photodynamic Treatment and its Ecotoxicological Effects
P2	Adelaide Almeida	Investigation of the potential of deep eutectic solvents (DES) as alternative solvents in antimicrobial photodynamic therapy
P3	Pietro Bertolotti	Membrane potential modulation in bacteria via push-pull azobenzene
P4	Nina Burduja	Curcumin-loaded hydrogels as antimicrobial photosensitisers in the treatment of post-surgery infections
P5	Cristina Dias	Antimicrobial properties of marine origin materials obtained by a sustainable approach
P6	M. Amparo F. Faustino	Light-activated Sulfonamides for Antimicrobial Photodynamic Therapy
P7	Andreas Fellner	Fly into the light: Treating fruit fly <i>Drosophila melanogaster</i> with Photodynamic Inactivation based on Na-Mg-chlorophyllin
P8	David T. Griffin	The effects of delivery irradiance on the antibacterial efficacy of 222 nm Far-UVC light
P9	Linda Jernej	Photodynamic Inactivation in Agriculture: Combating Fungal Phytopathogens Resistant to Conventional Treatment
P10	Beata Kruszewska-Naczek	Genes encoding proteins engaged in DNA repair are important in the response of bacteria to antimicrobial Blue Light
P11	Michaela Kubáňová	Photoinactivation of opportunistic pathogens in water environment with nanocomposite materials based on graphene oxide decorated with octahedral molybdenum cluster complexes
P12	Francesca Laneri	Photochemical evaluation of curcumin nanoformulation with BSA and its antimicrobial action in <i>Acinetobacter baumannii</i>
P13	Alessia Lena	In vitro study for evaluate the photodynamic inactivation of <i>E. coli</i> , <i>L. monocytogenes</i> and <i>S. Enterica</i>
P15	Lucy Sinclair	Bactericidal Efficacy and Cytotoxic Responses of <i>Pseudomonas aeruginosa</i> to Low Irradiance 405-nm Light
P16	Klaudia Szymczak	Photodynamic inactivation with novel gallium metalloporphyrin: the non-antibiotic method to overcome <i>S. aureus</i> and <i>P. aeruginosa</i> biofilms
P17	Annette Wimmer	With blue light against biofilms: Berberine as natural photosensitizer for Photodynamic Inactivation of Gram+ and Gram- bacteria
P18	Agata Wozniak-Pawlikowska	Novel gallium photosensitizers in light-dependent action as an antivirulence strategy against the <i>Staphylococcus aureus</i> and <i>Pseudomonas aeruginosa</i>

Innovations in phototherapy and PDT

P20	Ana Maria Bernal Martinez	Enhanced Cellular Delivery Of Rose Bengal And Nile Red By Reduction Sensitive Molecular Nanogels
P21	Anderson Caires	Antibacterial photodynamic capability of conjugated polymer nanoparticles of CN-PPV
P22	Nazareth Milagros Carigga Gutierrez	Increasing cancer permeability by photodynamic priming: From microenvironment to mechanotransduction signaling
P23	Jean Colombari Neto	Pyrylium Salts As Fluorescent Probes For Mitochondrial Imaging
P24	Catarina Costa	In vitro phototherapeutic effects of four new N-propylbenzene squaraine dyes against prostate cancer cells

P25	Maria Alexandra Cucu	Designing in vitro aPDT experiments from A to Z by optical methods only
P26	Letícia da Mata Lazinski	Synthesis of hemiindigoids as photoswitchable entities: a spatiotemporal handling of enzyme activity using light
P27	Ester D'agostino	Synthesis and connection of two chromophores: a promising Glyco-OPE-Porphirin and its aggregation properties.
P28	Martins Lucas Mende De Oliveira Silva	Evaluation of the photodynamic effect of red wine-inspired pyranoflavylum cations (HPF) sensitizers.
P29	Mine Demir	5-ALA Mediated PDT/Radiotherapy Combination for Breast Cancer Using Gold Chalcogenides
P30	Laura Espinar	A Type-I Photosensitiser for Hypoxic Photodynamic Therapy
P31	Thibault Gallavardin	Indazole from medicinal chemistry to selective photosensitizers
P33	Hana Kolarova	Antibacterial photodynamic and sonodynamic therapy “in vitro study
P34	Katarzyna Krancewicz	Photophysical insights of thiopurine analogues as potential photodynamic therapy agents
P35	Ana María López Fernández	Photodynamic inactivation of <i>Pseudomonas aeruginosa</i> by poly-HEMA films loaded with Rose Bengal: Potentiation of the effect of potassium iodide inside and outside the polymeric matrix
P36	Martina Mušković	Amphiphilic cationic tripyridiniumporphyrins and their Zn(II) complexes: the influence of the irradiation wavelength and the length of the alkyl chain
P37	Jimena Nicolás Morala	Rapamycin enhances Photodynamic therapy in cutaneous Squamous Cell Carcinoma
P38	Patricia Nowak-Sliwiska	Partial oxygen pressure prior and post AGuIX® nanoparticles-based PDT in glioblastoma models
P39	Tomáš Příbyl	Molybdenum cluster-based photosensitizers for photodynamic therapy of cancer
P40	Dario Santantonio	Developing a SWIR/NIR Imaging System for Singlet Oxygen Detection in Biologically Relevant Environments
P41	Mathilde Seinfeld	A joint experimental and computational study on the influence of packing on organic compounds luminescence and singlet oxygen generation in the condensed phase
P42	Maria Tesa	Combining Photoluminescence and Transient Absorption Spectroscopy for Photodynamic Therapy Research
P43	Arno Wiehe	Antibacterial and antiviral properties of Temoporphin and some of its congeners
P44	Eunjue Yi	A case of Photodynamic therapy for in-situ carcinoma of esophagus in a patient with inoperable condition.

