
Saturday, September 1, Afternoon

University Hall Foyer14.30
18.00 **Registration**

Saturday, September 1, Evening

Roman Bath and Pump Rooms19.00
20.30 **Welcome Reception**

Sunday, September 2, Morning

University Hall08.30 **Opening Ceremony – Welcome Addresses**08.45 **PL101 Young Scientist Award Lecture**
Interactions between drug excited states and proteins or DNA
*Virginie Lhiaubet-Vallet (Valencia, ESP) introduced by Kristian Berg (Oslo, NOR)*09.15 **Coffee Break**09.45 **DNA damage and repair**
*Chair: Jean Cadet (Grenoble, FRA)*09.45 **IL102 Absorption of UV radiation by DNA helices: collective effects and time-resolved studies**
*D. Markovitsi, D. Onidas, T. Gustavsson, F. Talbot, S. Marguet, E. Lazzarotto (Gif-sur-Yvette, FRA)*10.15 **IL103 Photochemistry of 5-halouracil-containing DNA**
*Hiroshi Sugiyama (Kyoto, JPN)*10.45 **IL104 Structural investigation of cyclobutane pyrimidine dimers in complex with DNA photolyase and RNA polymerase II**
*Thomas Carell (Munich, GER)*11.15 **IL105 Specific features of the formation and repair of far-UV induced dimeric photoproducts at the four bipyrimidine dinucleotides within isolated and cellular DNA**
*Thierry Douki¹, Stephane Mouret¹, Evelyne Sage², Fabien Joux³, Sabine Matallana-Surget³, Jarah A. Meador³, Jean Cadet¹ (¹Grenoble, ²Orsay, ³Banyuls-sur-Mer, FRA)*11.45 **OC106 Induction and repair of UV-induced DNA damage in *Deinococcus radiodurans***
*Petra Rettberg¹, Ulrike Pogoda de la Vega¹, Thierry Douki², Jean Cadet², Günther Reitz¹ (¹Köln, GER; ²Grenoble, FRA)*12.00 **OC107 Towards time-resolving electron transfer between different tryptophan residues during DNA photolyase activation**
Martin Byrdin¹, Andre P.M. Eker², Agathe Espagne¹, Sandrine Villette¹, Klaus Brettel¹ (¹Gif-sur-Yvette, FRA; ²Rotterdam, NED)

- 09.45 **ALA-based PDT**
Chair: Zvi Malik (Ramat Gan, ISR)
- 09.45 **IL108 ALA-PDT cell death: real time imaging of subcellular processes**
Zvi Malik, Dana Darvish, Aryeh Weiss (Ramat Gan, ISR)
- 10.15 **IL109 Mechanisms underlying light fractionated PDT using porphyrin precursors**
Henriette S. de Bruijn, Ellen R. M de Haas, Henricus J. C. M. Sterenborg, H A Martino Neumann, Dominic J Robinson (Rotterdam, NED)
- 10.45 **IL110 Detection of urinary bladder cancer with flow cytometry and hexaminolevulinate in urine samples**
Beata Čunderlíková, Rolf Wahlqvist, Aasmund Berner, Vlada Vasovič, Trond Warloe, Jahn M. Nesland, Qian Peng (Oslo, NOR)
- 11.15 **OC111 Photodynamic therapy using topically applied hypericin: comparative effect with methylaminolevulinic acid on UV induced skin tumors**
Annelies Boijy, Rik Roelandts, Peter de Witte (Leuven, BEL)
- 11.30 **OC112 Orthotopic animal models for oncologic photodynamic therapy and photodiagnosis**
Marie Ange D'Hallewin, Lina Bezdetnaya, Henri Pierre Lassalle, François Guillemin (Vandoeuvre-les-Nancy, FRA)
- 11.45 **OC113 Liposomes of aminolevulinic acid and aminolevulinic acid-esters for photodynamic therapy**
Alcira Batlle¹, Gabriela DiVenosa¹, Adriana Casas¹, Laura Hermida¹, Haydée Fukuda¹, María Victoria Defain¹, Alexander MacRobert^{1,2} (¹Buenos Aires, ARG; ²London, GBR)
- 12.00 **OC114 Novel 5-aminolaevulinic acid peptide prodrugs for photodynamic therapy: synthesis, characterisation, and cellular accumulation studies**
Francesca Giuntini¹, Ian M. Eggleston¹, Ludovic Bourre², Alexander J. MacRobert², Michael Wilson² (¹Bath, ²London, GBR)
- 12.15 **OC115 Histamine, nitric oxide and prostaglandin E2 are released following topical ALA-PDT of human skin. 'Real-time' investigation using intradermal microdialysis**
Rebecca Brooke¹, Meneka Sidhu¹, Rachel Watson¹, Martin Church², Peter Friedmann², Geraldine Clough², Lesley Rhodes¹ (¹Manchester, ²Southampton, GBR)
- 12.30 **OC116 Enhanced porphyrin accumulation using peptide derivatives of 5-aminolaevulinic acid for photodynamic therapy**
Ludovic Bourre¹, Francesca Giuntini², Ian M. Eggleston², Michael Wilson¹, Alexander J. MacRobert¹ (¹London, ²Bath, GBR)

Sunday, September 2, Morning**Room 5W 2.3**

- 09.45 **New aspects of photoimmunology: mouse and man**
Chairs: Vivienne Reeve (Sydney, AUS), Prue Hart (Perth, AUS)
- 09.45 **IL117 Polymorphic Light Eruption is associated with abnormalities in keratinocyte responses to UVR**
Susan Lesley Walker (London, GBR)
- 10.10 **IL118 Unbalanced immune reactions to UV-B irradiation in Polymorphic Light Eruption**
A Soe Janssens, Stan Pavel, Frank R de Gruijl (Leiden, NED)
- 10.35 **IL119 Regulation of murine asthma models by UV radiation of skin**
Prue H Hart, Jacqueline P McGlade, Shelley Gorman, John J Finlay-Jones (Perth, AUS)
- 11.00 **IL120 The role of UV-induced chemokines in modulating immune responses**
Scott N. Byrne¹, Alberto Y. Limon-Flores², Stephen E. Ullrich² (¹Sydney, AUS; ²Houston TX, USA)
- 11.25 **OC121 Chronotherapy - Circadian rhythm, the human immune response and treatment of disease**
Joan Elizabeth Roberts (New York NY, USA)
- 11.40 **OC122 UVB radiation and vitamin D influence the neonatal skin immune system and can have long term implications**
Gregory M Woods, Roslyn C Malley, Heather M McGee, H Konrad Muller (Hobart, AUS)
- 11.55 **OC123 Cis-urocanic acid initiates gene transcription independently of the serotonin 5HT2A receptor in primary human keratinocytes**
Kazuyo Kaneko¹, Ulli Smetana-Just¹, Mary Matsui², Antony R Young¹, Susan John¹, Mary Norval³, Susan L Walker¹ (¹London, ³Edinburgh, GBR; ²Melville NY, USA)
- 12.10 **OC124 Modulation of photoimmune suppression by exogenous or endogenous melatonin**
Kishen Lachireddy, Diane Domanski, Vivienne E Reeve (Sydney, AUS)
- 12.25 **OC125 Upregulation of pro- and anti-inflammatory lipid mediators during the sunburn response in human skin. Candidates for mediation and regulation of UVR-induced neutrophil chemotaxis**
A. Haylett¹, M. Masoodi², M. Brownrigg¹, K. Gledhill², D.J. Tobin², A.J. Thody³, A. Nicolaou², L.E. Rhodes¹ (¹Manchester, ²Bradford, ³Newcastle, GBR)
- 12.40 **OC126 A characterisation of iNKT cells in mouse skin**
Kirsten J.L. Hammond, Carling Y-Y. Chan, Gary M. Halliday (Sydney, AUS)

- 09.45 **Instrumentation in photobiology**
Chair: Angelika Ruck (Ulm, GER)
- 09.45 **IL127 TCSPC fluorescence lifetime imaging in photobiology**
Wolfgang Becker, Axel Bergmann (Berlin, GER)
- 10.15 **IL128 New Total Internal Reflection (TIR) techniques for live cell imaging**
Herbert Schneckenburger¹, Michael Wagner¹, Petra Weber¹, Thomas Bruns¹, Brigitte Angres², Heiko Steuer², Wolfgang S.L. Strauss³ (¹Aalen, ²Reutlingen, ³Ulm, GER)
- 10.45 **IL129 Time-resolved fluorescence imaging in the life sciences**
Klaus Suhling (London, GBR)
- 11.15 **IL130 Multiwavelength fluorescence lifetime imaging (SLIM) in photobiology**
Angelika Rueck, Frank Dolp, Björn v. Einem, Cornelia Steinmetz, Christine v. Arnim, Rudolf Steiner (Ulm, GER)
- 11.45 **IL131 Multiphoton tomography in medicine using femtosecond lasers**
Karsten König¹, Iris Riemann¹, Frank Stracke¹, Aisada Uchugonova¹, Rainer Bückle², Ronan Le Harzic^{1,2}, Katja Schenke-Layland³, Martin Kaatz², Peter Elsner² (¹St. Ingbert, ²Jena, GER; ³Los Angeles, USA)
- 12.15 **OC132 Measurement and assessment of circadian effective radiation of natural and artificial sources**
Dieter Kockott¹, Helmut Piazena², Rüdiger Sippel³ (¹Hanau, ²Berlin, ³Fröndenberg, GER)
- 12.30 **OC133 Instrumentation for selective fluorescence detection from deeper layers of the tissue**
Jonas Venius, Ricardas Rotomskis (Vilnius, LTU)
- 12.45 **OC134 Real-time evaluation of tissue properties for feed-back dosimetry in interstitial photodynamic therapy**
Johan Axelsson, Ann Johansson, Johannes Swartling, Sara Pålsson, Thomas Johansson, Niels Bendsoe, Katarina Svanberg, Sune Svanberg, Stefan Andersson-Engels (Lund, SWE)

