
Monday, 4 September, afternoon

Congress Centre Ground Floor

15:30
18.30 **Registration**

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Congress Centre Ground Floor

19:00
21.30 **Welcome Reception**

- 08:30 **Opening Ceremony – Welcome Address**
- 08:50 **Young Investigator Award Lecture**
Chair: Lesley E. Rhodes (Manchester, United Kingdom)
- KL101 RESOLFT Fluorescence Nanoscopy for gentler and faster live cell imaging**
 Ilaria Testa (Stockholm, Sweden)
- 09:30 **Molecular and cellular aspects of PDT**
Chair: Kristian Berg (Oslo, Norway), Patrycja Nowak-Sliwinska (Lausanne, Switzerland)
- 09:30 **IL102 Optimized drug combinations to support light therapy**
 Patrycja Nowak-Sliwinska (Geneva, Switzerland)
- 10:00 **IL103 Anti-angiogenesis treatment is an effective immunotherapy**
 Arjan W Griffioen¹, Marieke Dekker¹, Hinde el Otmani, Judy R van Beijnum¹, Patrycja Nowak-Sliwinska² (¹Amsterdam, Netherlands; ²Geneva, Switzerland)
- 10:30 **Coffee break**
- 11:00 **IL104 Photochemical internalization (PCI) as a treatment alternative for otherwise therapy-resistant cancers**
 Kristian Berg, Anette Weyergang, Cathrine E. Olsen, Pål K. Selbo (Oslo, Norway)
- 11:30 **IL105 The crucial role of iNOS/NO in acquired resistance to cancer photodynamic therapy**
 Valentina Rapozzi¹, Francesca D'Este¹, Emilia Della Pietra¹, Greta Varchi², Luigi Emilio Xodo¹ (¹Udine, ²Bologna, Italy)
- 12:00 **OC106 Death modes after PDT**
 David Kessel (Detroit, MI, United States)
- 12:15 **OC107 PDT-based combinations to Overcome Molecular, Cellular and Stromal Resistance Mechanisms in Ovarian and Pancreatic Cancer**
 Imran Rizvi, Huang-Chiao Huang, Sriram Anbil, Joyce Liu, Shubhankar Nath, Mans Broekgaarden, Michael Pigula, Tayyaba Hasan (Boston, MA, United States)
- 12:30 **OC108 Promoting 5-ALA-PDT efficacy by targeting oncogenic Ras/MEK pathway**
 Vipin Shankar Chelakkot, Ema Yoshioka, Leena Derwish, Suzette Rutihinda, Maria Licursi, Theerawat Pongnopparat, Karen Mearow, Ann Dorward, Kensuke Hirasawa (St. John's, NL, Canada)
- 12:45 **OC109 Smart dual-funcionalized gold nanoclusters with Protoporphyrin IX and Doxorubicin to achieve a synergistic chemo-phototherapeutic effect**
 Andrea Tabero¹, Oriol Planas², Ana Lazaro-Carrillo¹, Santi Nonell², Juan Carlos Stockert¹, Magdalena Cañete¹, Angeles Villanueva¹ (¹Madrid, ²Barcelona, Spain)
- 13:00 **OC110 Photoinduced generation and reactivity of an ascorbate radical in the presence of hematoporphyrin derivative and TPPS4: EPR and absorption spectroscopy studies**
 Saulius Bagdonas, Tomas Biekša, Arunas Marsalka (Vilnius, Lithuania)

09:30 **Photobiology and photochemistry in aquatic environments (ESP-ASP* Joint Symposium)**
Chair: Patrick Neale (Edgewater, United States), Ruben Sommaruga (Innsbruck, Austria)

09:30 **IL111 Photoinduced reactions in sunlit surface waters: Photoreaction pathways and climate change effects**
Davide Vione, Marco Minella, Claudio Minero (Torino, Italy)

10:00 **IL112 UV-resistant actinobacteria from High-Altitude Andean Lakes: Biodiversity and adaptation mechanisms**
Virginia Helena Albarracin, Luciano Portero, Federico Zannier, Maria Eugenia Farias (San Miguel de Tucuman, Argentina)

10:30 **Coffee break**

11:00 **IL113 Quantitative assessment of UV inhibition of marine phytoplankton productivity based on biological weighting functions and satellite remote sensing of ocean color**
Patrick Neale¹, Brian Thomas² (¹Edgewater, MD, ²Topeka, KS, United States)

11:30 **IL114 Role of pigments in Zooplankton**
Samuel Hylander (Kalmar, Sweden)

12:00 **OC115 Insights into the ecology of the invisible: Implications of differential tolerance and repair of UV damage in freshwater organisms**
Craig Williamson¹, Gabriella Dee², Mark Olson³, Wendy Palen⁴, Aaron Clauser⁵, Kirsten Kessler², Robert Sanders⁶, Wade H. Jeffrey⁷, Erin Overholt¹, Sandra Connelly⁸ (¹Oxford, OH, ²Bethlehem, PA, ³Lancaster, PA, ⁵Schuylkill Haven, PA, ⁶Philadelphia, PA, ⁷Pensacola, FL, ⁸Rochester, NY, United States; ⁴Burnaby, BC, Canada)

12:15 **OC116 Bacterial survival under extreme UV radiation: A comparative proteomics study of *Rhodobacter* sp., isolated from high altitude wetlands in Chile**
Vilma Pérez^{1,2}, Martha Hengst^{1,2}, Lenka Kurte^{1,2}, Cristina Dorador^{1,2}, Wade H. Jeffrey³, Ruddy Wattiez⁴, Verónica Molina⁵, Sabine Matallana-Surget⁶ (¹Antofagasta, ²Santiago, ⁵Valparaíso, Chile; ³Pensacola, FL, United States; ⁴Mons, Belgium; ⁶Stirling, United Kingdom)

12:30 **OC117 Variability of UVR Attenuation and Inherent Optical Properties in the Shallow Coral-reef Waters of Malaysia**
Victor S Kuwahara¹, Keiko Mizubayashi¹, Teruaki Yoshida², M.R.M. Kushairi³, A.W.M. Effendy⁴, Tatsuki Toda¹ (¹Tokyo, Japan; ²Kota Kinabalu, ³Selangor, ⁴Terengganu, Malaysia)

12:45 **Brief Summaries of Poster Contributions to the Symposium**

- 09:30 **Topical Photoprotection: 2017 (ESP-ESPD* Joint Symposium)**
Chair: Gillian M. Murphy (Dublin, Ireland), Henry W Lim (Detroit, United States)
- 09:30 **IL118 Controversies in Sunscreens**
Elma (Chat) D. Baron (Cleveland, OH, United States)
- 10:00 **IL119 Vitamin D, Skin Type and Photoprotection**
Henry W Lim (Detroit, MI, United States)
- 10:30 **Coffee break**
- 11:00 **IL120 Beyond the controlled environment of the laboratory: Evaluating the comparative efficacy of high SPF sunscreen in actual use scenarios**
Joshua D. Williams (Skillman, NJ, United States)
- 11:30 **IL121 What should we tell our patients about how to practice photoprotection?**
Giovanni Leone (Roma, Italy)
- 12:00 **OC122 Scattering particles increase efficacy of sunscreens**
Bernd Herzog (Grenzach-Wyhlen, Germany)
- 12:20 **OC123 Targeting mitochondrial iron to protect Friedreich's ataxia skin cells from Ultraviolet A-induced cell death**
Olivier Reelfs¹, Vincenzo Abbate², Robert C Hider², Charareh Pourzand¹ (¹Bath, ²London, United Kingdom)
- 12:40 **OC124 Evaluation of the influence of sunscreen formulations and SPF on genoprotection in a hair follicle-derived human epidermis model**
Daniel Bacqueville¹, Thierry Douki², Laure Duprat¹, Béatrice Guiraud¹, Hélène Dromigny¹, Valérie Perier¹, Sandrine Bessou-Touya¹, Hélène Duplan¹ (¹Toulouse, ²Grenoble, France)