Photoprotection, skin photobiology and health

P45	Batool Albadaineh	The dual protective role of trans-cinnamic acid as an antioxidant and iron chelator in UVA-irradiated skin fibroblasts
P47	Lisa Bigelbach	Photoprotection of animals: Livestock shade cloths for free-range pigs
P48	Paulo Da Costa	DNICs exposure to radiation induces nitric oxide release
P49	Ines Dürschmied	Photoprotection by sheer tights in-situ
P50	Franco Fusi	Photon and singlet oxygen induced cis-trans isomerization of the water-soluble carotenoid crocin.
P51	Sarah Helletzgruber	Photoprotection by hand-held sun umbrellas

P52	Leonardo López	Design and evaluation of novel UV filters for photoprotection
P53	Damien Lelièvre	Use of reconstructed skin model to demonstrate the photo-protection afforded by highly photoprotective sunscreen products against DNA lesions and cellular alterations
P54	Carolina Lorente	Antioxidant properties of vanillin during photosensitized oxidation of biomolecules
P55	Alessia Luccarini	Characterization of new photo-protective agents from <i>Cyclopia</i> spp. (Honeybush) as bioactive UV filters for skin protection
P56	Alessia Luccarini	Insights on the Photoprotective potential of Marine-inspired Thiol compounds
P57	Alessandra Baptista	Effect of antifungal photodynamic therapy in endodontics
P58	Daiane Mercurio	Enlarged photoprotection efficiently covering the whole UV spectrum: evaluation of 2 month-clinical changes in pigmentation and wrinkles visibility through a real life split-face study in different phototypes from Brazil and China.
P59	Daiane Mercurio	Efficacy of an enlarged photoprotection covering the whole UV spectrum: evaluation of a 1 month-clinical changes in pigmentation and wrinkles visibility through a real life split-face study
P60	Ricardo Navarro	Effects of UVC light and chemical decontamination on the dimensional stability of dental impression material
P61	Helena Polena	A randomized comparative study on melasma during summer with a visible light-protected tinted sunscreen versus a standard non-tinted sunscreen
P62	Emmanuel Questel	Consumer co-creation to enhance solar protection education! A Mix and Match concept.
P63	Alena Rajnochová Svobodová	Photoprotective potential of topolin and its mesylate in human skin cells
P64	Pau Roses	Evaluation of the biological effect in DNA damage repair of a high broad spectrum with nicotinamide and panthenol, in actinic keratoses and subclinic actinic keratoses
P65	Florian Schwabel	Body Distribution of Skin Colour, Pigmentation and Degree of Tan in Central European Caucasian Women
P66	Teresa Torres	Evaluation of the biological effect of a high broad-spectrum sunscreen with nicotinamide and panthenol in actinic keratosis.
P67	Jitka Vostálová	Does silymarin provide the photoprotective effects found in vitro under ex vivo conditions?
P68	Emilie Warrick	Protection against UVA1 damage with the new MCE filter improves the anti-photoaging activity of Vitamin C

Physical and chemical photobiology

P69	Cornelia Böhm	Structural Determinants of Bacteriophytochrome Photocycle
P70	Elisabetta de Diana	Photostability of a therapeutic monoclonal antibody, Nivolumab-Opdivo®, in its formulation and sterile saline or glucose solutions for parenteral administration.
P71	Paolo Di Mascio	Singlet molecular oxygen in biological systems: Mechanistic studies using ¹⁸ O-labeled oxygen, mass spectrometry, and light emission measurements
P72	Thierry Douki	Mathematical approaches to the evaluation of non-additive effects of different UV ranges in photobiological processes