Sunday, September 2, Afternoon
University Hall

- 14.00 **Presentation of the European Platform for Photodynamic Medicine (EPPM)**
Keyvan Moghissi (York, GBR)
- 14.15 **PL135 Photobiology Update**
Multiple regulatory pathways for photoimmune responsiveness
Vivienne E Reeve (Sydney, AUS) *introduced by Rex Tyrrell (Bath, GBR)*
- 15.00 **Molecular and cellular aspects of PDT**
Chair: Jacques Piette (Liège, BEL)
- 15.00 **IL136 PDT effects on the tumor microenvironment: growing evidence for combined modality approaches**
Charles J. Gomer (Los Angeles CA, USA)
- 15.30 **IL137 Molecular response based combinations with PDT**
T. Hasan, N. Solban, S.K. Chang, I. Rizvi, T. Stepinac, A. Liang, Z. Mai, H. Athar (Boston MA, USA)
- 16.00 **IL138 Molecular effectors and modulators of cell death induced by PDT**
Michael Dewaele¹, Esther Buytaert¹, Sofie Van Kelst¹, Wim Martinet², Jean-Yves Matroule³, Jacques Piette³, Patrizia Agostinis¹ (¹Leuven, ²Antwerp, ³Liège, BEL)
- 16.30 **IL139 NF-κB is a central element in the fate of cancer cells treated by photodynamic therapy**
Jacques G Piette, Cédric Volanti, Sébastien Bontems, Jean-Yves Matroule (Liège, BEL)
- 17.00 **OC140 The effects of iron on protoporphyrin IX accumulation, cellular damage (DNA damage) and cellular viability in aminolaevulinic acid and methyl aminolaevulinate photodynamic therapy**
Andrew Pye, Alison Curnow (Truro, GBR)
- 17.15 **OC141 Intracellular and intratissular distribution of Foscan modulates apoptosis induced by photodynamic therapy**
Sophie Marchal, Aurélie François, Julie Garrier, Aude Bressenot, François Guillemin, Lina Bezdetsnaya (Nancy, FRA)
- 17.30 **OC142 Hypoxia inducible factor as a molecular marker of response to photodynamic therapy with silicon phthalocyanine Pc 4**
Elma D. Baron, Diana Santo Domingo, Andrew Hsia, Nancy L. Oleinick, Valdir Colussi, Kevin D. Cooper (Cleveland OH, USA)
- 17.45 **OC143 Inhibition of EGFR-tyrosine kinase activity by photodynamic therapy**
Anette Weyergang, Pål Kristian Selbo, Kristian Berg (Oslo, NOR)
- 18.00 **OC144 Inter- and intracellular signaling processes involved in PDT effect on neurons and glial cells**
Anatoly B. Uzdensky (Rostov-on-Don, RUS)

Sunday, September 2, Afternoon**Room 8W 1.1**

- 15.00 **Sun sensitivity, DNA repair and skin cancer**
Chair: Kenneth H. Kraemer (Bethesda MD, USA)
- 15.00 **IL145 The photodermatoses - non-carcinogenic responses to ultraviolet irradiation in man**
John L M Hawk (London, GBR)
- 15.30 **OC146 UV-exposure and skin-cancer: global variations in sensitivity and scenarios for the 21st century**
Arjan van Dijk, Harry Slaper, Harm van Wijnen (Bilthoven, NED)
- 15.50 **IL147 Xeroderma Pigmentosum, when the guardian of the gene pool goes on strike**
Kenneth H Kraemer¹, Jennifer Boyle², Takahiro Ueda¹, Kyu Seon Oh¹, Kyoko Imoto³, Deborah Tamura¹, Sikandar G. Khan¹, John J.DiGiovanna¹ (¹Bethesda MD, USA; ²London, GBR; ³Nara, JPN)
- 16.20 **IL148 Polymorphisms in DNA repair genes and cancer risk in the normal population**
Steffen Emmert, Petra Laspe, Lars Boeckmann, Christiane Kuschal, Kai-Martin Thoms, Sandra Blankenburg, Karolin Zachmann, Ullrich Krueger, Holger Haenssle (Goettingen, GER)
- 16.50 **IL149 Large scale deletions of the mitochondrial DNA are associated with increased oxidative stress and altered cellular function in skin fibroblasts**
Marc Majora, Tanja Maresch, Peter Schröder, Jean Krutmann (Düsseldorf, GER)
- 17.20 **OC150 hOGG1 protein and gene are expressed more abundantly in the superficial than basal layer of human skin epidermis**
Arash Javeri¹, Xiao Xuan Huang¹, Françoise Bernerd², Rebecca S. Mason¹, Gary M. Halliday¹ (¹Sydney, AUS; ²Clichy, FRA)
- 17.40 **P605 The GTPase RhoB, a UVB-responsive protein, regulates p53-independent apoptotic pathways in human normal keratinocytes**
Bruno Canguilhem, Anne Pradines, Marie Charvéron, Gilles Favre (Toulouse, FRA)

Sunday, September 2, Afternoon**Room 5W 2.3**

- 15.00 **Photosynthesis: mimicking the natural system for solar energy conversion**
In honour of James Barber
Chair: Alison Telfer (London, GBR)
- 15.00 **Introductory remarks**
Alison Telfer (London, GBR)
- 15.20 **IL151 Molecular solar energy conversion: lessons from photosynthesis**
James Durrant (London, GBR)
- 15.50 **IL152 Patterning light harvesting complexes onto self-assembled monolayers using photolithography**
Christopher Neil Hunter (Sheffield, GBR)
- 16.20 **OC153 Photosynthetic complexes revealed by single particle analysis**
Jon Nield (London, GBR)
- 16.40 **IL154 Variations in the organisation of chlorophyll protein complexes in oxyphotobacteria to exploit different ecological niches**
Thomas S Bibby (Southampton, GBR)
- 17.10 **OC155 Carotenoid molecules in Photosystem II**
Bruno Robert (Gif-sur-Yvette, FRA)
- 17.30 **IL156 Photosystem II in the unusual chlorophyll d dominated cyanobacterium, *Acaryochloris marina***
Alison Telfer (London, GBR)

Sunday, September 2, Afternoon**Room 8W 2.1**

- 15.00 **Bioluminescence: from protein structure to biosensing applications**
Chair: Vadim Viviani (Sorocaba, BRA)
- 15.00 **IL157 The structural origin, biological function and biosensing applications of pH-sensitivity in beetle luciferases**
Vadim R. Viviani¹, F. G. C. Arnoldi², A. J. Silva Neto², Y. Ohmiya³ (¹Sorocaba SP, ²Rio Claro, BRA; ³Osaka, JPN)
- 15.30 **IL158 Structural insights into bioluminescent mechanism of calcium-regulated photoproteins**
Eugene S. Vysotski^{1,2}, John Lee² (¹Krasnoyarsk, RUS; ²Athens GA, USA)
- 16.00 **IL159 Basis and application of ostracod bioluminescence**
Yoshihiro Ohmiya¹, Chun Wu² (¹Sapporo, ²Ikeda, JPN)
- 16.30 **IL160 Multicolor reporter gene technology for new multiplexed bioluminescent cell-based assays**
Elisa Michelini¹, Luca Cevenini¹, Laura Mezzanotte¹, Danielle Ablamsky², Tara Southworth², Bruce Branchini², Aldo Roda¹ (¹Bologna, ITA; ²New London CT, USA)
- 17.00 **OC161 Bioluminescent enzyme-based biosensors**
Valentina A. Kratasyuk, Elena N. Esimbekova (Krasnoyarsk, RUS)
- 17.15 **OC162 Studies on the alteration in color of bioluminescence arising from *Vibrio fischeri* Y1**
Hajime Karatani, Takashi Osaki, Masashi Yasui, Shoji Matsumoto, Shogo Ohta (Kyoto, JPN)
- 17.30 **OC163 Energy conversion in bioluminescent reactions**
Nadya S. Kudryasheva (Krasnoyarsk, RUS)

Monday, September 3, Morning**University Hall**

- 08.30 **PL201 Photobiology Update**
Overview of clinical applications of PDT
Stephen Bown (London, GBR) *introduced by Jacques Piette (Liège, BEL)*
- 09.15 **Coffee Break**
- 9.45 **Vitamin D and solar radiation**
Chair: Antony Young (London, GBR)
- 9.45 **Introductory remarks**
Antony Young (London, GBR)
- 9.50 **IL202 The relationship between erythema and vitamin D solar exposure: spectra and doses**
Robert M. Sayre^{1,2}, John C. Dowdy¹ (¹Cordova TN, ²Memphis TN, USA)
- 10.20 **IL203 The relationship between exposure of ultraviolet radiation and vitamin D status**
Ola Engelsen (Tromsø, NOR)
- 10.50 **IL204 Solar UV-radiation, skin cancer and vitamin D: how much sunlight do we need?**
Jörg Reichrath, Bernd Nürnberg, Wolfgang Tilgen (Homburg, GER)
- 11.20 **IL205 Solar UVR, vitamin D and prostate cancer: how strong is the relationship?**
Richard C Strange (Stoke-on-Trent, GBR)
- 11.50 **OC206 Sun beds and cod liver oil as vitamin D sources**
Johan Moan, Alina Carmen Porjnicu (Oslo, NOR)
- 12.05 **Evaluation of the impact of casual sunlight exposure on vitamin D levels in the UK**
Marie T Durkin, Richard Kift, Lucy V Bunhill, Donald Allan, Jacqueline L Berry, Ann R Webb, Lesley E Rhodes (Manchester, GBR)
- 12.20 **OC208 Dose dependent effect of sunbed radiation on cutaneous vitamin D synthesis in humans, a randomized controlled trial**
Elisabeth Thieden, Henrik L. Jørgensen, Niklas Rye Jørgensen, Peter A Philipsen, Hans Chr. Wulf (Copenhagen, DEN)
- 12.35 **Closing remarks and general discussion**
Antony Young (London, GBR)