- 09:30 **DNA photolesions - recent advances**
Chair: Thierry Douki (Grenoble, France), Laurent Marrot (Aulnay-sous-Bois, France)
- 09:30 **IL125 Excited states of thymine and their role in DNA lesion formation**
Wolfgang Zinth, Bert Manuel Pilles, Lizhe Liu, Julia Gontcharov, Corinna Lucia Kufner, Dominik Benjamin Bucher, Thomas Carell, Wolfgang Johannes Schreier (München, Germany)
- 09:55 **IL126 Formation and repair of pyrimidine dimers studied by next generation sequencing**
Sheera Adar (Jerusalem, Israel)
- 10:20 **OC127 A Song of Light and DNA: From Photochemistry to Molecular Recognition**
Antonio Monari (Nancy, France)
- 10:30 **Coffee break**
- 11:00 **OC128 DNA Photosensitization Mechanisms: Similarities and Differences between Benzophenone, Ibuprofen and Ketoprofen**
Marco Marazzi¹, Daniel Roca-Sanjuan², Leticia Gonzalez³, Leif A. Eriksson⁴, Elise Dumont⁵, Stephanie Grandemange⁶, Antonio Monari¹ (¹Nancy, ²Lyon, ³Vandoeuvre-les-Nancy, France; ²Valencia, Spain; ³Vienna, Austria; ⁴Gothenburg, Sweden)
- 11:15 **IL129 UV-induced mitochondrial DNA damage**
Mark Birch-Machin (Newcastle upon Tyne, United Kingdom)
- 11:40 **IL130 The circadian clock and biological age influence UV DNA damage responses in skin epidermis**
Michael G Kemp¹, Dan F Spandau², Shobhan Gaddameedhi³, Jeffrey B Travers¹ (¹Dayton, OH, ²Indianapolis, IN, ³Spokane, WA, United States)
- 12:05 **OC131 Solar simulated light exposure alters metabolism and genotoxicity induced by benzo[a]pyrene in human skin explants**
Anne M. von Koschembahr¹, David Béal¹, Marie-Thérèse Leccia², Anne Maitre², Thierry Douki¹ (¹Grenoble, ²La Tronche, France)
- 12:20 **OC132 Photoprotection by constitutive melanin: correlating deoxyribonucleic acid damage *in vivo* and skin cancer incidence**
Damilola Fajuyigbe¹, Su M Lwin¹, Brian L Diffey², Robert PE Sarkany¹, Antony R Young¹ (¹London, ²Newcastle upon Tyne, United Kingdom)
- 12:35 **OC133 UV sensitivity and DNA photolesions in skin of variable constitutive pigmentation**
Sandra Del Bino-Nokin, Juliette Sok, Françoise Bernerd (Aulnay-sous-Bois, France)
- 12:50 **OC134 Suction blister, a convenient probe for the assessment of DNA protection by sunscreens**
Thierry Douki¹, Gwendal Josse², Jimmy Le Digabel², Eleonore Gravier² (¹Grenoble, ²Toulouse, France)

- 14:15 **Keynote Lecture 1**
 Chair: Santi Nonell (Barcelona, Spain)
- KL135 Microbial Rhodopsins and Optogenetics**
 John L. Spudich (Houston, TX, United States)
- 14:45 **Keynote Lecture 2**
 Chair: Rex M. Tyrrell (Bath, United Kingdom)
- KL136 From photo-excited states to molecular interventions: Targeting skin photo-oxidative stress**
 Georg T Wondrak (Tucson, AZ, United States)
- 15:15 **Photobiology and industry**
 Chair: Alberto Diaspro (Genova, Italy), Roberto Pini (Firenze, Italy)
- 15:15 **IL137 Toxicology: Moving a Compound from the Bench to First in Man**
 Douglas B. Learn (Horsham, PA, United States)
- 15:45 **IL138 Photobiology and Industry: some innovative contributions to patient quality of life**
 Leonardo Masotti (Calenzano (FI), Italy)
- 16:15 **Coffee break**
- 16:45 **IL139 Research at Biofrontera: Enhancing photodynamic therapy of cutaneous neoplasias using a nanoemulsion-based drug delivery system**
 Ben Novak¹, Thomas Dirschka^{2,3}, Colin A. Morton⁴, Uwe Reinhold⁵, Montserrat Foguet¹, Beate Schmitz¹, Rolf-Markus Szeimies⁶, Hermann Lübbert¹ (¹Leverkusen, ²Wuppertal, ³Witten, ⁵Bonn, ⁶Recklinghausen, Germany; ⁴Stirling, United Kingdom)
- 17:15 **IL140 Controlled Environment Agriculture (CEA) –Outside-in-innovation and Partnerships as Key Success Factor**
 Timo Bongartz (Munich, Germany)
- 17:45 **Philips Light & Health: Innovations in phototherapy**
 Joerg Liebmann (Aachen, Germany)
- 18:15 **OC141 EPR: a technique to characterize free radicals (ROS and RNS) and to study Oxidative stress. Now made so simple, to become a laboratory tool**
 Manuela Liberi (Milano, Italy)

- 15:15 **Light and vitamin A in retinal disease**
 Chair: Rosalie Crouch (Charleston, United States), Yiannis Koutalos (Charleston, United States)
- 15:15 **IL142 Introduction to session**
 Rosalie Crouch (Charleston, SC, United States)
- 15:25 **IL143 Processing of vitamin A in human rod and cone photoreceptors**
 Yiannis Koutalos (Charleston, SC, United States)
- 15:55 **OC144 Phototoxicity of bovine retinal lipid extracts in ARPE-19 cell induced by oxidation**
 Anna Koscielniak¹, Tomasz Oles¹, Andrzej Zadlo¹, Agnieszka Broniec¹, Olivier Berdeaux², Stephane Gregoire², Lionel Bretillon², Tadeusz Sarna¹, Anna Maria Pawlak¹ (¹Krakow, Poland; ²Dijon, France)
- 16:15 **Coffee break**
- 16:45 **IL145 Thermal isomerization of chromophore in visual pigment**
 Yoshinori Shichida (Kyoto, Japan)
- 17:15 **IL146 How arrestin influences retinal flow in rhodopsin**
 Martha E. Sommer (Berlin, Germany)
- 17:45 **IL147 Role of all-trans-retinal and short-term light adaptation in susceptibility to retinal photodamage**
 Malgorzata Barbara Rozanowska (Cardiff, United Kingdom)

- 15:15 **UV-B-stimulated plant protection (ESP-UV4Plants* Joint Symposium)**
Chair: Éva Hideg (Pécs, Hungary), Gareth I. Jenkins (Glasgow, United Kingdom)
- 15:15 **IL148 How do phenolic compounds contribute to the sunlight acclimation of leaves? Potentials and possibilities**
Éva Hideg, Kristóf Csepregi, Arnold Rácz, Gyula Czégény, Péter Teszlák, László Körösi, Gábor Jakab (Pécs, Hungary)
- 15:45 **IL149 Potential importance of secondary plant metabolites induced by UV-B radiation: benefits from plant protection to human health**
Monika Schreiner, Susanne Neugart (Grossbeeren, Germany)
- 16:15 **Coffee break**
- 16:35 **IL150 UV-B stimulated plant protection: what does UVR8 contribute?**
Gareth I. Jenkins (Glasgow, United Kingdom)
- 16:55 **IL151 UV-B as a positive regulator of plant photosynthetic performance**
Jason J. Wargent (Palmerston North, New Zealand)
- 17:25 **OC152 UV-B perceived by UVR8 inhibits plant thermomorphogenesis**
Ashutosh Sharma¹, Scott Hayes^{1,2}, Donald P. Fraser¹, C. Kester Cragg-Barber¹, Bhavana Sharma¹, Gareth I. Jenkins³, Keara A. Franklin¹ (¹Bristol, ³Glasgow, United Kingdom; ²Utrecht, Netherlands)
- 17:45 **OC153 Day-night temperature fluctuations modify leaf epidermal flavonoid accumulation to varying extents in *Arabidopsis* through UV-B and blue-light photoreceptors**
T. Matthew Robson¹, Craig Christopher Brelford¹, Marieke Trasser², Santa Neimane³, Twinkle Solanki¹, John A Loehr⁴, Albert Porcar-Castell¹, Pedro Jose Aphalo¹, Luis Orlando Morales¹, Jakub Nezval⁵ (¹Helsinki, ⁴Lammi, Finland; ²Montpellier, France; ³Riga, Latvia; ⁵Ostrava, Czech Republic)
- 18:05 **OC154 UV-B radiation as a regulator of photosynthesis in *Arabidopsis thaliana***
Rixta Sievers, Jason Wargent (Palmerston North, New Zealand)
- 18:20 **OC155 Influence of sugars on UV-protection in plants**
Piotr Zgłobicki¹, Joanna Grzyb², Anna Kozłowska¹, Agnieszka Katarzyna Banaś¹ (¹Krakow, ²Warszawa, Poland)