P73	Linda Eijssink	Shining Light on the Mutual Interaction of Photo-responsive Labels and Biomolecules
P74	Massimo Olivucci	From photon to neuron: the molecular mechanism of the primary event in vision
P75	Viktoria Pevna	Investigation of hypericin fluorescence in protein coating of nanoporous silica particles
P76	Andrés Thomas	Photoinduced damage to proteins and their components by an endogenous sensitizer of biomedical interest

Plants, photosynthetic organisms and environment

P77	Vérane Bard	Degradation of PLA and PET particles exposed to UV light and toxicological effects on human intestinal cell models
P78	Jarne Berentsen	Optimizing Chloroplast Expansion Microscopy
P79	Maria Agustina Dominguez Martin	Characterization of photosynthesis and photoprotection mechanisms in marine cyanobacteria
P80	Aleksandra Giza	Regulation of phototropin promoters from Arabidopsis thaliana
P81	Pankaj Goyal	The phenomenon of light-responsive cellulose synthesis in bacteria
P82	Sheona Noemi Innes	Photochemical and growth response to inclusion of algal biomass in the growth medium of lettuce (Lactuca sativa).
P84	Aranda Lizondo	Nitrogen-Doped Indium Quantum Dots for plant-plant nutrient transfer
P86	Marisa H. G. Medeiros	Ultra-sensitive simultaneous quantification of carnosine adducts by an on-line liquid chromatography-electrospray tandem mass spectrometry assay
P87	Yuna Mori	Development of chlorosome-type artificial photosynthetic antenna efficiently absorbing green light
P88	Aneta. Prochwic	Characterisation of the impact of chloroplast avoidance on photosynthetic efficiency of plants in fluctuating light
P89	Arupillai Suthaparan	Management of postharvest gray mold using blue light and cold storage
P90	Luis Gustavo Teixeira Alves Duarte	De novo proteins as biogenic matrices for creating excitonically coupled dimers with charge-transfer character

Afternoon

15h30-19h00 Parallel sessions

PDT and immunology (main lecture hall)

Chairpersons: Luis Arnaut (Coimbra, Portugal), Pål Kristian Selbo (Oslo, Norway)

15h30-17h00:

Invited speakers:

Lígia Catarina Gomes da Silva (Coimbra, Portugal)

Photodynamic therapy using LUZ51, a carboxamide halogenated bacteriochlorin, combines efficient cell killing with anti-tumor immunity

Gabriela Kramer-Marek (London, UK)

Photoimmunotherapy – the treatment to eradicate residual cancer cells and induce anti-tumour immune responses

Luis Arnaut (Coimbra, Portugal)

Photodynamic therapy and immune checkpoint blockers: How to work together

17h00-17h30: coffee break

17h30-19h00:

Pål Kristian Selbo (Oslo, Norway)

Photochemical internalization in combination with TLR3-based adjuvants improves vaccination effects

Pål Johansen (Zurich, Switzerland)

Photochemical internalization of a tuberculosis vaccine for stimulation of T-cell responses: a mouse study

Oral communications:

Catarina Lobo: Targeting GD2 for Molecular Imaging and Photoimmunotherapy of Neuroblastoma

Flash presentations (see poster sessions for abstracts):

Nazareth Carigga Gutierrez: Increasing cancer permeability by photodynamic priming: From microenvironment to mechanotransduction signaling

Jimena Nicolás Morala: Rapamycin enhances Photodynamic therapy in cutaneous Squamous Cell Carcinoma

Patrycja Nowak-Sliwinska: Partial oxygen pressure prior and post AGuIX[®] nanoparticles-based PDT in glioblastoma models

Modulation of pigmentation and melanoma (room 1)

Chairperson: Lionel Larue (Orsay, France)

15h30-17h00:

Invited speakers:

Lionel Larue (Orsay, France)

Connecting Sex and Melanoma: CDH1 controls female tumor aggressiveness (*or The antagonistic role of β -catenin from melanoblast to melanoma*)

Markus Bohm (Münster, Germany)

Role of alpha-MSH-MC1R-mediated signalling in skin aging

Heather Etchevers (Marseille, France)

Non-inherited states preceding early-onset melanoma

17h00-17h30: coffee break

17h30-18h15:

Julien Ablain (Lyon, France)

Investigating the genetics of melanoma initiation and progression using zebrafish

Oral communications

Mouna Mhamdi-Ghodbani: Dermal stem cells as a model for the development of malignant melanoma

Photosystem II and Oxygen Evolution (room 2)

Chairperson: Noam Adir (Haifa, Israel)

15h30-17h00:

Invited speakers:

Anja Krieger-Liszkay (Paris-Saclay, France)

Plastid Terminal Oxidase (PTOX) protects photosystem I and not photosystem II against photoinhibition in *Arabidopsis thaliana* and *Marchantia polymorpha*

Roberta Croce (Amsterdam, The Netherlands)

Photoinhibition in PSII

Muhamed Amin (Groningen, The Netherlands)

Predicting the oxidation states of Mn ions in the oxygen-evolving complex of photosystem II using supervised and unsupervised machine learning

17h00-17h30: coffee break

17h30-18h00:

Noam Adir (Haifa, Israel)

Coupling isolated Photosystem II to Nano-photocatalysts for overall water splitting.