- 9.45 **Clinical applications of PDT and PDD**
Chair: Herwig Kostron (Innsbruck, AUT)
- 9.45 **IL209 ALA and its clinical impact, from bench to bedside**
Barbara Krammer (Salzburg, AUT)
- 10.05 **OC210 Molecular signaling in cancer cells after PDT and its clinical relevance**
Charles Gomer (Los Angeles CA, USA)
- 10.25 **IL211 Current overview of clinical photodynamic application in neurosurgery**
Sadao Kaneko (Sapporo, JPN)
- 10.55 **OC212 Photodynamic therapy and fluorescent diagnostics in clinical settings of Russian Cancer Research Center**
E.G. Vakulovskaya, B.K. Poddybny, Y.P. Kuvshinov, G.V. Ungiadze, V.B. Karakhan, V.V. Kuznecov, V.V. Ashmarov (Moscow, RUS)
- 11.25 **IL213 PDT - Registered and future indications in dermatology**
Alexis Sidoroff (Innsbruck, AUT)
- 11.45 **OC214 PDT for cholangiocarcinoma: review and personal experience**
Steve Pereira (London, GBR)
- 12.05 **IL215 25 years of PDT in neurosurgery: a review**
Herwig Kostron (Innsbruck, AUT)
- 12.20 **OC216 Cancer therapy using Vascular-Targeted Photodynamic therapy (VTP) with TOOKAD**
Yoram Salomon, Avigdor Scherz (Rehovot, ISR)
- 12.40 **OC217 Cellular and molecular effects of a new chlorine-based photosensitizer in human cancer cells after light exposure**
Heinrich Walt (Zurich, SUI)
- 12.55 **OC218 Monitoring ALA and mTHPC-PDT during intraluminal and interstitial PDT**
Bastiaan Kruijt, Angelique van der Ploeg-van den Heuvel, Slavka Kascakova, Arjen Amelink, Henricus J.C.M. Sterenborg, Dominic J. Robinson (Rotterdam, NED)

Monday, September 3, Morning**Room 5W 2.3****9.45 Oral communications***Chair: Jean Cadet (Grenoble, FRA)*

- 9.45 **OC219 Determination of an action spectrum for the suppression of cutaneous recall immune responses in humans**
Yasmin J Renwick, Tai A Phan, Gary M Halliday, Diona L Damian (Sydney, AUS)
- 10.00 **OC220 Topically applied vitamin D activates regulatory T cells in naive mice**
Shelley Gorman, Alexandra Kuritzky, Melinda Judge, Prue Hart (Perth, AUS)
- 10.15 **OC221 The effect of UV on effector and memory T cells**
Sabita Rana, Scott N Byrne, Linda J Macdonald, Gary M Halliday (Sydney, AUS)
- 10.30 **OC222 Bathochromically shifted hypericin derivatives: photosensitizing properties**
Mieke Roelants¹, Heinz Falk², Bernd Lackner², Mario Waser², Peter A.M. de Witte¹ (¹Leuven, BEL; ²Linz, AUT)
- 10.45 **OC223 Photosensitised reactions by photoinitiators used for curing dental polymer materials**
Terje Christensen^{1,2}, Else Morisbak¹, Inger Sofie Dragland¹, Hanne Hjorth Tønnesen³, Ellen M. Bruzell¹ (¹Haslum, ²Østerås, ³Oslo, NOR)
- 11.00 **OC224 Photoactivated therapeutic metal complexes**
Fiona S Mackay¹, Julie A Woods², Patrick J Bednarski³, Pavla Heringova⁴, Jana Kasparkova⁴, Viktor Brabec⁴, Harry Moseley², James Ferguson², Peter J Sadler¹ (¹Edinburgh, ²Dundee, GBR; ³Greiswald, GER; ⁴Brno, CZE)
- 11.15 **OC225 Effect of aggregation on photolysis of Merocyanine 540**
Elena A. Kozhinova, Andrei M. Tikhomirov, Alla A. Kyagova, Alexander Ya. Potapenko (Moscow, RUS)
- 11.30 **OC226 Influence of lycopene on UVR-induced erythema and mitochondrial DNA damage in human skin**
Muneeza Rizwan¹, Andrew Harbottle², Isabel Rodriguez-Blanco¹, Rachel Watson¹, Mark Birch-Machin², Lesley Elisabeth Rhodes¹ (¹Manchester, ²Newcastle upon Tyne, GBR)
- 11.45 **OC227 Fluorescence dynamics of UV-B sunscreens**
Thomas M. Nordlund¹, Rajagopal Krishnan² (¹Birmingham AL, ²San Francisco CA, USA)
- 12.00 **OC228 In vivo relevance for photoprotection by the vitamin D rapid response pathway**
Katie M Dixon¹, Shivashni S Deo¹, Anthony W Norman², June E Bishop², Gary M Halliday¹, Vivienne E Reeve¹, Rebecca S Mason¹ (¹Sydney, AUS; ²Riverside CA, USA)
- 12.15 **OC229 Is the seasonal variation of cancer prognosis related to photosynthesis of vitamin D?**
Alina Carmen Porojnicu, Johan Moan (Oslo, NOR)
- 12.30 **OC230 Circadian effectiveness of solar and artificial radiation in dependence on age**
Helmuth Piazena¹, Leonora Franke¹, David Sülflow¹, Katharina Stark¹, Dieter Kockott², Ralf Uebelhack¹ (¹Berlin, ²Hanau, GER)

Monday, September 3, Morning**Room 8W 2.1**

- 9.45 **Photobiological techniques for environmental monitoring and control**
Chair: Francesco Ghetti (Pisa, ITA)
- 9.45 **IL231 Recent developments in the application of PAM chlorophyll fluorometry**
Wolfgang Bilger (Kiel, GER)
- 10.15 **IL232 Phytoremediation of metal polluted soils: a sunlight-driven environmentally friendly technique**
Franco Gambale, Monica Bregante (Genova, ITA)
- 10.45 **IL233 Treatment of microbiologically polluted aquaculture waters by a novel photochemical technique of potentially low environmental impact**
Michela Magaraggia¹, Filippo Faccenda², Fabiola Paterno^{2,1}, Andrea Gandolfi², Giulio Jori¹ (¹Padova, ²Trento, ITA)
- 11.15 **IL234 Automatic online bioassay system to monitor aquatic ecosystems using movement responses in unicellular microorganisms**
Donat-Peter Häder (Erlangen, GER)
- 11.30 **IL235 Testing the presence of tributyl-Sn in marine water using microorganism behaviour**
Nicola Messina, Enrico De Gubernatis, Fernando Dini, Francesco Ghetti, Giovanni Checcucci (Pisa, ITA)
- 11.45 **Remembering Thameur Ben Amor, a pioneer in the field of photoinsecticides**
Giulio Jori (Padova, ITA)
- 11.50 **OC236 Insecticidal effects of phloxine-B on *Bactrocera zonata* and its symbiotic bacteria**
Amira Abdou AlAdly (Cairo, EGY)
- 12.05 **OC237 Photochemical transformation of dissolved organic matter in natural humic waters and humic isolate solutions**
Sarka Klementova, Petr Porcal, Jiri Kopacek, Dalibor Kriz (České Budějovice, CZE)
- 12.20 **P642 Photoinactivation of bacteria in wastewater by porphyrins. Bacterial β -galactosidase activity and leucine-uptake as methods to monitor the process**
C.M B. Carvalho, A.T.P.C. Gomes, S.C.D. Fernandes, A.C.B. Prata, M.A. Almeida, M.A. Cunha, J.P.C. Tomé, M.A.F. Faustino, M.G.P.M.S. Neves, A.C. Tomé, J.A.S. Cavaleiro, Z. Lin, J.P. Rainho, J. Rocha (Aveiro, POR)

Monday, September 3, Afternoon**University Hall**

- 16.00 **Drug delivery technologies for PDT**
Chair: Kristian Berg (Oslo, NOR)
- 16.00 **IL238 Antimicrobial PDT: exploiting target cell function for selective photosensitizer delivery**
Tayyaba Hasan, Sarika Verma, Xiang Zheng, Ulysses Sallum, Humar Athar (Boston MA, USA)
- 16.30 **IL239 Targeting proteolytic activity: new opportunities in fluorescence diagnosis and photodynamic therapy**
Norbert Lange (Geneva, SUI)
- 17.00 **IL240 Recent improvements in the use of synthetic peptides for a selective photodynamic therapy**
Muriel Barberi-Heyob¹, Noémie Thomas¹, Loraine Tirand¹, Denise Bechet¹, Régis Vanderesse², François Guillemin¹, Céline Frochot² (¹Vandoeuvre-les-Nancy, ² Nancy, FRA)
- 17.30 **IL241 Photochemical internalization: a technology for site-specific drug delivery**
Kristian Berg, Pål Kristian Selbo, Anette Bonsted, Anette Weyergang, Ole-Jacob Norum, Qian Peng, Anders Høgset (Oslo, NOR)
- 18.00 **OC242 Development and characterisation of a protoporphyrin IX-peptide conjugate for use in the photodynamic therapy of cancer**
Clare Louise Conway (Leeds, GBR)
- 18.15 **OC243 Synthesis of folate directed photodynamic therapy agents**
Kenneth W. Olsen, Godfred Boateng, Ping Hu (Chicago IL, USA)
- 18.30 **OC244 Hypericin-loaded nanoparticles to improve photodetection of micrometastases in ovarian cancer**
Magali Zeisser-Labouèbe, Florence Delie, Robert Gurny, Norbert Lange (Geneva, SUI)
- 18.45 **OC245 Photochemical internalisation can enhance the cytotoxicity of bleomycin and saporin in the A431 cell line**
Tzu-wen Wang, Stephen G. Bown, Alexander J. MacRobert (London, GBR)