- 08:30 **Keynote Lecture 3**
Chair: Cristina Flors (Madrid, Spain)
- KL201 Controlling and manipulating fluorescence dynamics towards nanoscale bioimaging**
Alberto Diaspro (Genova, Italy)
- 09:00 **Keynote Lecture 4**
Chair: Francesca Giuntini (Liverpool, United Kingdom)
- KL202 Light on an ancestral sensory interface linking cerebrospinal fluid to motor circuits in vertebrates**
Urs Böhm, Lydia Djenoune, Kevin Fidelin, Andrew Prendergast, Jenna Sternberg, Jeff Hubbard, Steven Knafo, Po-En Tseng, Laura Desban, Pierre-Luc Bardet, Claire Wyart (Paris, France)
- 09:30 **Chemistry and delivery of photosensitisers**
Chair: Maria da Graça P.M.S Neves (Aveiro, Portugal), Gang Zheng (Toronto, Canada)
- 09:30 **IL203 Plasmonic nanostructures as biomedical tools**
Isabel Pastoriza Santos (Vigo, Spain)
- 10:00 **IL204 Synthetic strategies in the design of photosensitizers for photodynamic therapy**
Ana T. P. C. Gomes¹, Nuno M. M. Moura¹, Kelly Castro^{1,2}, Maria do Amparo F. Faustino¹, Angela Cunha¹, Adelaide Almeida¹, Maria da Graça P.M.S. Neves¹ (¹Aveiro, Portugal; ²Curitiba, Brazil)
- 10:30 **Coffee break**
- 11:00 **IL205 Biomimetic porphyrin nanomedicine for cancer imaging and therapy**
Gang Zheng (Toronto, Canada)
- 11:30 **OC206 Light on, light off –Phototherapy in the dark**
Mathias O. Senge (Dublin, Ireland)
- 11:45 **OC207 Nanoencapsulated bacteriochlorins for photodynamic therapy of resistant cancers**
Janusz M. Dabrowski¹, Barbara Pucelik¹, Luis G. Arnaut² (¹Krakow, Poland; ²Coimbra, Portugal)
- 12:00 **OC208 AGuIX® theranostic nanoparticles for vascular-targeted interstitial photodynamic therapy of brain tumors**
Ludovic Colombeau¹, Eloise Thomas², Noémie Thomas¹, Muriel Barberi-Heyob¹, François Lux², Olivier Tillement², Céline Frochet¹, Régis Vandresse¹, Samir Acherar¹ (¹Nancy, ²Villeurbanne, France)
- 12:15 **OC209 Modulation of porphyrazines photostability: studies in solution and in HaCaT cells for PDT applications**
Thiago Teixeira Tasso, Paulo Newton Tonolli, Helena Couto Junqueira, Erica de Liandra Salvador, Paula Homem de Mello, Mauricio da Silva Baptista (São Paulo, Brazil)
- 12:30 **OC210 The scintillating possibilities of a PDT assisted radiotherapy**
Guy Monroe Entract, Ross William Boyle (Hull, United Kingdom)
- 12:45 **OC211 Novel Theranostic Phototherapeutic $\alpha\beta 6$ -Integrin Targeted PET/MRI Metalloporphyrins**
Jordon Sandland, Steve J. Archibald, Ross W. Boyle (Hull, United Kingdom)

- 09:30 **Non-visual photoreception and circadian vision: from basic and applied research to human behavior and health**
Chair: Joan E. Roberts (New York, United States), Carlo Musio (Trento, Italy)
- 09:30 **IL212 Non-visual photoreceptors: From basic science to potential optogenetic applications**
 Carlo Musio (Trento, Italy)
- 10:00 **IL213 Extraretinal photoreception and circadian rhythms in non-mammalian vertebrates**
 Cristiano Bertolucci (Ferrara, Italy)
- 10:30 **Coffee break**
- 11:00 **IL214 Responses of the mammalian circadian clock to visual features other than irradiance**
 Robert Lucas (Manchester, United Kingdom)
- 11:30 **IL215 Practical Applications of Circadian Rhythm on Human Health**
 Joan E. Roberts (New York, NY, United States)
- 12:00 **IL216 Effects of ‘blue-regulated’ full spectrum LED lighting in clinician performance and patient safety**
 Octavio Luis Perez (Madrid, Spain; New York, NY, United States)

- 09:30 **Photoimmunology in health and disease**
Chair: Scott N. Byrne (Sydney, Australia), Prue H. Hart (Perth, Australia)
- 09:30 **IL217 Platelet Activating Factor, a Critical Mediator for UV-Induced Immune Suppression Activates Epigenetic Mechanisms**
Stephen E Ullrich¹, Elisabetta Damiani², Nahum Puebla-Osorio¹ (¹Houston, TX, United States; ²Ancona, Italy)
- 10:00 **OC218 Ultraviolet irradiation of the skin alters sphingosine-1-phosphate levels in distant lymph nodes**
Benita Tse, Felix Marsh-Wakefield, Gary M. Halliday, Scott Byrne (Sydney, Australia)
- 10:10 **IL219 UV-activated regulatory B cells in health and disease**
Scott Byrne, Lai Fong Kok, Angela Ferguson, Jacqueline Marshall, Gary M. Halliday (Sydney, NSW, Australia)

The symposium “Photoimmunology in health and disease” will continue on Thursday, 7 September at 9:30

- 10:30 **Coffee break**
- 11:00 **Systemic photoprotection**
Chair: Gary M. Halliday (Sydney, Australia), Wilhelm Stahl (Duesseldorf, Germany)
- 11:00 **IL222 Antioxidants in Systemic Photoprotection - Mechanisms and Concepts**
Wilhelm Stahl (Duesseldorf, Germany)
- 11:30 **IL223 Omega-3 polyunsaturated fatty acids and photoprotection: eicosanoids and beyond**
Suzanne M. Pilkington (Manchester, United Kingdom)
- 12:00 **IL224 Systemic photoprotection by nicotinamide**
Diona L Damian, Gary M Halliday (Sydney, NSW, Australia)
- 12:30 **IL225 Photoprotection with food rich in carotenoids: Is prevention of age-related macular degeneration possible?**
Volker Böhm (Jena, Germany)