The impact on sunscreens on aquatic environments (room 3)

Chairpersons: Antony R. Young (London, UK), Bernd Herzog (Grenzach-Wyhlen, Germany)

15h30-17h00:

Invited speakers:

Antony R. Young (London, UK) & Bernd Herzog (Grenzach-Wyhlen, Germany)

Introductory remarks

Sascha Pawlowski (Ludwigshafen am Rhein, Germany)

Environmental aspects of cosmetic UV filters used in sunscreens

Veronique Poulsen (Paris, France) and Antony R. Young (London, UK)

The impact of sunscreens on aquatic environments

17h00-17h30: Coffee break

Communications in photoprotection (room 3)

Chairperson: Thierry Douki (Grenoble, France)

17h30-18h50

Oral communications:

Jakob Heydenreich: Electronic UVR dosimeters used to measure time spent outdoors

Beatriz Penin: Synthesis and photoprotection mechanism of novel sunscreens

Charareh Pourzand: The intracellular 'labile ironome' as a predictor of the level of susceptibility of skin cells to sunlight: A powerful approach towards personalised sun protection

Diego Sampedro: Computational design and synthesis of new and efficient sunscreens

Flash presentations (see poster sessions for abstracts):

Batool Albadaine: The dual protective role of trans-cinnamic acid as an antioxidant and iron chelator in UVA-irradiated skin fibroblasts

Leonardo López: Design and evaluation of novel UV filters for photoprotection

Helena Polena: A randomized comparative study on melasma during summer with a visible light-protected tinted sunscreen versus a standard non-tinted sunscreen

Carolina Lorente: Antioxidant properties of vanillin during photosensitized oxidation of biomolecules

19h00-20h00: Meeting of the PPS editorial board (room 2)

Morning

8h00-8h45 ESP Young investigator awards (main lecture hall)

Chairperson: Massimo Trotta (Bari, Italy)

Roger Bresolí Obach (Barcelona, Spain)

Each photon counts: Singlet oxygen detection from homo- to heterogeneous samples

Nadja A. Simeth-Crespi (Göttingen, Germany)

Probing Biology with Photochemistry using Opto-Bioorganic Building Blocks

8h45-12h45 Parallel sessions

Ultrafast studies to unravel the dynamics of photoactivated biological processes (main lecture hall)

Chairpersons: Pavel Müller (Paris-Saclay, France), Michel Sliwa (Lille, France)

8h45-10h15:

Invited speakers:

Camila Bacellar (Villigen, Switzerland)

Ultrafast dynamics of biological systems at the Alvrå endstation – SwissFEL

Nicoletta Liguori (Barcelona, Spain)

Realtime response of photoactive (macro)molecules to pH via a novel ultrafast spectroscopy tool

Sofia Kapetanaki (Pecs, Hungary)

Functional dynamics of a photoactivated adenylate cyclase revealed by ultrafast spectroscopy and time-resolved X-ray methods

10h15-10h45: coffee break

10h45-12h45:

Miroslav Klok (Prague, Czech Republic)

Structural changes of carotenoid echinenone in orange carotenoid protein (OCP) studied by femtosecond stimulated Raman spectroscopy

Oral communications:

Ines Camacho: Investigating a B12-Dependent, Photochemical Gene Switch by Ultrafast IR Spectroscopy

Pascale Chagnenet: Artefact-free balanced detection for measurement of subpicosecond circular dichroism in biomolecules

Agathe Espagne: Multi-scale transient absorption study of photohydration in the fluorescent protein Dreiklang and two point variants

Pavel Müller: Photoenzymatic decarboxylation of medium-chain fatty acids boosted by an unexpected auto-/co-catalytic effect of n-alkanes

Marten Vos: Ultrafast photoswitching in a flavo-enzyme involving a flavin-inhibitor charge transfer complex

Michelle Paulina Rademacher: Interactions between Angular Furocoumarins with DNA Studied by (Time-Resolved) Spectroscopy

Advanced technology for phototherapy (room 1)

Chairpersons: Gang Zheng (Toronto, Canada), Giovanni Romano (Florence, Italy)

8h45-10h15:

Invited speakers:

Ali Makky (Paris, France)

Phospholipid-porphyrin conjugates for the design of photoactivatable nanomaterials to combat bacterial infections