Monday, September 3, Afternoon**Room 8W 1.1**

- 16.00 **Photochemistry and photobiology of carotenoids**
Joint with the European Photochemistry Association
Chairs: Johan Lugtenburg (Leiden, NED), T. George Truscott (Keele, GBR)
- 16.00 **IL246 Spheroidene in the *Rhodobacter sphaeroides* reaction centre. A surprise**
A.C. Wirtz¹, M.C. van Hemert¹, J. Lugtenburg¹, H.A. Frank², E.J.J. Groenen¹ (¹Leiden, NED; ²Storrs CT, USA)
- 16.30 **IL247 Molecular basis of photoprotection in higher plants**
Bruno Robert (Gif-sur-Yvette, FRA)
- 17.00 **IL248 Are dietary carotenoids anti-or pro-oxidants and are they beneficial or deleterious: a radical story**
T. George Truscott (Keele, GBR)
- 17.30 **IL249 From photoprotection to photosensitization - Photoreactivity of the degradation products of carotenoids accumulating in the eye**
Malgorzata B. Rozanowska¹, Anna Pawlak², Bartosz Rozanowski² (¹Cardiff, GBR; ²Krakow, POL)
- 18.00 **IL250 Oral suncare and photoprotection with carotenoids**
Regina Goralczyk (Basel, SUI)
- 18.30 **IL251 Influence of molecular interactions on the natural colours of carotenoids**
George Britton (Liverpool, GBR)

Monday, September 3, Afternoon

Room 5W 2.3

- 16.00 **UV and oxidative stress**
Chair: Irene Kochevar (Boston MA, USA)
- 16.00 **IL252 Signaling pathways in sunburn cell formation: from ROS to cell death**
An Van Laethem, Kris Nys, Marjan Garmyn, Patrizia Agostinis (Leuven, BEL)
- 16.30 **IL253 Detecting Reactive Oxygen Species (ROS) in plants under UV stress**
Éva Hideg (Szeged, HUN)
- 17.00 **IL254 Regulation of wound healing and UV response by peroxiredoxin 6**
Sabine Werner (Zürich, SUI)
- 17.30 **IL255 UVA-induced reactive oxygen species in human keratinocytes**
Irene Kochevar (Boston MA, USA)
- 18.00 **OC256 Melanocortin 1 receptor (MC1R) genotype influences erythral sensitivity to PUVA**
Gillian Smith¹, Murray JV Wilkie¹, Yusuf Y Deeni¹, Peter M Farr², James Ferguson¹, C Roland Wolf¹, Sally H Ibbotson¹ (¹Dundee, ²Newcastle upon Tyne, GBR)
- 18.15 **P607 Role of UV-induced oxidative stress in the regulation of the GTPase RhoB**
Bruno Canguilhem, Sarah Blaquièrre, H el ene Hernandez-Pigeon, Anne Pradines, Marie Charveron, Gilles Favre (Toulouse, FRA)
- 18.30 **P614 Singlet oxygen-mediated tryptophan oxidation: characterization of potential markers of protein oxidation**
Michelle Gracanin, David I. Pattison, Michael J. Davies (Sydney, AUS)
- 18.45 **P626 Spectrophotometric study of antioxidant and iron binding capacity of selected flavonoid compounds**
George Zonios, Aikaterini Dimou, Dimitrios Galaris (Ioannina, GRE)

Monday, September 3, Afternoon

Room 8W 2.1

Photoorientation in plants and microorganisms

Chair: Francesco Lenci (Pisa, ITA)

- 16.00 **IL257** **Diurnal and circadian expression of genes encoding opsin-like photoreceptor proteins in *Hydra* (Cnidaria, Hydrozoa)**
Silvia Santillo, Pierangelo Orlando, Luciano De Petrocellis, Carlo Musio (Napoli, ITA)
- 16.30 **IL258** **Confocal microscopy in ciliate protozoa**
Giuliano Colombetti¹, Paolo Bianchini², Ranieri Bizzarri¹, Giovanni Checcucci¹, Alberto Diaspro², Sabina Lucia¹, Mattia Pesce², Paola Ramoino², Cesare Usai², Giuseppe Vicidomini² (¹Pisa, ²Genova, ITA)

Tuesday, September 4, Morning
University Hall

- 08.30 **PL301 Photobiology Update**
From photochemistry and photobiology to photobiotechnology of plants
 Pill-Soon Song (Jeju, KOR) *introduced by Francesco Lenci (Pisa, ITA)*
- 09.15 **Coffee Break**
- 9.45 **Biological consequences of UV damage**
Chairs: Alain Sarasin (Villejuif, FRA), Carlos F.M. Menck (São Paulo, BRA)
- 9.45 **IL302 A novel role for c-Fos in the defence against ultraviolet light**
 Bernd Kaina (Mainz, GER)
- 10.15 **IL303 Molecular responses of normal human keratinocytes in culture and in reconstructed skin to genotoxicity induced by solar UV: towards a genomic protection factor *in vitro***
Laurent Marrot, Jean-Philippe Belaidi, Christophe Jones, Jean-Roch Meunier (Aulnay-sous-Bois, FRA)
- 10.45 **IL304 Viral vectors to explore the consequences of UV-induced DNA damage**
 Carlos F.M. Menck (São Paulo, BRA)
- 11.15 **IL305 Molecular mechanisms of UV-induced mutagenesis in human cells**
Alain Sarasin¹, Anne Stry¹, Quentin Gueranger², Claude-Agnès Reynaud², Jean-Claude Weill²
 (¹Villejuif, ²Paris, FRA)
- 11.45 **OC306 The UV-B damage response in *Daphnia* spp.: diverse repair strategies at 10 and 20°C**
Sandra J Connelly¹, Craig E Williamson¹, David L Mitchell² (¹Oxford OH, ²Smithville TX, USA)
- 12.00 **OC307 Association of the extracellular chaperone clusterin with altered elastic fibers *in vivo* and *in vitro***
Elke Janig¹, Martin Halsbeck², Johannes Buchner², Ariane Aigelsreiter¹, Helmut Denk¹, Kurt Zatloukal¹, Peter Wolf¹ (¹Graz, AUT; ²Garching - Munich, GER)
- 12.15 **OC308 After UVB irradiation, p21 expression is regulated by p53 through DNA-protein contact and protein-protein interactions**
 Nathalie Bastien¹, Walid Dridi¹, Isabelle Paradis¹, Mylene Blais¹, Raouf Fetni², Claude Asselin¹, Regen Drouin¹ (¹Sherbrooke, ²Montreal, CAN)

Tuesday, September 4, Morning**Room 8W 1.1**

Biophysics of photosensitization*Chair: Benjamin Ehrenberg (Ramat Gan, ISR)*

- 9.45 **IL309** **The photosensitized production and optical detection of singlet oxygen with sub-cellular resolution in single cells**
Peter R. Ogilby (Aarhus, DEN)
- 10.15 **IL310** **Singlet oxygen production by proteins from the green fluorescent protein family**
Santi Nonell¹, Ana Jiménez-Banzo¹, Johan Hofkens², Cristina Flors² (¹Barcelona, ESP; ²Leuven, BEL)
- 10.45 **IL311** **Depolarization of cross-membrane electric potential in photosensitization**
Benjamin Ehrenberg, Shoshana Bernstein (Ramat Gan, ISR)
- 11.15 **IL312** **Analysis of ALA-induced PPIX across multiple cell lines: variance and dependence upon physical parameters**
Summer L. Gibbs, Scott C. Davis, Julie A. O'Hara, Brian W. Pogue (Hanover NH, USA)
- 11.45 **OC313** **Time resolved luminescence and singlet oxygen formation under illumination of hypericin in complex with low density lipoproteins**
Peter Gbur¹, Daniel Jancura¹, Roman Dedic², Dusan Chorvat jr.³, Jan Hala², Pavol Miskovsky^{1,3}
(¹Kosice, ³Bratislava, SVK; ²Prague, CZE)
- 12.00 **OC314** **Role of plasma LDL and tumoral microenvironment in tetrapyrrole-photosensitizers cellular uptake: a physico-chemical approach**
Stéphanie Bonneau, Halina Mojzisova, Christine Vever-Bizet, Daniel Brault (Paris, FRA)
- 12.15 **OC315** **Reflectance of skin in the UV region**
Johan Moan¹, Asta Juzeniene¹, Kristian P. Nielsen² (¹Oslo, ²Bergen, NOR)