Satellite Meeting (Jointly organized by UV4Plants Association and ESP)*

- Turning photobiology into commercial reality: exploiting UV radiation for sustainable and innovative food**
09:00 *Chair: Gareth I. Jenkins (Glasgow, United Kingdom), Annamaria Ranieri (Pisa, Italy)*
- 09:00 **Opening & Welcome**
Annamaria Ranieri and Gareth Jenkins
- 09:20 **IL226 Photo-biotechnology for stress-tolerant and environmentally friendly crop plants based on phytochrome photoreceptors**
Pill-Soon Song¹, Hyo-Yeon Lee¹, Jeong-Il Kim², Ganesan Markkandan³ (¹Jeju, ²Gwangju, Republic of Korea; ³Kolkata, India)
- 09:40 **IL227 UV-B and grapevine: from plant physiology to the quality of berries and wine**
Javier Martínez-Abaigar, Encarnación Núñez-Olivera (Logroño, Spain)
- 10:00 **IL228 Don't put sunscreen on fruits! UV-B radiation as a precious resource for peach quality**
Marco Santin¹, Luigi Lucini², Marie-Theres Hauser³, Antonella Castagna¹, Annamaria Ranieri¹ (¹Pisa, ²Piacenza, Italy; ³Wien, Austria)
- 10:20 **IL229 Light quality induced changes in the carotenoid metabolism of pak choi (*Brassica rapa* ssp. *chinensis*)**
Katja Frede, Monika Schreiner, Susanne Baldermann (Großbeeren, Germany)
- 10:40 **IL230 Andean sunshine: high UVB radiation on local crops**
Thais Huarancca Reyes¹, Eric G. Cosio², Norma Salinas³, Lorenzo Guglielminetti¹ (¹Pisa, Italy; ²Lima, Peru; ³Oxford, United Kingdom)
- 11:00 **Coffee break**
- 11:30 **IL231 Influence of UVB radiation applied by LEDs on secondary plant metabolites**
Melanie Wiesner-Reinhold¹, Susanne Baldermann², Kamil Czajkowski³, Thomas Filler³, Monika Schreiner¹, Susanne Neugart¹ (¹Grossbeeren, ²Nuthetal, ³Berlin, Germany)
- 11:50 **IL232 Controlled Environment Agriculture (CEA) –Development and Usage of Tunable LED Grow Lights in collaboration with (Research) Partners**
Timo Bongartz (Munich, Germany)
- 12:10 **OC233 Valorization of waste cabbage leaves by UV postharvest treatments**
Giovanni Agati¹, Barbara Kusznierevicz², Agnieszka Bartoszek², Maria Grzegorzewska³, Ryszard Kosson³, Artur Kowalski³, Randi Seljåsen⁴, Lorenza Tuccio¹, Ingunn M. Vågen⁴, Stanislaw Kaniszewski³ (¹Sesto Fiorentino (FI), Italy; ²Gdansk, ³Skierniewice, Poland; ⁴Grimstad, Norway)
- 12:25 **OC234 Physiological strategies of *Chenopodium quinoa* Willd. in response to different UVB doses irradiation**
Lorenzo Guglielminetti¹, Thais Huarancca Reyes¹, Andrea Scartazza², Antonella Castagna¹, Eric Gabriel Cosio³, Annamaria Ranieri¹ (¹Pisa, ²Monterotondo Scalo (RM), Italy; ³Lima, Peru)
- 12:40 **OC235 Radiative transfer modelling and on-site measurements of irradiance allow informed manipulation of spectral composition to match specific production objectives**
Titta Kotilainen¹, Ricardo Hernández², Otmar Urban³, Vladimír Špunda⁴, Anders Lindfors¹, Phillip Davis⁵, Pedro Jose Aphalo¹, T. Matthew Robson¹ (¹Helsinki, Finland; ²Raleigh, NC, United States; ³Brno, ⁴Ostrava, Czech Republic; ⁵Selby, United Kingdom)

Wednesday, 6 September, afternoon

Congress Centre First Floor Gallery

13:00 **Poster session**
15.30

Auditorium

15:30 **Presentation of the ESP Education and Training Committee activities**
16.00

- 16:00 **Translational and therapeutical aspects of PDT**
Chair: Abhishek D. Garg (Leuven, Belgium), Tayyaba Hasan (Boston, United States)
- 16:00 **IL236 Photodynamic therapy of basal cell carcinoma in patients with Gorlin syndrome: A clinical randomized pilot trial comparing blue versus red light**
Edward V. Maytin, Urvashi Kaw, Muneeb Ilyas, Judith Mack, Bo Hu (Cleveland, OH, United States)
- 16:30 **IL237 Exploiting cellular behavior to maximize cancer treatment outcomes**
Tayyaba Hasan (Boston, MA, United States)
- 17:00 **Coffee break**
- 17:30 **OC238 Polyacrylamide nanoparticles: a conjugatable platform for use in the diagnosis and treatment of cancer**
Steven Yong-Yi Yap, Graeme J Stasiuk, Ross W Boyle (Hull, United Kingdom)
- 17:50 **OC239 Photochemical internalization in bladder cancer – development of an orthotopic *in vivo* model**
Odrun Arna Gederaas¹, Anders Johnsson¹, Kristian Berg², Rojlina Manandhar¹, Chetana Shrestha¹, Daniel Skåre¹, Ingvild Kinn Ekroll¹, Anders Høgset², Astrid Hjelde¹ (¹Trondheim, ²Oslo, Norway)
- 18:10 **IL240 PDT-induced ER stress: from mTOR and deubiquitinase inhibition to tumor vaccination**
Bastien Doix, Natalia Trempolec, Adan Pinto, Olivier Feron (Brussels, Belgium)
- 18:40 **IL241 Photodynamic therapy: towards next-generation immunotherapy for cancer**
Abhishek D Garg, Patrizia Agostinis (Leuven, Belgium)
- 19:10 **OC242 New phosphorescent photosensitizers (PS) to follow up PDT response by autofluorescence FLIM and PS PLIM**
Angelika Rueck¹, Jasmin Breymayer¹, Lothar Lilge², Arkady Mandel², Sviatlana Kalinina¹ (¹Ulm, Germany; ²Toronto, Canada)

- 16:00 **Frontiers in DNA repair**
Chair: Evelyne Sage (Orsay, France), Patrick J. Rochette (Québec, Canada)
- 16:00 **IL243 Enhancement of UV-induced DNA damage repair in human dermal fibroblasts by a chronic low-dose UVB pre-stimulation**
Marie-Catherine Drigeard Desgarnier¹, Roxanne Bérubé¹, Thierry Douki², Patrick J. Rochette¹
(¹Québec, Canada; ²Grenoble, France)
- 16:30 **IL244 Filling gaps in translesion DNA synthesis in human cells**
Carlos Fred Menck (Sao Paulo, SP, Brazil)
- 17:00 **Coffee break**
- 17:30 **IL245 Nucleolar DNA damage, jammed rRNA synthesis and the fate of RNA polymerase I**
Antonio Conconi (Sherbrooke, QC, Canada)
- 18:00 **IL246 Biological significance of CPD photolyase in rice grown under natural sunlight: UVB sensitivity and gene expression and subcellular localization of CPD photolyase**
Jun Hidema (Sendai, Japan)
- 18:30 **OC247 Light-driven DNA repair: Lessons from fish**
Haiyu Zhao¹, Pietro Negrini¹, Elena Frigato², Giuseppe Di Mauro², Tilman Lamparter³, Daniela Vallone¹, Cristiano Bertolucci², Nicholas S. Foulkes¹ (¹Eggenstein, ³Karlsruhe, Germany; ²Ferrara, Italy)
- 18:50 **OC248 Dermal components and their impact on UV-induced DNA damage repair efficiency in the epidermis**
Marie M. Dorr, Patrick J. Rochette (Québec, Canada)

- 16:00 **Dynamic luminescent probes**
 Chair: Ranieri Bizzarri (Pisa, Italy), Thomas Gensch (Jülich, Germany)
- 16:00 **IL249 Optimized Ratiometric Fluorescent Calcium Biosensors**
 Oliver Griesbeck (Martinsried, Germany)
- 16:30 **IL250 Genetically encoded biosensors for quantitative analysis of live cell chemistry**
 Marie Erard, Fabienne Mérola, Hélène Pasquier, Oliver Nüsse (Orsay, France)
- 17:00 **Coffee break**
- 17:30 **IL251 Long luminescence-lifetime terbium probes for time-resolved FRET biosensing**
 Niko Hildebrandt (Orsay, France)
- 18:00 **IL252 Monitoring of pH in living cells and cell organelles by fluorescence lifetime imaging**
 Thomas Gensch¹, Sabine Balfanz¹, Arnd Baumann¹, Felix Beinlich¹, Ranieri Bizzarri², Wolfgang Bönigk³, Gabriela Bosio⁴, Giorgia Casini¹, Christoph Fahlke¹, Arne Franzen¹, Wolfgang Gärtner⁵, Raul Guzman¹, Aba Losi⁶, Igor Melnikov⁷, Sarah Rahmati¹ (¹Jülich, ³Bonn, ⁵Leipzig, Germany; ²Pisa, ⁶Parma, Italy; ⁴La Plata, Argentina; ⁷Grenoble, France)
- 18:30 **OC253 Characterization of environmental toxicity sensing *Escherichia coli* harboring plasmid with bacterial bioluminescence or fluorescence producing gene**
 Hajime Karatani (Kyoto, Japan)
- 18:50 **OC254 Illuminating the cutting edge: New generation drug design for fluorescence guided surgery**
 Miffy Cheng, Ross William Boyle (Hull, United Kingdom)