Gang Zheng (Toronto, Canada)

Photosensitizer nanoemulsions for anticancer and antimicrobial applications

10h15-10h45: coffee break

10h45-12h45:

Giovanni Romano (Florence, Italy)

Emergent light source technology for antimicrobial phototherapy

Oral communications:

Aixa Aguilera Garrido: Comparative study of indocyanine green and an indocyanine green dimer as photothermal agents

Ludovic Bretin: Testing ruthenium-based photoactivated chemotherapy on tumor-bearing mice models as a new treatment for uveal melanoma liver metastases

Huang Chiao Huang: A new photosensitizer nanoformulation for enhanced photodynamic therapy of brain cancer

Tassia Joi Martins: Supramolecular assemblies of fluorescent NO photoreleasers with ultrasmall cyclodextrin nanogels showing high photochemical performances

Sumiao Pang: Fluorescence-guided drug delivery and light dosimetry for PDT of ovarian cancer

Havva Funda Yagci Acar: Image-assisted Chemo/PTT combination therapy of Her2 (+) Breast Cancer utilizing Quantum dots: An in vitro and in vivo study

Ocular photochemistry: positive and negative effects (room 2)

Chairpersons: Joan Roberts (New York, USA), Terje Christensen (Kongsberg, Norway)

8h45-10h15:

Invited speakers:

Joan Roberts (New York, USA)

Gene Replacement, Crispr, and Stem Cell Therapy for Retinal Damage

Malgorzata Rozanowska (Cardiff, UK)

Lutein and zeaxanthin - from retinal photoprotectants to photosensitizers

Tim Brown (Manchester, UK)

Defining healthy daily light exposure for humans and animals

[10h15-10h45: coffee break](#)

[10h45-12h15:](#)

Rigmor Baraas (Kongsberg, Norway)

The potential role of violet and blue light in eye growth.

Terje Christensen (Kongsberg, Norway)

Protection against occupational ocular hazards from optical radiation sources

Oral communications:

Ellen Bruzell: Eye protection against blue light photochemical hazard

Natalia Osik: Study of photoprotective biomolecules of the animal eye lenses

[Advances on molecular mechanisms in natural and biomolecular biohybrids \(room 3\)](#)

Chairpersons: Joanna Kargul (Warsaw, Poland), Ardemis Boghossian (Lausanne, Switzerland)

[8h45-10h15:](#)

Invited speakers:

Ardemis Boghossian (Lausanne, Switzerland)

Synthetic biology for enabling extracellular electron transfer in living microbes

Joanna Kargul (Warsaw, Poland)

Improving light harvesting and electron transfer pathways in biomolecular systems for solar conversion

Vincent Friebe (Munich, Germany)

In situ Time-Resolved Spectroelectrochemistry Reveals Limitations of Biohybrid Photoelectrode Performance

[10h15-10h45: coffee break](#)

[10h45-12h45:](#)

Nicoletta Liguori (Barcelona, Spain)

The molecular origin of the OCP-dependent non-photochemical quenching mechanism in cyanobacteria

Margot Jacquet (Warsaw, Poland)

Improving biohybrid technologies using diazonium-based covalent molecular wiring strategy

Oral communications:

Sara Hernandez: Protein-promoted chromophore excited-state decay modulation

Dario Lacalamita: Anoxygenic Photosynthetic Bacteria-based Biocathodes for Green Hydrogen Production

Mary Wood: The role of eDNA in extracellular electron transport.

Maxime Kermarrec: Simulations of the Nucleosomal DNA : Mapping the Radical Cation Guanine

12h45 – 13h45 Lunch

12h45 – 13h45 General Assembly of the French Society for Photobiology (room 2)

Afternoon

13h45-17h15 Parallel sessions

Brand new delivery approaches for PDT (main lecture hall)

Chairpersons: Girgis Obaid (Dallas, USA), Fabienne Dumoulin (Istanbul, Turkey)

13h45-15h15:

Invited speakers:

Anzhela Galstyan (Duisburg-Essen, Germany)

Tracking light-triggered phototoxicity in photoactive nanomaterials

Girgis Obaid (Dallas, USA)

Nanolipid platforms: enablers of photodynamic tumor manipulation

Fabienne Dumoulin (Istanbul, Turkey)

Delivery strategies of photosensitizing phthalocyanines to tumours

15h15-15h45: coffee break

15h45-17h15:

Tayyaba Hasan (Boston, USA)

Photon is not only an actuator but an integral part of the delivery system

Oral communications:

Tiffany Ho: Intracellular insights into a novel EDTA-mediated nanoparticle delivery strategy for enhanced porphyrin delivery and photodynamic therapy

Davide Orsi: Nanostructures combining scintillating CeF₃ and photoactive ZnO for X-ray Photodynamic Therapy of deep tumours

Nazar Vasylyv: New outlook on photodynamic therapy for glioblastoma cell lines.