Tuesday, September 4, Morning
Room 5W 2.3

- A reconstruction of the past UV climatology over Europe for photobiological studies**
 9.45 **Joint with the EU Programme COST 726**
Chair: Gaetano Zipoli (Firenze, ITA)
- 9.45 **IL316 COST 726: Long term changes and climatology of UV radiation over Europe**
 Alois W. Schmalwieser (Vienna, AUT)
- 10.15 **IL317 Quality of UV measurements**
 Mario Blumthaler (Innsbruck, AUT)
- 10.45 **IL318 Modeling UV radiation in the past: achievements and limitations**
Peter Koepke¹, Jean Verdebout² (¹Munich, GER; ²Ispra, ITA)
- 11.15 **IL319 The role of action spectra in determining the biologically effective UV radiation**
Gaetano Zipoli, Daniele Grifoni (Firenze, ITA)
- 11.45 **OC320 Exploring the details of UV irradiances, human exposure and dosimetry**
 Richard Kift, Liam McNulty, Lucy Bunhill, Marie Durkin, Donald Allan, Jacqueline Berry, Lesley E. Rhodes, Ann R. Webb (Manchester, GBR)
- 12.00 **OC321 Reconstructed long-term erythemal irradiance over Europe from measurements of solar irradiance and total ozone**
Andreas Kazantzidis¹, Alkiviadis Bais¹, Peter Den Outer², Harry Slaper², Tapani Koskela³, Uwe Feister⁴, M. Woldt⁴ (¹Thessaloniki, GRE; ²Bilthoven, NED; ³Jokioinen, FIN; ⁴Lindenberg, GER)
- 12.15 **OC322 Photoprotection and skin cancer prevention in the Czech caucasian population**
Michal Janouch, Karel Ettler (Hradec Kralove, CZE)
- 12.30 **OC323 UVBE maps for Poland – preliminary results for selected action spectra**
Zenobia Litynska¹, Aleksander Curylo¹, Bozena Lapeta², Julita Biszczuk¹, Janusz Krzyscin³, Barbara Bogdanska³, Jakub Walawender² (¹Legionowo, ²Krakow, ³Warsaw, POL)

Photodermatoses

- 9.45 ***In memoriam* of Ian Magnus (1920-2006)**
Joint with the British Photodermatology Group
Chairs: Neil Gibbs (Manchester, GBR), Antony Young (London, GBR)
- 9.45 **Introductory remarks**
Neil Gibbs¹, Antony Young² (¹Manchester, ²London, GBR)
- 9.50 **A century of photodermatology**
Herbert Hönigsmann (Vienna, AUT)
- 10.20 **IL324 Skin phototesting**
Brian Diffey (Newcastle, GBR)
- 10.50 **IL325 The porphyrias**
Gillian M Murphy (Dublin, IRL)
- 11.20 **IL326 The immunological photodermatoses**
John L M Hawk (London, GBR)
- 11.50 **OC327 Photosensitive psoriasis: clinical characteristics and potential role of memory effector T lymphocytes in the pathogenesis**
Kirsty J Rutter, Lindsey F Cotterell, Margaret M Brownrigg, Thomas Brenn, Christopher EM Griffiths, Rachel EB Watson, Lesley E Rhodes (Manchester, GBR)
- 12.05 **OC328 High levels of anxiety and depression related to their condition reported in a hospital based PLE population**
Tsui C. Ling, H.L. Richards, M. Brownrigg, R.C.C. Brooke, K. Huber, N.K. Gibbs, L.E. Rhodes (Manchester, GBR)
- 12.20 **OC329 The effect of capsaicin-induced neuropeptide depletion on the induction of polymorphous light eruption by solar simulated light**
Franz J Legat, Agnes Bretterklicber, Manuela Haar, Goran Sepic, Angelika Hofer, Alexandra Wackernagel, Franz Quehenberger, Helmut Kerl, Peter Wolf (Graz, AUT)

Tuesday, September 4, Afternoon**University Hall**

- 14.15 **Photochemistry and phototoxicity of drugs**
Chair: Miguel A. Miranda (Valencia, ESP)
- 14.15 **IL330** ***In vitro* phototoxicity testing: a task involving multiple endpoints**
Laurent Marrot, Jean-Philippe Belaidi, Christophe Jones, Anita Labarussiat, Philippe Perez, Jean-Roch Meunier (Aulnay-sous-Bois, FRA)
- 14.45 **IL331** **Dermatological overview of phototoxic reactions: a mechanistic approach**
Paulo Leal Filipe¹, Patrice Morlière², René Santus³ (¹Lisbon, POR; ²Amiens, ³Paris, FRA)
- 15.15 **IL332** **Effects of UVB light on antiinflammatory corticosteroids in different experimental models**
Sergio Caffieri, Giorgia Miolo (Padova, ITA)
- 15.45 **IL333** **Phototoxicity of tricyclic antidepressants**
Carmelo Garcia¹, Rolando Oyola¹, Luis E. Piñero¹, Rafael Arce² (¹Humacao, ²Rio Piedras, PUR)
- 16.15 **OC334** **Site-selected photoelectron transfer and covalent binding in Nalidixic Acid:HSA complexes**
Sandra Monti, Ilse Manet, Francesco Manoli, Massimo Capobianco (Bologna, ITA)
- 16.45 **OC335** **Primary photoprocesses in some photosensitive drugs studied using fast reaction kinetic techniques**
Suppiah Navaratnam (Salford, Warrington, GBR)
- 17.00 **OC336** **Photodehalogenation of fluoroquinolones**
M. Consuelo Cuquerella, Francisco Boscá, Miguel A. Miranda (Valencia, ESP)

Tuesday, September 4, Afternoon

Room 8W 1.1

- 14.15 **PDT oral communications**
Chair: Jacques Piette (Liège, BEL)
- 14.15 **OC 337 Mechanisms of the selective photodynamic efficiency of the hexyl-aminolevulinic acid (h-ALA)-protoporphyrin IX (PpIX) in the treatment of the bladder cancer**
Berrahmoune Saoussen¹, EL Khatib Sami¹, Brie David¹, Fotinos Nicolas², Guedenet Jean-Claude¹, Bezdetnaya Lina¹, Guillemain François¹, D'Hallewin Marie-Ange¹ (¹Vandœuvre-lès-Nancy, FRA; ²Genève, SUI)
- 14.30 **OC 338 Effects of hexyl 5-aminolevulinic acid and light in a rat bladder cancer model**
Odrun Gederaas, Lise Lyngnes Randberg, Eivind La Puebla Larsen, Astrid Hjelde, Carl-Jørgen Arum, Anders Brunsvik, Chun-Mei Zhao, Duan Chen, Lars Ottar Svaasand, Hans E. Krokan (Trondheim, NOR)
- 14.45 **OC 339 MAL-PDT of squamous cell carcinoma**
Piergiacomo Calzavara-Pinton, Raffaella Sala, Marina Venturini, Giovanni Parrinello, Cristina Zane (Brescia, ITA)
- 15.00 **OC 340 Protoporphyrin IX production and photodynamic effects after application 5-aminolevulinic acid or its heptyl ester**
Asta Juzeniene¹, Xiao Puzhuoma², Johan Moan¹ (¹Oslo, NOR; ²Lhasa Tibet, CHN)
- 15.15 **OC 341 Using iron chelating agents to enhance PPIX-induced photodynamic therapy**
Alison Curnow, Andrew Pye, Sandra Campbell (Truro, GBR)
- 15.30 **OC 342 Photodynamic-mediated proteasome paralysis reinforced by non toxic drug may force tumour cells to apoptosis**
Giuseppe Palumbo, Angela Chiaviello (Napoli, ITA)
- 15.45 **OC343 ALA-PDT and wound healing**
Stefania Motta, Antonella Ferrario, Marcello Monti (Milano, ITA)
- 16.00 **OC344 Plea for the identification and development of new sensitizers**
Thierry Patrice, David Olivier, Samuel Douillard (Nantes, France)
- 16.15 **OC345 Photochemical internalization (PCI) of the recombinant melanoma-targeting immunotoxin scFvMEL/rGel causes rapid tumor regression *in vivo***
Pål K. Selbo¹, Lawrence H. Cheung², Wendy Zhang², Michael G. Rosenblum², Kristian Berg¹ (¹Oslo, NOR; ²Houston TX, USA)
- 16.30 **OC346 An *in vitro* investigation of the mechanisms of δ -aminolaevulinic-acid (ALA)-photodynamic therapy (PDT)**
Yuktee Dogra, Alison Curnow, Paul Winyard (Exeter, GBR)
- 16.45 **OC347 The effect of photodynamic therapy with verteporfin on epidermal growth factor receptor signaling**
Thomas Stepinac, Tayyaba Hasan (Boston MA, USA)
- 17.00 **OC348 Factors affecting substrate specificity of photosensitizers for the multidrug-resistance pump ABCG2 found on some cancers**
Janet Morgan, Ravindra K Pandey, Allan R Oseroff (Buffalo NY, USA)

Tuesday, September 4, Afternoon**Room 5W 2.3**

- 14.15 **Photoprotection**
Joint with the European Society for Photodermatology
Chairs: Christophe Bédane (Limoges, FRA), Piergiacomo Calzavara-Pinton (Brescia, ITA)
- 14.15 **IL349 Endogenous photoprotection by melanin**
Bernhard Ortel (Chicago IL, USA)
- 14.45 **IL350 UVA and UVB effects on melanocytic nevi**
Piergiacomo Calzavara-Pinton, Marina Venturini, Ausilia Manganoni (Brescia, ITA)
- 15.15 **IL352 Oral photoprotection**
Rik Roelandts (Leuven, Belgium)
- 15.45 **OC353 Analysis of UVA and UVB irradiations on melanocytes: evaluation of the protective capacity of a sunscreen**
Hélène Hernandez-Pigeon, Marie-José Haure, Sawsane Bakioui, Françoise Belaubre, Marie Charveron (Toulouse, FRA)
- 16.00 **OC354 UV-Filter combinations under UV-A exposure: concomitant quantification of over-all spectral stability and molecular integrity**
Elisabetta Damiani, Lucedio Greci (Ancona, ITA)
- 16.15 **OC355 Impact of dietary lycopene on molecular markers of photoageing in human skin**
Isabel Rodriguez-Blanco, Muneeza Rizwan, Lesley Elizabeth Rhodes, Rachel Watson (Manchester, GBR)
- 16.30 **OC356 The role of sunscreens in the prevention of skin cancer: assessing the correlation between protection against erythema and DNA photodamage**
Suranahi K Buglass, Antony R Young (London, GBR)
- 16.45 **OC357 UV and visible free radical action spectrum for human skin and its biological relevance**
Leonhard Zastrow¹, Louis Ferrero¹, Dieter Kockott², Frank Klein³, Norbert Groth³, Jürgen Lademann² (¹Monaco, MON; ²Hanau-Stenheim, ³Berlin, GER)
- 17.00 **OC358 Analysis of the properties of different substrates useful for *in vitro* sunscreen tests**
D. Garoli, M.G. Pelizzo, P. Nicolosi, A. Peserico, M. Alaibac (Padova, ITA)