- 16:00 **Photoreception shapes photosynthesis**
 Chair: Roberto Bassi (Verona, Italy), Lucia Guidi (Pisa, Italy)
- 16:00 **IL255 Improving light-use-efficiency and biomass yield of plants by modulating photoprotective mechanisms**
 Stefano Cazzaniga, Luca Dall'Osto, Roberto Bassi (Verona, Italy)
- 16:30 **IL256 Diatom phytochromes reveal the existence of far-red light based sensing in the ocean**
 Angela Falciatore (Paris, France)
- 17:00 **Coffee break**
- 17:30 **IL257 Phototropin-dependent regulation of photosynthesis in green algae**
 Dimitris Petroutsos (Grenoble, France)
- 18:00 **IL258 UV-B photoreception triggers protection of the photosynthetic apparatus in *Chlamydomonas reinhardtii***
 Guillaume Allorent¹, Linnka Lefebvre-Legendre¹, Richard Chappuis¹, Marcel Kuntz², Thuy B. Truong³, Krishna K. Niyogi¹, Roman Ulm¹, Michel Goldschmidt-Clermont¹ (¹Geneva, Switzerland; ²Grenoble, France; ³Berkeley, CA, United States)
- 18:30 **OC259 UV-induced phototransformation and bleaching of protochlorophyllide-forms in the epicotyls of dark grown pea (*Pisum sativum* L.)**
 Anna Laura Erdei, Bela Boddi (Budapest, Hungary)
- 18:50 **OC260 The “privilege”of being red: a comprehensive picture of the photoprotection mechanisms adopted by anthocyanin-equipped and green-leafed of sweet basil**
 Marco Landi¹, Massimiliano Tattini², Federico Sebastiani², Cecilia Brunetti², Alessio Fini³, Antonella Gori², Lucia Guidi¹ (¹Pisa, ²Firenze, ³Milano, Italy)

- 08:30 **Keynote Lecture 5**
Chair: Francesco Lenci (Pisa, Italy)
- KL301 SESAME: Science and Intercultural Dialogue in the Middle East**
Giorgio Paolucci (Allan, Jordan)
- 09:00 **Keynote Lecture 6**
Chair: Gareth Jenkins (Glasgow, United Kingdom)
- KL302 Artificial Photosynthesis: a concert for photons and electrons**
Sebastiano Campagna (Messina, Italy)
- 09:30 **Experimental and pre-clinical models for PDT**
Chair: Pål Kristian Selbo (Oslo, Norway), Catharina Lerche (Copenhagen, Denmark)
- 09:30 **IL303 Improving peptide-based cancer vaccines with photochemical internalization**
Pål Kristian Selbo¹, Monika Håkerud¹, Anne Grete Nedberg¹, Victoria Tudor Edwards¹, Markus Haug², Gaute Brede¹, Kristian Berg¹, Øyvind Halaas², Anders Høgset¹ (¹Oslo, ²Trondheim, Norway)
- 10:00 **IL304 Modulation of tumor microenvironment and drug pharmacokinetics with photodynamic therapy in mouse tumor models**
Huang-Chiao Huang, Imran Rizvi, Joyce Liu, Sriram Anbil, Yan Baglo, Tayyaba Hasan (Boston, MA, United States)
- 10:30 **Coffee break**
- 11:00 **IL305 Photochemical internalisation to enhance pancreatic cancer chemotherapy**
Alexander Ney¹, Alexander John MacRobert¹, Stephen Pereira¹, Patricia Sancho¹, Pål Kristian Selbo², Pilar Acedo¹ (¹London, United Kingdom; ²Oslo, Norway)
- 11:30 **IL306 PDT: Skin penetration and skin cancer prophylaxis in a murine model**
Christiane Bay, Katrine Togsverd-Bo, Catharina Margrethe Lerche, Merete Haedersdal (Copenhagen, Denmark)
- 12:00 **OC307 Photochemical internalisation in 3D compressed collagen models of breast cancer**
Layla Mohammad-Hadi, Elnaz Yaghini, Marilena Loizidou, Alexander J MacRobert (London, United Kingdom)
- 12:20 **OC308 Endothelial Colony Forming Cells (ECFCs) loaded with near-infrared sensitive Au nanoparticles: “Trojan horse” to tackle melanoma**
Anna Laurenzana (Florence, Italy)
- 12:40 **OC309 Expression of pro- and antiapoptotic proteins in penumbra after photothrombotic stroke in the rat brain cortex**
Anatoly Uzdensky, Svetlana Demyanenko (Rostov-on-Don, Russian Federation)

- 09:30 **Photoimmunology in health and disease**
Chair: Scott N. Byrne (Sydney, Australia), Prue H Hart (Perth, Australia)
- 09:30 **IL220 Epidemiology and photo-immunology: working together to improve health**
 Robyn Marjorie Lucas (Canberra, ACT, Australia)
- 10:00 **IL221 Report on a UVB phototherapy trial for early multiple sclerosis**
 Prue H Hart (Perth, WA, Australia)
- 10:30 **Coffee break**
- 11:00 **Drug photosensitivity and carcinogenesis (ESP-EPA* Joint Symposium)**
Chair: Sally H. Ibbotson (Dundee, United Kingdom), Miguel A. Miranda (Valencia, Spain)
- 11:00 **IL310 Clinical Overview of Drug Photosensitivity and Photocarcinogenesis**
 Sally H. Ibbotson (Dundee, United Kingdom)
- 11:30 **IL311 Protein Oxidation & Drug-Related Carcinogenesis**
 Peter Karran (London, United Kingdom)
- 12:00 **IL312 Drug-photosensitized DNA Damage**
 Miguel A. Miranda (Valencia, Spain)
- 12:30 **IL313 Traces of Polycyclic Aromatic Hydrocarbons from particulate matter aggravate oxidative impact of UVA1 in skin models: towards concept of photo-pollutant stress**
 Laurent Marrot (Aulnay-sous-Bois, France)
- 13:00 **OC314 A Quantitative Structure-Property Relationship (QSPR) Study of Triplet State Photogeneration and Singlet Oxygen Production by Aromatic Heterocyclic Drug Compounds**
 Andrey A. Buglak, Alexei I. Kononov (St. Petersburg, Russian Federation)

- 09:30 **Time- and space-resolved photobiology**
 Chair: Cristiano Viappiani (Parma, Italy), Cristina Flors (Madrid, Spain)
- 09:30 **IL315 Correlative super-resolution fluorescence imaging and AFM to study biology and biomaterials at the nanoscale**
 Cristina Flors (Madrid, Spain)
- 10:00 **IL316 Pump-probe spectroscopy of excited state dynamics in organic systems with high temporal (and spatial) resolution**
 Dario Polli (Milan, Italy)
- 10:30 **Coffee break**
- 11:00 **IL317 Spatiotemporally resolved photoproduction of ROS in functional microscopy**
 Cristian Alejandro Strassert (Muenster, Germany)
- 11:30 **IL318 Cellular uptake of photosensitizers at subdiffraction resolution**
 Cristiano Viappiani¹, Pietro Delcanale¹, Stefania Abbruzzetti¹, Marco Cozzolino², Paolo Bianchini²,
 Alberto Diaspro², Luigi Cavanna³, Carmine Giorgio¹, Massimiliano Tognolini¹ (¹Parma, ²Genova,
 ³Piacenza, Italy)
- 12:00 **OC319 Femtosecond to microsecond dynamics of dronpa photoconversion**
 Stephen Roy Meech (Norwich, United Kingdom)