Dong Wang: Peptide-Targeted Systems for Photodynamic Therapy

Impact of UV radiation in Human inflammatory health disorders (room 1)

Chairpersons: Prue Hart (Perth, Australia), Kirsty Rutter (Manchester, UK)

13h45-15h15:

Invited speakers:

Kirsty Rutter (Manchester, UK)

UVR-induced skin inflammatory events in solar urticaria

Peter Wolf (Graz, Austria)

Microbiome modulation of UVR impact on skin

Richard Weller (Edinburgh, UK)

Sunlight and all-cause mortality

15h15-15h45: coffee break

15h45-17h15:

Prue Hart (Perth, Australia)

What we have learnt about UVB-induced immunomodulation from the PhoCIS trial

Oral communications:

Gareth Hazell: Upregulation of nitric oxide in vitro after low-dose artificial and natural sunlight exposure

Sarah Jelleschitz: Adduction of senescence associated aldehydophospholipids to a collagen matrix affects the responses of residing immune cells

Rowan Temple & Marina Venturini: Field validation of a satellite-based dosimeter of personal solar exposure

Photoperception and acclimation to changing light and CO₂ in microalgae (room 2)

Chairpersons: Dimitris Petroutsos (Uppsala, Sweden)

13h45-15h15:

Invited speakers:

Dimitris Petroutsos (Uppsala, Sweden)

Blue light perception via PHOTOTROPIN controls photosynthetic carbon partitioning in green microalgae

Marianne Jaubert (Paris, France)

Underwater light sensing: activity of a diatom phytochrome photoreceptor in the Oceans

Emanuel Sanz-Luque (Cordoba, Spain)

Transcriptional regulation of Non-Photochemical Quenching in response to different light intensities and wavelengths in the microalga *Chlamydomonas reinhardtii*

15h15-15h45: coffee break

Non-canonical DNA structures: from biological targets to (opto)electronic materials (room 3)

Chairperson: Roberto Improta (Napoli, Italy)

13h45-15h15:

Invited speakers:

Jean Louis Mergny (Palaiseau, France)

Nucleic acid quadruplexes: not just structural oddities?

Alexandr Kotlyar (Tel Aviv, Israel)

Silver Ions-Driven Folding of Polyguanine Strands into Double- and Quadruple-Helical Structures

Janez Plavec (Ljubljana, Slovenia)

NMR insights into 3D structure of G-rich DNA

15h15-15h45: coffee break

15h45-17h00:

Roberto Improta (Napoli, Italy)

Photophysics and photochemistry of DNA quadruple helices and I-motifs: insights from Quantum Mechanical calculations.

Oral communications:

Ilse Manet: Naphthalene diimides as versatile platforms for biomedical applications focusing on G-quadruplex

Carlos Montero: Lipid peroxidation and DNA damage: photoreactivity of cytosine-derived etheno adducts

Lara Martinez: Excited state processes in non-canonical DNA structures: insights from quantum mechanical calculations.

17h15-18h15: ESP General Assembly (main lecture hall)

19h00: Gala Dinner

Boarding: 19:00

Departure: 19:30 – **navigation:** 2h30

Morning

8h30-9h00 Keynote Lecture (main lecture hall)

Chairperson: Massimo Trotta (Bari, Italy)

Shelley Minter (Salt Lake City, USA)

Using Synthetic Biology Tools for Efficient Ammonia Production from Cyanobacteria

9h00-9h30 Keynote Lecture (main lecture hall)

Chairperson: Pål Selbo (Oslo, Norway)

Jean-Luc Coll (Grenoble, France)

NIR/SWIR imaging in vivo using optically active nanotheranostic systems

9h30-13h00 Parallel sessions

Photodamage and phototoxicity: a mechanistic view

Chairpersons: Andrés Thomas (La Plata, Argentina), Giorgia Miolo (Padova, Italy), Virginie Lhiaubet (València, Spain)

9h30-11h00:

Invited speakers:

Inmaculada Andreu (València, Spain)

Photobehavior of anticancer drugs: from solution to cells

Salvatore Sortino (Catania, Italy)

Red light-photosensitised NO release and its monitoring in cancer cells with biodegradable polymeric nanoparticles

Giorgia Miolo (Padova, Italy)

Photostability of therapeutic monoclonal antibodies in formulation and in saline or glucose solutions for parenteral administration: is their activity compromised by light?