Tuesday, September 4, Afternoon**Room 8W 2.1**

- 14.15 **UV and global climate change: effects in aquatic and terrestrial ecosystems**
Joint with the America Society for Photobiology
Chairs: Donat-Peter Häder (Erlangen, GER), Patrick Neale (Edgewater MD, USA)
- 14.15 **IL359 Active and passive mitigating strategies of aquatic primary producers against excessive solar radiation**
 Donat-Peter Häder (Erlangen, GER)
- 14.40 **IL360 Sensitivity to solar radiation of summer phytoplankton assemblages from mid-latitudes of Patagonia**
E. Walter Helbling¹, M. Alejandra Marcoval¹, Paul P.Janknegt², Marco de Graaff², Ronald J. W. Visser², Anita G. J. Buma², Virginia E. Villafañe¹ (¹Playa Unión-Rawson, ARG; ²Haren, NED)
- 15.05 **IL361 Ultraviolet radiation tolerance and photoenzymatic repair across aquatic taxa from bacteria to fish: implications for climate change**
 Craig E Williamson (Oxford OH, USA)
- 15.30 **IL362 Ultraviolet radiation effects on phytoplankton productivity in a changing global climate**
Patrick J. Neale¹, Cristina Sobrino² (¹Edgewater MD, USA; ²Vigo, ESP)
- 15.55 **IL363 Plant responses to UV radiation: from signalling pathways to sustainable production**
Nigel D. Paul¹, Gareth Jenkins², Jason J. Wargent¹ (¹Lancaster, ²Glasgow, GBR)
- 16.20 **OC364 Fitting action spectra: ambient levels of UV-A and UV-B radiation affect phenolic compounds in birch leaves**
Titta Katariina Kotilainen¹, Tuulia Venäläinen¹, Riitta Tegelberg², Riitta Julkunen-Tiitto³, Pedro Jose Aphalo² (¹Jyväskylä, ²Helsinki, ³Joensuu, FIN)
- 16.33 **OC365 How the DNA composition and the physiological state of marine bacteria may modify their DNA damages and their sensitivity to UV radiation**
Sabine Matallana Surget^{1,2}, Fabien Joux¹, Jarah Meador^{1,3}, Thierry Douki³, Rick Cavicchioli² (¹Banyuls-sur-mer, ³Grenoble, FRA; ²Sydney, AUS)
- 16.46 **OC366 The effects of UV radiation on multitrophic responses and their implications for sustainable agroecosystem management**
Jason J. Wargent, Nigel D. Paul (Lancaster, GBR)
- 16.59 **OC367 Singlet oxygen affects activity, cells size and species composition in a dystrophic humic acid lake**
Stefanie Glaeser¹, Bork Berghoff¹, Hans-Peter Grossart², Jens Glaeser¹ (¹Giessen, ²Stechlin, GER)

Tuesday, September 4, Afternoon**University Hall**

- 17.15 **ESP General Assembly**

Tuesday, September 4, Evening**Assembly Rooms**

- 19.30 **Banquet – ESP Medal Awards**

Wednesday, September 5, Morning**University Hall**

- 08.30 **PL401 Photobiology Update**
Impacts of UV-B radiation on biotic and abiotic systems in relation to global climate change
Janet F. Bornman (Hamilton, NZL) introduced by Francesco Ghetti (Pisa, ITA)
- 09.15 **Coffee Break**
- 9.45 **Molecular and cellular effects of UV-A**
Chair: Rex M. Tyrrell (Bath, GBR)
- 9.45 **The role of mitochondria and lipid rafts in UVA-radiation-induced signaling and premature skin aging**
Jean Krutmann (Düsseldorf, GER)
- 10.15 **IL403 Mechanisms of UVA- and sunlight-induced mutations**
Gerd P. Pfeifer, Sang-in Kim, Ahmad Besaratinia (Duarte CA, USA)
- 10.45 **IL404 UVA-induced response in eucaryotic cells**
Evelyne Sage¹, Violetta Smirnova¹, Anne Reynaud-Angelin¹, Pierre-Marie Girard¹, Stefania Francesconi¹, Delphine Dardalhon¹, Ludovic Tessier¹, Stanislav Kozmin¹, Thierry Douki² (¹Orsay, ²Grenoble, FRA)
- 11.15 **IL405 Genotoxic effects of UVA radiation on human cells and skin: photosensitized reactions**
Jean Cadet, Stephane Mouret, Jean-Luc Ravanat, Thierry Douki (Grenoble, FRA)
- 11.45 **IL406 UVA stress to human skin cells and the maintenance of heme and iron homeostasis**
Rex Michael Tyrrell, Chintan Raval, Gavin Edwards, Julia Zhong (Bath, GBR)
- 12.15 **OC407 Tryptophan-derived UV-filter compounds covalently bound to lens proteins are photosensitizers of oxidative damage**
Jasminka Mizdrak, Joanne F. Jamie, Peter G. Hains, Roger J.W. Truscott, Michael J. Davies (Sydney, AUS)

- 9.45 **New approaches to clinical phototherapy**
Chair: Peter Wolf (Graz, AUT)
- 9.45 **IL408 311 nm UVB vs. PUVA: is 311 nm always best?**
John L M Hawk (London, GBR)
- 10.10 **IL409 Topical PUVA**
Herbert Hönigsmann (Vienna, AUT)
- 10.35 **IL410 UVA-1: has it kept its promise?**
Adrian Tanew (Vienna, AUT)
- 11.00 **IL411 Extracorporeal photoimmunotherapy: an update**
Robert Knobler (Vienna, AUT)
- 11.25 **IL412 Molecular mechanisms of photochemotherapy: significance of PAF and 5-HT**
Peter Wolf (Graz, AUT)
- 11.50 **IL413 Molecular risk assessment of rhinophototherapy for the treatment of seasonal allergies**
David L Mitchell¹, Andrea Koreck², Edina Garaczi², Zsolt Bella², Lajos Kemeny² (¹Smithville TX, USA; ²Szeged, HUN)
- 12.15 **OC414 Erythema effectiveness of long-wave UV radiation - LASERS versus conventional radiation**
Helmut Piazena, Hans Meffert (Berlin, GER)
- 12.27 **OC415 Concomitant treatment of chronic plaque psoriasis with initial pulsed dye laser and narrow-band UV-B therapy**
Angelika Hofer, Daisy Kopera, Franz Legat, Helmut Kerl, Peter Wolf (Graz, AUT)
- 12.39 **OC416 Trafficking of 8-MOP treated leucocytes after photopheresis in humans**
Ulrike Just¹, Elke Dimou¹, Robert Knobler¹, Gabriele Klosner¹, Erika Ivancic¹, Hildegard Greinix¹, Alexander Becherer², Franz Trautinger³ (¹Vienna, ²Feldkirch, ³St Pölten, AUT)
- 12.51 **OC417 Synergies of VEGF inhibition and photodynamic therapy in the treatment of age-related macular degeneration**
Maria Fernanda Zuluaga¹, Carolina Mailhos², Gregory Robinson², David T. Shima², Robert Gurny¹, Norbert Lange¹ (¹Geneva, SUI; ²Lexington MA, USA)

Wednesday, September 5, Morning**Room 8W 2.1**

- 9.45 **PDT, light and the immune system**
Chair: Gianfranco Canti (Milano, ITA)
- 9.45 **IL418 Photodynamic therapy stimulates anti-tumor immunity in murine models**
Michael R Hamblin, Pawel Mroz, Ana P Castano (Boston MA, USA)
- 10.15 **IL419 Local phototherapy and immunotherapy for treatment of metastatic tumors**
Wei R. Chen (Edmond OK, USA)
- 10.45 **IL420 Photodynamic therapy-generated vaccine: therapeutic and mechanistic insights**
Mladen Korbelik (Vancouver, CAN)
- 11.15 **IL421 Innate cells play a critical role in enhancement of anti-tumor immunity by PDT**
Sandra O. Gollnick (Buffalo NY, USA)
- 11.45 **OC422 Targeting inflamed synovium with protease-sensitive photodynamic agents**
Doris Gabriel¹, Norbert Lange¹, Marino Andres Campo¹, Veronique Chobaz-Péclat², Robert Gurny¹,
Alexander So², Nathalie Busso² (¹Geneva, ²Lausanne, SUI)
- 12.15 **OC423 Photodynamic therapy induces immunity against a beta-galactosidase expressing tumor**
Pawel A Mroz, Michael R Hamblin (Boston MA, USA)