- 09:30 **Light harvesting dynamics**
 Chair: Alexander V Ruban (London, United Kingdom), Diana Kirilovsky (Gif-sur-Yvette, France)
- 09:30 **IL320 Dynamics of the photosynthetic light harvesting antennae**
 Alexander V Ruban (London, United Kingdom)
- 10:00 **IL321 Light harvesting dynamics: *in vitro*, *in vivo*, *in silico***
 Roberta Croce (Amsterdam, Netherlands)
- 10:30 **Coffee break**
- 11:00 **IL322 Photoprotection in cyanobacteria: the orange carotenoid protein and the OCP related proteins**
 Diana Kirilovsky (Gif-sur-Yvette, France)
- 11:30 **IL323 Light-harvesting strategies of photosynthetic microorganisms: different ways to collect and utilize sunlight**
 Tomas Polivka (Ceske Budejovice, Czech Republic)
- 12:00 **OC324 Time-resolved FTIR studies on light harvesting systems: insight on photoprotection mechanisms *in vitro* and *in vivo***
 Alberto Mezzetti¹, Maxime Alexandre², Diana Kirilovsky³, Claudia Buchel⁴, Bruno Robert³ (¹Paris, ³Gif-sur-Yvette, France; ²Amsterdam, Netherlands; ⁴Frankfurt, Germany)
- 12:20 **OC325 Quantum Chemical investigation of Natural Light Harvesting complexes**
 Sandro Jurinovich, Lorenzo Cupellini, Benedetta Mennucci (Pisa, Italy)
- 12:40 **OC326 Carotenoid-binding S-layer proteins as an evolutionary template to understand photoprotection evolution**
 Domenica Farci¹, Chavdar Slavov², Dario Piano¹ (¹Cagliari, Italy; ²Frankfurt am Main, Germany)

- 14:00 **Benefit (vitamin D synthesis) versus hazard (skin cancer) of sunlight exposure**
Chair: Lesley E. Rhodes (Manchester, United Kingdom), Antony R. Young (London, United Kingdom)
- 14:00 **IL327 The good and the bad of sunlight: the pendulum swings**
(Lecture in dedication to Jan Cornelis van der Leun)
Harry Slaper (Bilthoven, Netherlands)
- 14:30 **IL328 Risks and benefits of holiday UVR exposure in adults and children**
Antony Richard Young (London, United Kingdom)
- 15:00 **IL329 Concurrent health risks and benefits of low level sunlight exposure in different skin types**
Lesley E. Rhodes¹, Barbara Shih¹, Sarah J. Felton¹, Mark D. Farrar¹, Ann R. Webb¹, Marcus S. Cooke², Frank R. de Gruijl³ (¹Manchester, United Kingdom; ²Miami, FL, United States; ³Leiden, Netherlands)
- 15:30 **Coffee break**
- 16:00 **IL330 How much sunlight exposure is required to safely provide adequate vitamin D?**
Ann R. Webb¹, Andreas Kazantzidis², Mark Farrar¹, Richard Kift¹, Kevin Cashman¹, Lesley E. Rhodes¹
(¹Manchester, United Kingdom; ²Patras, Greece)
- 16:30 **OC331 Can we balance individual UV exposure (vitamin D induction versus erythema exposure) by using a smartphone? Thoughts on the current technology**
Joanna Turner, Damien Igoe, Alfio V Parisi, Nathan Downs, Abdurazaq Amar (Toowoomba, Australia)
- 16:50 **OC332 Current sun-exposure patterns provide inadequate vitamin D in adolescents with seasonal deficiency negatively impacting on bone health**
Mark Farrar, Zulf Mughal, Judith Adams, Jack Wilkinson, Jacqueline Berry, Lisa Edwards, Richard Kift, Elizabeth Marjanovic, Andy Vail, Ann Webb, Lesley E. Rhodes (Manchester, United Kingdom)
- 17:10 **OC333 The influence of behaviour concerning solar UV or sun bed UV or supplementation on the season depending vitamin D status**
Peter Manfred Knuschke (Dresden, Germany)

- 14:00 **Experimental photoprotection - from cellular to animal studies**
Chair: Vivienne E. Reeve (Sydney, Australia), Rex M. Tyrrell (Bath, United Kingdom)
- 14:00 **IL334 Endogenous antioxidant photoprotection: cGMP and PDEs in the skin**
Munif Allanson, Sondur Jayappa Arun, Vivienne E. Reeve (Sydney, NSW, Australia)
- 14:30 **IL335 A multifaceted approach for protecting the skin against UV radiation-mediated damage and photocarcinogenesis: The case of sulforaphane**
Elena V Knatko¹, Andrea L Benedict², Maureen Higgins¹, Sally H Ibbotson¹, Albena T Dinkova-Kostova¹ (¹Dundee, United Kingdom; ²Baltimore, MD, United States)
- 15:00 **IL336 UVA irradiation releases antioxidants for photoprotection**
Miao Jiao Zhong¹, Muhammad Farrukh Nisar¹, Shi Da Chen¹, Rex M Tyrrell², Julia Li Zhong¹
(¹Chongqing, China; ²Bath, United Kingdom)
- 15:30 **Coffee break**
- 15:50 **IL337 Do we need antioxidants in topical sunscreens?**
Rex M. Tyrrell (Bath, United Kingdom)
- 16:20 **OC338 Light-Activated Caged Iron Chelators (CICs) for Skin Photoprotection**
Annabel Hampshire, Olivier Reelfs, Charareh Pourzand, Ian Eggleston (Bath, United Kingdom)
- 16:35 **OC339 Wavelengths in the UV/visible radiation boundary region (385–405 nm) damage skin cells**
Karl P Lawrence¹, Robert PE Sarkany¹, Thierry Douki², Stephanie Acker³, Bernd Herzog³, Antony R Young¹ (¹London, United Kingdom; ²Grenoble, France; ³Grenzach-Wyhlen, Germany)
- 16:50 **OC340 Calcium-sensing receptor (CaSR) modifier protects against acute UVB-induced DNA damage in human primary keratinocytes and in mice**
Chen Yang, Mark Rybchyn, Arthur Conigrave, Rebecca Mason (Sydney, Australia)
- 17:05 **OC341 Photoprotection by an “overirradiation” product metabolite: 24-hydroxy-lumisterol3**
Warusavithana Gunawardena Manori De Silva¹, Bianca Y. McCarthy¹, Jeremy Han¹, Robert C. Tuckey², Gary M. Halliday¹, Katie Dixon¹, Mark S. Rybchyn¹, Rebecca S. Mason¹ (¹Sydney, ²Crawley, Australia)
- 17:20 **OC342 A novel link between tumour suppressor PTEN and vitamin D in photoprotection and melanoma**
Katie Marie Dixon, Artur Shariev (Sydney, NSW, Australia)