11h00-11h30: coffee break

11h30-13h00:

Andrés Thomas (La Plata, Argentina)

The chemical nature of the photosensitizer and the lipid composition as key factors in the photoinduced damage to biomembranes

Oral communications:

Lohanna De Faria Lopes: Photobiological evaluation of FICZ and ICZ

Sylwia Kacprzac: EPR spectroscopy and photochemical processes: an enlightening experience

Peter Alshede Philipsen: Action spectrum for cyclobutane pyrimidine dimer formation in ex-vivo human skin irradiated with UV-LEDs and measured by quantitative HPLC-MS/MS

Márcia Franco: Photobiological evaluation of DO15 in deuterated reinforced membranes

Combination therapies or PDT in combinations (room 1)

Chairpersons: Patrycja Nowak-Sliwinska (Geneva, Switzerland), Kristian Berg (Oslo, Norway)

9h30-11h00:

Invited speakers:

Kristian Berg (Oslo, Norway)

Photochemical internalization (PCI): a photodynamic combination therapy for improved drug delivery to solid tumors

Anne-Laure Bulin (Grenoble, France)

Nanoscintillators for X-ray induced photodynamic therapy: new insights on this complex mechanism

Oral communications:

Luca Menilli: Bioresponsive Pheophorbide A and Paclitaxel prodrug nanoparticles for targeted cancer treatment

Sofia Joaquinito: New Developments on PhotoChemical Internalization using Porphyrin derivatives based elemental imaging

11h00-11h30: coffee break

11h30-13h00:

Oral communications:

Mans Broekgaarden: Unraveling the effects of photochemical internalization of oxaliplatin by X-ray fluorescence

Robert Edkin: Stimulated Raman scattering microscopy to induce and image cell death using dual-action photodynamic and photothermal phthalocyanine photosensitizers

Sarah Stelse-Masson: Using nanoscintillators to improve the efficacy of radiotherapy in pancreatic cancer

Marine Labro: Photo-generated diazonia for an anticancer therapy using light

Pål Kristian Selbo: Promising anti-carcinoma effects of ATRA + PDT

Bernhard Spingler: BODIPY-Based Photothermal Agents with Unprecedented Phototoxic Indexes under Normoxic and Hypoxic Conditions

Perspectives and controversies in sun care (room 2)

Chairpersons: Maurício da Silva Baptista (São Paulo, Brazil), Sergio Schalka (Cotia, Brazil)

9h30-11h00:

Invited speakers:

Maurício da Silva Baptista (São Paulo, Brazil)

Visible light and the skin redoxome

Sergio Schalka (Cotia, Brazil)

Visible light induced hyperpigmentation

Indermeet Kohli (Detroit, USA)

Blue light, electronic devices and the skin

[11h00-11h30: coffee break](#)

[11h30-13h00:](#)

Tasneem Mohammad (Detroit, USA)

National Academies report on environmental and health impact of UV filters

Oral communications:

Katie M. Dixon: Determining the efficacy of a natural home-made sunscreen promoted by wellness bloggers on social media

Gwendal Josse: Nuclear and urinary measurements show the efficacy of a SPF50+ sunscreen against DNA photoproducts upon “real-life” recreational exposure

Arjan van Dijk: Safety valves on the photoproduction of vitamin D: new insights

Ellen Bruzell: A systematic approach to assess sunscreen use and UV filters in the Norwegian population

[Pollution and sun exposure \(room 3\)](#)

Chairpersons: Valerie Haydont (Aulnay-sous-Bois, France), Patrick Rochette (Quebec, Canada)

[9h30-11h00:](#)

Invited speakers:

Giuseppe Valacchi (Raleigh, USA)

Skin damage by combined UV and ozone exposure

Walid Rachidi (Grenoble, France)

UV irradiation, Photo-pollution, Exposome and the human skin health: what Else?

Valerie Haydont (Aulnay-sous-Bois, France)

Chronic exposure to pollutants photoactivated by UVA1 generates a specific skin response, clearly distinct that those produced by each stresses applied separately

[11h00-11h30: coffee break](#)

[11h30-12h45:](#)

Patrick Rochette (Quebec, Canada)

Mechanisms underlying the synergistic toxicity of blue light and indenopyrene to retinal cells

Oral communications:

Maeva Boulée: Degradation of plastic nanoparticles exposed to UV light, toxicological consequences on human intestinal cell models

Agne Kalnaityte: Effects of CdSe/ZnS-COOH quantum dots on autofluorescence properties and proliferation of *Scenedesmus quadricauda* microalgae cells: dependence on growth medium composition

Eloïse Larnac: Photopollution on dermal fibroblasts: a synergistic toxicity effect

13h00 – 14h00 Lunch

Afternoon

14h00-14h30 Keynote Lecture (main lecture hall)

Chairperson: Kristjan Plaetzer (Salzburg, Austria)

Michael Hamblin (Johannesburg, South Africa)

Potential of antimicrobial photodynamic inactivation by inorganic salts

14h30-18h00 Parallel sessions (main lecture hall)

Antimicrobial PDT for environmental applications (main lecture hall)

Chairpersons: Kristjan Plaetzer (Salzburg, Austria), Adelaide Almeida (Aveiro, Portugal)

14h30-16h00:

Invited speakers:

Adelaide Almeida (Aveiro, Portugal)

Revisiting Methylene Blue: recent advances towards pathogenic microorganisms

Santi Nonell Marrugat (Barcelona, Spain)

The photochemical basis of blue-light photodynamic inactivation of bacteria

Oral communications:

Aleksandra Nyga: Multifunctionality of photoactive compounds.