Wednesday, September 5, Afternoon**University Hall**

- 16.00 **PDT to treat microbial infections**
In memoriam of John D. Spikes (1918-2006)
Chair: Giulio Jori (Padova, ITA)
- 16.00 **IL424 Advances in antimicrobial photodynamic therapy**
Michael R Hamblin¹, George P Tegos¹, Aguiinaldo S Garcez² (¹Boston MA, USA; ²São Paulo, BRA)
- 16.30 **IL425 Photosensitisers for antimicrobial PDT: physico-chemical and photobiological properties**
Giulio Jori (Padova, ITA)
- 17.00 **IL426 Potential of PDT for control of parasitic infection**
Ross William Boyle¹, Timothy Paget², Carrie-Anne Bristow¹ (¹Kingston-upon-Hull, ²Chatham, GBR)
- 17.30 **IL427 Light-activated antimicrobial agents for the treatment of periodontitis - a clinical evaluation**
Michael Wilson (London, GBR)
- 18.00 **IL428 A double-blinded, randomised, placebo controlled clinical trial to determine whether PDT using the phenothiazinium salt, PPA 904 can reduce bacterial load in chronic leg ulcers and chronic diabetic foot ulcers**
S.B. Brown¹, C. O'Grady¹, K. Mellish¹, J. Griffiths¹, H. Moseley², M. Rizwan³, L.E. Rhodes³, S.M. Morley² (¹Leeds, ²Dundee, ³Manchester, GBR)
- 18.30 **OC429 Enzyme-activated photosensitizers for use in antimicrobial photodynamic therapy**
Sarika Verma, Ulysses Sallum, Humra Athar, Gregory Watt, Tayyaba Hasan (Boston MA, USA)
- 18.45 **OC430 The green line of frequency doubled Neodymium:YAG Laser for killing the sensitized pathogenic bacteria in comparison with the red light of He:Ne Laser**
Siham A Kandela, Alic K Melconian (Baghdad, IRQ)

Wednesday, September 5, Afternoon**Room 8W 1.1**

- 16.00 **Experimental photocarcinogenesis**
Chairs: Frank R de Gruijl (Leiden, NED), Honnavara N. Ananthaswamy (Houston TX, USA)
- 16.00 **IL431 Forced proliferation of epidermal stem and progenitor cells with accumulated UV-induced DNA damage gives rise the foci of cells overexpressing wild type p53**
Joanne GW Nijhof, Leon HF Mullenders, Frank R de Gruijl (Leiden, NED)
- 16.30 **IL432 Protein Kinase C epsilon interacts with Stat3 and regulates its activation to sensitize skin to ultraviolet radiation-induced development of squamous cell carcinomas**
Ajit K Verma (Madison WI, USA)
- 17.00 **IL433 Blocking serotonin and/or platelet activating factor receptor binding interferes with photocarcinogenesis**
Stephen E. Ullrich (Houston TX, USA)
- 17.30 **IL434 Topical tacrolimus in combination with simulated solar radiation does not enhance photocarcinogenesis in hairless mice**
Catharina M. Lerche¹, Peter A. Philipsen¹, Thomas Poulsen², Hans Christian Wulf¹ (¹Copenhagen, ²Soenderborg, DEN)
- 18.00 **OC435 UV-induced carcinogenesis in a p53 mutant mouse model: increased sensitivity to skin damage by a point mutation at codon 172**
Cara L. Benjamin, Chengming Zhu, Honnavara N. Ananthaswamy (Houston TX, USA)
- 18.15 **OC436 Deregulation of the cell death response to UVB and cisplatin in squamous cell carcinoma cell lines**
Sofie Claerhout¹, An Van Laethem¹, Lien Verschooten¹, Charlotte Proby², Patrizia Agostinis¹, Marjan Garmyn¹ (¹Leuven, BEL; ²London, GBR)
- 18.30 **OC437 Changes in epigenetic regulation of chromatin in human epidermis and primary human skin cells after UV-irradiation *in vivo* and *in vitro***
Ruediger Greinert, Kristina Behrend, Beate Volkmer (Buxtehude, GER)

Wednesday, September 5, Afternoon**Room 8W 2.1**

- 16.00 **Mechanistic and applied approaches to plant response in a changing climate**
Chair: Janet F. Bornman (Hamilton, NZL)
- 16.00 **IL438 Exploiting plant UV responses for sustainable crop production in a changing climate**
Nigel D. Paul, Jason M. Moore, Jason J. Wargent (Lancaster, GBR)
- 16.30 **IL439 Interaction of UV-B radiation and low temperature: damage and acclimation**
Wolfgang Bilger, Karena Hoffmann-Wülfing, Matthias Schultze (Kiel, GER)
- 17.00 **IL440 Flavonoids and iridoids in plants: their role and responses to environmental change**
Ken G. Ryan¹, Rilka Taskova¹, Allan Burne¹, Lisa Bryant¹, Rod Seppelt², Phil Garnock-Jones¹
(¹Wellington, NZL; ²Hobart, AUS)
- 17.30 **OC441 Plant response action spectra in the spot-light**
Emma McLoughlin¹, Kevin Newsham², John Moncrieff¹, Andrew McLeod¹ (¹Edinburgh, ²Cambridge, GBR)
- 17.45 **OC442 Effect of UV-B light and temperature on primary photosynthetic processes in two lichen species from contrasting habitats**
Hana Vrablikova¹, Per Larsson², Kristyna Vecerova¹, Knut-Asbjorn Solhaug², Yngvar Gauslaa² (¹Brno, CZE; ²Aas, NOR)

Thursday, September 6, Morning
University Hall

- 08.30 **PL501 Photobiology Update**
DNA repair from past to future
 Leon H.F. Mullenders (Leiden, NED) *introduced by Jean Cadet (Grenoble, FRA)*
- 09.15 **Coffee Break**
- 9.45 **Photodiagnosis and optical techniques for medical diagnosis**
Chair: Georges A. Wagnieres (Lausanne, SUI)
- 9.45 **IL502 Breast characterization and lesion detection by means of optical spectroscopy and imaging**
Paola Taroni, Daniela Comelli, Antonio Pifferi, Lorenzo Spinelli, Alessandro Torricelli, Gianmaria Danesini, Rinaldo Cubeddu (Milano, ITA)
- 10.15 **IL503 Optical signatures for ovarian cancer screening**
Urs Utzinger¹, Molly Brewer² (¹Tucson AZ, ²Farmington CT, USA)
- 10.45 **IL504 Differential Pathlength Spectroscopy for medical diagnosis**
H.J.C.M. Sterenborg, B.Kruijt, S.Kaskakova, H.S. de Bruijn, D.J.Robinson, A.Amelink (Rotterdam, NED)
- 11.15 **OC505 In vivo imaging of the bronchial and alveolar walls microstructure using fibered confocal autofluorescence microscopy**
Genevieve Bourg-Heckly¹, Luc Thiberville², Sophie Moreno-Swirc², Christine Vever-Bizet¹ (¹Paris, ²Rouen, FRA)
- 11.30 **OC506 Development of microcystoscopy for the characterization of lesions detected by fluorescence imaging with Hexvix® in the human bladder**
 Blaise Lovisa, Patrice Jichlinski, Daniela Aymon, Hubert van den Bergh, Georges A. Wagnieres (Lausanne, SUI)
- 11.45 **OC507 In vivo optical properties of melanin and non-invasive detection of melanoma**
George Zonios¹, Aikaterini Dimou¹, Ioannis Bassukas¹, Dimitrios Galaris¹, Efthimios Kaxiras² (¹Ioannina, GRE; ²Cambridge MA, USA)
- 12.00 **OC508 Correlation between PPIX fluorescence and both tissular effects and pain induced by PDT on normal skin using fluorescence imaging**
Jérôme Barge, Thomas Glanzmann, Hubert van den Bergh, Georges Wagnières (Lausanne, SUI)
- 12.15 **OC509 Fluorescence dynamics studies of a PDT photosensitizer**
 Muhammad Atif (Islamabad, PAK)
- 12.30 **OC510 Synthesis and photophysical study of fluorescent bile acid derivatives suitable for anion transport measurements on hepatocytes**
Maria Luisa Marin, Jana Rohacova, Miguel Angel Miranda, Maria José Gómez-Lechón, José Vicente Castell (Valencia, ESP)

- 9.45 **Recent advances in the characterization of photooxidative damage at the biomolecular level**
Chairs: Albert Girotti (Milwaukee WI, USA), Colin Chignell (Research Triangle Park NC, USA)
- 9.45 **IL511 Oxygen 18-labeled singlet molecular oxygen as a valuable tool for studying DNA damage**
Paolo Di Mascio¹, Glauca R. Martinez², Marisa H.G. Medeiros¹, Didier Gasparutto³, Jean-Luc Ravanat³, Jean Cadet³ (¹São Paulo SP, ²Curitiba, BRA; ³Grenoble, FRA)
- 10.15 **IL512 Mechanisms of cellular damage induced by peptide- and protein-peroxides generated by photooxidation**
Michael J. Davies (Sydney, AUS)
- 10.45 **IL513 UVA sensitivity in Smith-Lemli-Opitz Syndrome: possible involvement of cholesta-5,7,9(11)-trien-3 β -ol**
Colin F. Chignell, Robert H. Sik, Piotr J. Bilski, Yu-Ying He, Barbara M. Kukielczak (Research Triangle Park NC, USA)
- 11.15 **IL514 Role of cardiolipin peroxidation in apoptotic cell death induced by mitochondrial photooxidative damage**
Albert W Girotti¹, Witek Korytowski^{1,2}, Tamas Kriska¹ (¹Milwaukee WI, USA; ²Krakow, POL)
- 11.45 **OC515 Adaptive responses to singlet oxygen generated stress in *Rhodobacter***
Jens Glaeser¹, Monica Zobawa², Friedrich Lottspeich², Gabriele Klug¹ (¹Giessen, ²Martinsried, GER)