- 14:00 **Biotechnological applications of photosynthesis**
Chair: Massimo Trotta (Bari, Italy), Giuseppina Rea (Monterotondo (RM), Italy)
- 14:00 **IL343 Wiring genetically engineered *Chlamydomonas* cells for electrochemical biosensors**
Maya Dimova Lambreva¹, Amina Antonacci¹, Ivan Husu¹, Violeta Peeva², Simona Carmen Litescu³, Veranika Zobnina⁴, Ivo Bertalan⁵, Gianni Pezzotti⁴, Katia Buonasera¹, Viviana Scognamiglio¹, Fabio Polticelli⁴, Udo Johannngmeier⁵, Maria Teresa Giardi¹, Giuseppina Rea¹ (¹Monterotondo (RM), ⁴Roma, Italy; ²Sofia, Bulgaria; ³Bucharest, Romania; ⁵Halle, Germany)
- 14:20 **IL344 Prolongation of hydrogen photoproduction by Mg-deprived *Chlamydomonas reinhardtii* cells**
Taras K Antal, Alena A Volgusheva, Martina Jokel (Moscow, Russian Federation)
- 14:45 **IL345 Biological photovoltaic building blocks for solar energy harvesting**
Raoul Frese (Amsterdam, Netherlands)
- 15:10 **IL346 Photosynthetic Proteins in Devices – The Hurdle of Charge Recombination**
Nicolas Plumeré (Bochum, Germany)
- 15:35 **Coffee break**
- 16:00 **IL347 Building on photosynthetic complexity by simple tools**
Massimo Trotta¹, Simona la Gatta¹, Massimo Dell'Edera¹, Roberta Ragni¹, Angela Agostiano¹, Gianluca Maria Farinola¹, Emiliano Altamura¹, Fabio Mavelli¹, Rocco Roberto Tangorra¹, Pasquale Stano² (¹Bari, ²Lecce, Italy)
- 16:20 **OC348 On the interaction of carbon nanotubes and microalgae**
Taras K. Antal¹, Alena A. Volgusheva¹, Silvia Orlanducci^{2,3}, Gianluca Fulgenzi⁴, Andrea Margonelli³, Teresa Lavecchia³, Giuseppina Rea³, Maya D. Lambreva³ (¹Moscow, Russian Federation; ²Roma, ³Monterotondo (RM), ⁴Ancona, Italy)
- 16:35 **OC349 Photosynthetic reaction centers in deep eutectic solvents: functional characterization**
Francesco Milano¹, Livia Giotta², Maria Rachele Guascito², Angela Agostiano¹, Stefania Sblendorio¹, Filippo Perna¹, Luciana Cicco¹, Ludovico Valli², Massimo Trotta¹, Vito Capriati¹ (¹Bari, ²Lecce, Italy)
- 16:50 **OC350 Developing 3D photobioelectrodes: The efficient electrical connection of photosystem I to transparent conducting oxides by means of heme containing redox proteins**
Kai Ralf Stieger¹, Dmitri Ciornii¹, Adrian Kölsch², Mahdi Hejazi², Heiko Lokstein³, Sven Christian Feifel¹, Elizabeth Lojou⁴, Athina Zouni², Fred Lisdat¹ (¹Wildau, ²Berlin, Germany; ³Prague, Czech Republic; ⁴Marseille, France)
- 17:05 **OC351 Functional incorporation of bacterial photosynthetic reaction centers in polydopamine nanospheres**
Marco Lo Presti¹, Francesco Milano¹, Livia Giotta², Maria Rachele Guascito², Roberto Comparelli¹, Elisabetta Fanizza¹, Angela Agostiano¹, Massimo Trotta¹, Steven Vertueux³, Gianluca Farinola¹ (¹Bari, ²Lecce, Italy; ³Nantes, France)
- 17:20 **OC352 Simulation of binding mechanism of plastocyanin and cytochrome f proteins**
Ilya Kovalenko, Vladimir Fedorov, Sergey Khrushev (Moscow, Russian Federation)
- 17:35 **OC353 Bio-Hybrid Supramolecular Complexes for Artificial Photosynthesis**
Simona la Gatta, Francesco Milano, Roberta Ragni, Angela Agostiano, Gianluca M. Farinola, Massimo Trotta (Bari, Italy)

Thursday, 7 September, afternoon

Auditorium

17:40
18:40 **ESP General assembly**

Thursday, 7 September, Evening

Grand Hotel Duomo, Via Santa Maria 94, Pisa

19:20 **Gala dinner**
Medal award ceremony

- 08:30 **Keynote Lecture 7**
Chair: Evelyne Sage (Orsay, France)
- KL401 DNA Photolyases and Beyond**
Thomas Carell (Munich, Germany)
- 09:00 **Keynote Lecture 8**
Chair: Kristian Berg (Oslo, Norway)
- KL402 Light for Crime Investigation**
Giorgia Miolo (Padova, Italy)
- 09:30 **Environmental antimicrobial PDT**
Chair: Adelaide Almeida (Aveiro, Portugal), Kristjan Plaetzer (Salzburg, Austria)
- 09:30 **IL403 New approaches to antimicrobial photodynamic therapy**
Santi Nonell (Barcelona, Spain)
- 09:55 **IL404 An effective and potentially safe blood disinfection protocol using tetrapyrrolic photosensitizers**
Lúcia Marciel, Luis Teles, Beatriz Moreira, Mário Pacheco, Leandro Lourenço, Graça Neves, João Tomé, Amparo Faustino, Adelaide Almeida (Aveiro, Portugal)
- 10:15 **OC405 Photosensitiser functionalised electrospun nanofibre to inactivate antibiotic resistant bacteria in waste water**
Kaniz Fatema Chowdhury, Stephen Russell, Natalia Sergeeva, Paul Millner (Leeds, United Kingdom)
- 10:30 **Coffee break**
- 11:00 **IL406 Fighting human and fish parasites using photodynamic effects with chlorophyll derivatives**
Donat Häder (Möhrendorf, Germany)
- 11:25 **IL407 Photodynamic Decontamination: natural substances and light to improve food safety**
Michael Glück, Barbara Schamberger, Peter Eckl, Kristjan Plaetzer (Salzburg, Austria)
- 11:45 **OC408 An insight on photodynamic approach versus copper formulations in the control of *Pseudomonas syringae* pv. *actinidiae* in kiwi plants**
Diana Martins¹, Vânia Jesus¹, Maria Graça P.M.S. Neves¹, Luís Reis², Esther Barreal³, Pedro P. Gallego³, Adelaide Almeida¹, Maria Amparo Ferreira Faustino¹ (¹Aveiro, ²Santa Maria da Feira, Portugal; ³Vigo, Spain)
- 12:00 **OC409 The antimicrobial potential of zinc octakis(cholinyl)phthalocyanine**
Marina Strakhovskaya¹, Ekaterina Kholina¹, Ilya Kovalenko¹, Olga Yuzhakova¹, Denis Korneev², Vladimir Zhukhovitsky¹ (¹Moscow, ²Kol'tsovo, Novosibirsk Region, Russian Federation)
- 12:15 **OC410 Increasing tolerance to antimicrobial photodynamic treatment with New Methylene Blue in the plant-pathogenic fungus *Colletotrichum abscissum***
Marcelo Ferreira da Cruz¹, Júlia Cunha Gonzales¹, Guilherme Thomaz Pereira Brancini¹, Fernando Grine Martins¹, Mark Wainwright², Gilberto Úbida Leite Braga¹ (¹Ribeirão Preto, São Paulo, Brazil; ²Liverpool, United Kingdom)
- 12:30 **OC411 Towards prevention of infectious diseases: antimicrobial properties of photoactivated ZnO nanostructures and their application**
Zivile Luksiene¹, Laura Kaziukonyte¹, Irina Buchovec¹, Kristina Aponiene¹, Tomas Serevicius¹, Saulius Jursenas¹, Neringa Rasiukeviciute², Norbertas Uselis² (¹Vilnius, ²Babtai, Lithuania)
- 12:45 **OC412 Antimicrobial Photodynamic Inactivation of *Pseudomonad* strains**
Thayse Marques Passos, Mary Pryce, Brid Quilty (Dublin, Ireland)

- 09:30 **From irradiance to dose**
 Chair: Giovanni Romano (Firenze, Italy), Stefan Andersson-Engels (Cork, Ireland)
- 09:30 **IL413 Dose and clinical outcome in PDT**
 Herbert Stepp, Adrian Rühm (Munich, Germany)
- 10:00 **IL414 Dose control in interstitial PDT of prostate cancer: clinical experiences**
 Johannes Swartling¹, Stefan Andersson-Engels², Katarina Svanberg¹ (¹Lund, Sweden; ²Cork, Ireland)
- 10:30 **Coffee break**
- 11:00 **IL415 From the ionizing radiation field to the absorbed dose and its determination**
 Alan Nahum (Henley-on-Thames, United Kingdom)
- 11:30 **IL416 Controlling and Quantifying the Dose of Photo-Produced Singlet Oxygen in Single Cell Experiments**
 Peter R Ogilby (Aarhus, Denmark)
- 12:00 **OC417 A simple model for estimating weighted exposure to optical radiation**
 Bjørn Johnsen¹, Atle Brun², Lill Tove Norvang Nilsen¹, Børge Hamre², Terje Christensen¹ (¹Østerås, ²Bergen, Norway)
- 12:15 **OC418 Irradiance profile measurement: the possible role of radiochromic films**
 Giovanni Romano, Lorenzo Zavagna, Alessio Gnerucci, Tommaso Mello, Paola Faraoni, Franco Fusi (Firenze, Italy)
- 12:30 **OC419 UV-dose estimate from a measurement campaign of personal UV-exposure**
 Peter den Outer¹, Anneke van der Reijden¹, Kirsty Pourshahidi², Harry Slaper¹ (¹Bilthoven, Netherlands; ²Coleraine, United Kingdom)
- 12:45 **OC420 Surface UV radiation products from the AURORA H2020 project**
 Ugo Cortesi¹, Emilio Simeone², Andrea Masini², Antti Arola³, Jukka Kujanpää³ (¹Sesto Fiorentino (FI), ²Livorno, Italy; ³Helsinki, Finland)
- 13:00 **OC421 Can you build your own equipment with open-source electronics, and if so, should you?**
 Sebastian Michael Strauch (Erlangen, Germany)