Giacomo Insero: UVC Light Barriers as a New Tool in the Prevention of Airborne Viral and Bacterial Epidemic Spread

16h00-16h30: coffee break

16h30-18h00

Invited speakers:

Reza Ghiladi (North Carolina, USA)

Photodynamic and Photothermal Materials for Infection Prevention in Healthcare Environments

Kristjan Plaetzer (Salzburg, Austria)

Agricultural applications of Photodynamic Inactivation

Oral communications:

Gilberto Ú. L. Braga: Successive applications of photodynamic treatment against a plant-pathogenic fungus result in increased cell tolerance and carotenoid accumulation

Linda Jernej: Photodynamic Inactivation of *Penicillium digitatum*: a green post-harvest technology

[Update on physiological effect of sunbeds \(room 1\)](#)

Chairpersons: Jean-François Doré (Lyon, France), Thierry Douki (Grenoble, France)

[14h30-16h00:](#)

Invited speakers:

Olivier Merckel (Maison-Alfort, France)

Public Health regulations of sunbeds

Astrid Coste (Lyon, France)

Melanoma epidemics in Iceland and Faroe islands

Rudiger Greinert (Buxtehude, Germany)

Sunbed use. Who, when, where ?

[16h00-16h30: coffee break](#)

[16h30-17h30](#)

Thierry Douki (Grenoble, France)

Contribution of UVA to the effects of sunbeds

Oral communications:

Manuel Alejandro Herrera Lopez: effects of UVA and visible light on the mitochondrial activity of keratinocytes

Ewan Eadie: A two-stage preliminary investigation of the visual and histological changes to healthy volunteer skin from single and repetitive exposure to virucidal Krypton-Chloride (KrCl*) Far-UVC-emitting excimer lamps

[Photofunctional proteins and peptides \(room 2\)](#)

Chairpersons: Andreas Möglich (Bayreuth, Germany)

[14h30-16h00:](#)

Invited speakers:

Heikki Takala and Cornelia Böhm (Jyväskylä, Finland)

Function and application of a model bacterial phytochrome

Michael Westberg (Aarhus, Denmark)

Photoswitchable Binders for Control of Endogenous Proteins

Andreas Möglich, (Bayreuth, Germany)

Light & Temperature Reception by Plant Phytochromes

[16h00-16h30: coffee break](#)

[16h30-18h00](#)

John Kennis (Amsterdam, The Netherlands)

Unusual isomerization dynamics in red-absorbing microbial rhodopsins

Oral communications:

Saeed Shareef: Building excitons in chromophore-proteins for light harvesting applications

Ursula Vide: Naturally occurring ON-OFF switches: Blue light-regulated LOV-diguanylate cyclases

Katharina Spies: Active Site Structure and Absorption Spectrum of the Channel rhodopsin Chrimson: Wild Type and Mutants

Biodiversity in light harvesting and regulation (room 3)

Chairpersons: Roberta Croce (Amsterdam, The Netherlands), Herbert van Amerongen (Wageningen, The Netherlands)

14h30-16h00:

Invited speakers:**Herbert van Amerongen (Wageningen, The Netherlands)**

Exploring regulation of light harvesting in vivo with picosecond spectroscopy and microscopy

Tina Dominguez Martin (Cordoba, Spain)

Light-harvesting and photoprotection mechanism in cyanobacteria

Donatas Zigmantas (Lund, Sweden)

Mapping energy transfer in photosynthetic bacteria *in vivo*

16h00-16h30: coffee break

16h30-17h45

Olga Chukhutsina (Amsterdam, The Netherlands)

Photoregulation of plants *in vivo*

Oral communications:

Justyna Łabuz: A large-scale study of chloroplast movements and dark positioning in plants from different light environments

Alexander Ruban: Hydrophobic mismatch: the missing link in the regulation of photosynthetic light-harvesting?

Sam Wilson: Isolation and analysis of the photoprotective locus in plants using the styrene-maleic acid copolymer

19h00-21h00: Meeting of ESP Executive Committee 2 (Mercure hotel)