- 09:30 **New light technologies in cutaneous photodiagnosis and treatment**
Chair: Franz Trautinger (St. Poelten, Austria), Giovanni Pellacani (Modena, Italy)
- 09:30 **IL422 The concept of field cancerisation – clinical implications for photodiagnosis and therapy**
Franz Trautinger (St. Poelten, Austria)
- 10:00 **IL423 New imaging techniques reveal a different sun-damage landscape**
Nathalie De Carvalho, Alice Casari (Modena, Italy)
- 10:30 **Coffee break**
- 11:00 **IL424 The role of confocal microscopy and optical coherence tomography in the diagnosis of skin cancer**
Giovanni Pellacani, Francesca Farnetani (Modena, Italy)
- 11:30 **IL425 Light sources for photodynamic therapy**
Piergiacomo Calzavara-Pinton, Marina Venturini (Brescia, Italy)
- 12:00 **IL426 Phototherapy for vitiligo: what's new?**
Giovanni Leone, Andrea Paro Vidolin (Roma, Italy)
- 12:30 **OC427 Randomized clinical trial on the efficacy and safety of UV-free blue light for treating localized mild Psoriasis vulgaris compared to the Vitamin D analogue Daivonex**
Laura Krings, Joerg Liebmann, Matthias Born, Verena von Felbert (Aachen, Germany)
- 12:45 **OC428 Lessons learned from computer models on blue light therapy for psoriasis vulgaris**
Zandra Félix Garza¹, Joerg Liebmann², Matthias Born², Peter Hilbers¹, Natal van Riel¹ (¹Eindhoven, Netherlands; ²Aachen, Germany)

- 09:30 **Cryptochromes and novel photoreceptors for UV-visible light**
 Chair: Margaret Ahmad (Paris, France), Giovanni Giuliano (Roma, Italy)
- 09:30 **IL429 Electromagnetic Fields Stimulate Cryptochrome Photoreceptors to Modulate Intracellular Reactive Oxygen Species in Humans**
 Margaret Ahmad (Paris, France)
- 10:00 **IL430 Photoreceptor function probed by EPR *in vitro* and in cell**
 Robert Bittl (Berlin, Germany)
- 10:30 **Coffee break**
- 11:00 **IL431 A tale of mammalian cryptochromes**
 Ines Chaves (Rotterdam, Netherlands)
- 11:30 **IL432 A light-dependent magnetoreception mechanism insensitive to light intensity and polarization**
 Peter Hore (Oxford, United Kingdom)
- 12:00 **IL433 Multiple roles of cryptochromes in controlling Solanaceae physiology and development**
 Elio Fantini¹, Gaetano Perrotta¹, Maria Sulli², Abdelhafid Bendahmane³, Lei Zhang⁴, José Jiménez-Gómez⁵, Paolo Facella¹, Giovanni Giuliano² (¹Rotondella (MT), ²Roma, Italy; ³Evry, ⁵Versailles, France; ⁴Köln, Germany)
- 12:30 **OC434 Cryptochrome 1a, the Probable Receptor Molecules for the Magnetic Compass in birds and mammals**
 Christine Niessner (Frankfurt, Germany)

- 14:30 **Photofunctional proteins**
 Chair: Santi Nonell (Barcelona, Spain), Andreas Möglich (Bayreuth, Germany)
- 14:30 **IL435 Intermolecular photochemistry in fluorescent proteins**
 Konstantin A. Lukyanov, Alexey M. Bogdanov, Alexander S. Mishin (Moscow, Russian Federation)
- 15:00 **IL436 Signal Transduction in Photoreceptor Histidine Kinases**
 Andreas Möglich (Bayreuth, Germany)
- 15:30 **IL437 Insights on singlet oxygen generation by flavin-binding proteins**
 Ruben Ruiz, Santi Nonell (Barcelona, Spain)
- 16:00 **Coffee break**
- 16:30 **IL438 Mammalian and plant optogenetics for the control of cellular processes**
 Matias Zurbriggen (Düsseldorf, Germany)
- 17:00 **OC439 Take a Leap in Optogenetic Control of Spatiotemporal Cardiac Dynamics**
 Claudia Richter, Jan Christoph, Stefan Luther (Goettingen, Germany)

- 14:30 **New horizons in antimicrobial PDT**
Chair: Tim Maisch (Regensburg, Germany), Michael R. Hamblin (Boston, United States)
- 14:30 **IL440 Designing Future Photoantimicrobials**
Mark Wainwright (Liverpool, United Kingdom)
- 15:00 **IL441 Self-disinfecting photodynamic surfaces**
Tim Maisch (Regensburg, Germany)
- 15:30 **IL442 Developing a strategy leading to an effective fight against the phenomenon of microbial strain-dependent response to photodynamic inactivation**
Mariusz Stanislaw Grinholc (Gdansk, Poland)
- 16:00 **Coffee break**
- 16:30 **IL443 Potentiation of antimicrobial photoinactivation by potassium iodide**
Michael R Hamblin (Boston, MA, United States)
- 17:00 **OC444 The enhancement of fulleropyrrolidine-based photoinactivation of *Staphylococcus aureus* with antimicrobial peptides**
Joanna Nakonieczna (Gdansk, Poland)
- 17:15 **OC445 Pharmaceutical formulation as a measure to improve microbial phototoxicity**
Ellen M. Bruzell, Kristine O. Wikene, Håkon Valen Rukke, Hanne Hjorth Tønnesen (Oslo, Norway)
- 17:30 **OC446 *In vitro* photokilling of *Helicobacter pylori* by using a LED-based device**
Paola Morici¹, Antonella Battisti¹, Giovanni Checcucci¹, Francesco Ghetti¹, Giuseppe Tortora², Arianna Menciassi², Antonella Sgarbossa¹ (¹Pisa, ²Pontedera (PI), Italy)
- 17:45 **OC447 Spectroscopic characterization and compositional analysis of *Helicobacter pylori* endogenous porphyrins**
Antonella Battisti, Paola Morici, Giovanni Signore, Francesco Ghetti, Antonella Sgarbossa (Pisa, Italy)

- 14:30 **UV, melanocytes and melanoma**
 Chair: Lionel Larue (Orsay, France), Markus Böhm (Münster, Germany)
- 14:30 **IL448 cAMP-independent non-pigmentary actions of variant melanocortin 1 receptor: activation of protective responses to oxidative DNA damage**
 María Castejón, Cecilia Herraiz, Celia Jiménez-Cervantes, Jose Carlos García-Borrón (Murcia, Spain)
- 15:00 **IL449 Actinic Lentigo: a UV-induced hyperpigmentation revealing an altered melanocyte microenvironment**
 Emilie Warrick, Christine Duval, Stéphanie Nouveau, Philippe Bastien, Virginie Piffaut, Françoise Bernerd (Aulnay-sous-Bois, France)
- 15:30 **IL450 UVB represses melanocytes cell migration through β -catenin**
 Juliette Bertrand, Valerie Petit, Evelyne Sage, Lionel Larue (Orsay, France)
- 16:00 **Coffee break**
- 16:30 **OC451 Melanopsin mediates UVA-induced immediate pigment darkening in murine melanocytes and melanoma cells: Unrevealing the photosensitive system of the skin**
 Leonardo Vinícius Monteiro de Assis, Maria Nathalia Moraes, Keila Karoline Magalhães-Marques, Ana Maria de Lauro Castrucci (São Paulo, Brazil)
- 16:50 **OC452 A novel role for vitamin D in the inhibition of melanoma metastasis**
 Artur Shariev, Rebecca Mason, Katie Marie Dixon (Sydney, NSW, Australia)
- 17:10 **IL453 Role of Nrf2 in melanocyte cytoprotection, pigmentation and cellular transformation**
 Markus Böhm (Münster, Germany)
- 17:40 **OC454 Trends in melanoma are dominated by behaviour and behaviour can be changed**
 Arjan van Dijk, Harry Slaper (Bilthoven, Netherlands)