Thursday, September 6, Morning**Room 8W 2.1**

- 9.45 **Blue light regulation in plants and microorganisms**
Chair: Aba Losi (Parma, ITA)
- 9.45 **IL516 Photoreceptor genes in the fungus *Phycomyces blakesleeanus***
Catalina Sanz¹, Julio Rodriguez-Romero², Alex Idnurm³, Victor G. Tagua², Luis M. Corrochano², Joseph Heitman³, Arturo P. Eslava¹ (¹ Salamanca, ² Sevilla, ESP; ³ Durham NC, USA)
- 10.15 **IL517 Structural and functional studies of the *Bacillus subtilis* blue-light sensor YtvA and related proteins**
Aba Losi (Parma, ITA)
- 10.45 **IL518 Spectroscopic and structural characterization of a plant member of the cryptochrome DASH subfamily**
Richard Pokorny, Julia Moldt, Tobias Klar, Lars-Oliver Essen, Alfred Batschauer (Marburg, GER)
- 11.15 **IL519 Light regulates virulence in *Brucella abortus* by a LOV- Domain Histidine Kinase protein**
Gastón Paris¹, Diego J. Comerci¹, Trevor E. Swartz², Roberto Bogomolni², Rodolfo A. Ugalde¹, Fernando A. Goldbaum¹ (¹ Buenos Aires, ARG; ² Santa Cruz CA, USA)
- 11.45 **OC520 Ultrafast studies on novel blue-light photoreceptors**
Cosimo Bonetti¹, Tilo Mathes², Ivo H. M. van Stokkum¹, Marie-Louise Groot¹, Rienk van Grondelle¹, Peter Hegemann², John T.M. Kennis¹ (¹ Amsterdam, NED; ² Berlin, GER)
- 12.00 **OC521 Radical formation and autophosphorylation in the light-sensitive domain of the plant cryptochrome from *Chlamydomonas***
Dominik Immeln^{1,2}, Ramona Schlesinger², Joachim Heberle¹, Tilman Kottke^{1,2} (¹ Bielefeld, ² Jülich, GER)

Poster session I

- P601 UVB-induced DNA damage: high proportion of mutagenic photoproducts in GC-rich genomes**
Sabine Matallana Surget¹, Jarah Meador^{1,2}, Fabien Joux¹, Thierry Douki² (¹Banyuls-sur-mer, ²Grenoble, FRA)
- P602 Photoactivated hypericin-mediated DNA damage in HaCaT keratinocytes can be attenuated by vitamin E**
Brian Johnston, Nicola J Traynor, Harry Moseley, James Ferguson, Julie A Woods (Dundee, GBR)
- P603 The crystal and molecular structure of the d(TpA) thymine-adenine photoadduct**
R. Jeremy H. Davies¹, John F. Malone¹, Yu Gan², Christine J. Cardin², Michael P. H. Lee³, Stephen Neidle³ (¹Belfast, ²Reading, ³London, GBR)
- P604 Radiation-induced clustered DNA damage**
Noureddine Belmadoui, Peggy Regulus, Jean-Luc Ravanat, Didier Gasparutto, Jean Cadet (Grenoble, FRA)
- P605 The GTPase RhoB, a UVB-responsive protein, regulates p53-independent apoptotic pathways in human normal keratinocytes**
Bruno Canguilhem, Anne Pradines, Marie Charvéron, Gilles Favre (Toulouse, FRA)
- P606 Wavelength dependence of cell cycle responses in human melanocytes and melanoma cells following exposure to ultraviolet radiation.**
Christine Kowalczyk, Marisa Priestner, Rick Saunders, Simon Bouffler (Chilton, GBR)
- P607 Role of UV-induced oxidative stress in the regulation of the GTPase RhoB**
Bruno Canguilhem, Sarah Blaquiére, Hélène Hernandez-Pigeon, Anne Pradines, Marie Charveron, Gilles Favre (Toulouse, FRA)
- P608 Molecular responses of normal human caucasian melanocytes in culture exposed to simulated solar UV: could melanin and its precursors behave as endogenous photosensitizers?**
Laurent Marrot, Jean-Philippe Belaidi, Christophe Jones, Philippe Perez, Jean-Roch Meunier (Aulnay-sous-Bois, FRA)
- P609 Wavelength dependency of ultraviolet radiation induced skin infiltration of neutrophils**
Peter L. Lee¹, Huib van Weelden¹, Piet L.B. Bruijnzeel² (¹Utrecht, ²Oss, NED)
- P610 Limitations of UV-A1 high dose therapy**
Helmut Piazena (Berlin, GER)
- P611 The effect of the short wavelength ultraviolet radiation. An extension of biological dosimetry to the UV-C range**
Berces A., Kovacs G., Ronto G. (Budapest, HUN)
- P612 Inactivation of bacteria in platelet concentrates by UVC irradiation**
Harald Mohr, Ute Gravemann, Anette Bayer, Thomas H. Müller (Springe, GER)
- P613 Photo-induced crosslinking of isolated calf-lens proteins and crystallin fractions sensitized by advanced glycation endproducts**
Denis Fuentealba, Eduardo Silva (Santiago, CHI)
- P614 Singlet oxygen-mediated tryptophan oxidation: characterization of potential markers of protein oxidation**
Michelle Gracani, David I. Pattison, Michael J. Davies (Sydney, AUS)
- P615 Effects of low power laser on plasmatic glycerol: an experimental study in rats**
Halina Camargo Senhorinho, Gerson Linck Bichinho, Munir Antônio Gariba, Percy Nohama (Curitiba, BRA)
- P616 Visible-light-induced respiratory rate increase in cells: searching for a plausible photoacceptor**
A. Remedi, L. di Salvo, G. Cercignani, S. Lucia, G. Colombetti (Pisa, ITA)

- P617 Refinement and use of an *in vitro* model for the measurement of the vitamin D production capacity of sunlight**
Alex Russell McKinley, Michael G. Kimlin, Michael R. Moore (Brisbane, AUS)
- P618 Scattered UV radiation, shade structures and vitamin D**
David J Turnbull, Alfio V Parisi (Toowoomba, AUS)
- P619 First experiences in using broadband instruments and electronic personal dosimeters designed for erythemally effective UV radiation to measure the vitamin D effective UV radiation**
Alois W. Schmalwieser¹, Peter Koepke² (¹Vienna, AUT; ²Munich, GER)
- P620 Utilising polyphenylene oxide for long term solar UVA dosimetry**
David John Turnbull, Peter W Schouten (Toowoomba, AUS)
- P621 Costa del Salford: emulating summer UV exposure in north-west England**
Richard Kift, Lucy Bunhill, Donald Allan, Marie Durkin, Jacqueline Berry, Lesley E. Rhodes, Ann.R.Webb (Manchester, GBR)
- P622 Clear sky UV simulations in the 21st century based on CCM predictions**
Kleareti Tourpali¹, Alkiviadis Bais¹, Andreas Kazantzidis¹, Neal Butchart², Christoph Brühl³, Martin Chipperfield⁴, Martin Dameris⁵, M. A. Giorgetta⁶, U. Langematz⁷, Eva Mancini⁸, E. Manzini⁹, Gianni Pitari⁸, E. Rozanov¹⁰ (¹Thessaloniki, GRE; ²Exeter, ⁴Leeds, GBR; ³Mainz, ⁵Oberpfaffenhofen, ⁶Hamburg, ⁷Berlin, GER; ⁸L'Aquila, ⁹Bologna, ITA; ¹⁰Davos, SUI)
- P623 Abnormal IL-4 and IL-12p70 secretion in stimulated peripheral blood mononuclear cells (PBMC) from patients with Polymorphic Light Eruption (PLE) is unaffected by TL-01 phototherapy**
Alison Blackburn, Sandra M. Winhoven, Paul Balmer, Margaret Brownrigg, Lesley E. Rhodes, Neil K. Gibbs (Manchester, GBR)
- P624 Erythematous sensitivity does not predict UVB-induced epidermal CD1a+ Langerhans' cell loss or caspase-3 activation in Polymorphic Light Eruption (PLE)**
Joanne Tye, Alison Blackburn, Sandra M. Winhoven, Margaret Brownrigg, Lesley E. Rhodes, Neil K. Gibbs (Manchester, GBR)
- P625 Ultraviolet irradiation directly influences the structure of fibrillin microfibrils**
Siobhan M. Reilly, Neil K. Gibbs, Christopher E.M. Griffiths, Rachel E.B. Watson, Michael J. Sherratt (Manchester, GBR)
- P626 Spectrophotometric study of antioxidant and iron binding capacity of selected flavonoid compounds**
George Zonios, Aikaterini Dimou, Dimitrios Galaris (Ioannina, GRE)
- P627 The effects of differently coated titanium dioxide particles on UVA-induced oxidation of biological substrates**
Elisabetta Venditti, Lucedio Greci, Elisabetta Damiani (Ancona, ITA)
- P628 Effects of the flavonoid luteolin on the human sunburn response**
Lien Verschooten¹, Katrien Smaers¹, Lieve Declercq², Daniel Maes², Marjan Garmyn¹ (¹Leuven, ²Oevel, BEL)
- P629 Which hazard weighting function should be used for assessment of eye exposure from dental radiation sources?**
Ellen M Bruzell¹, Bjørn Johnsen², Tommy Nakken Aalerud², Terje Christensen² (¹Haslum, ²Østerås, NOR)
- P630 Misuse of light in tooth bleaching**
Ellen M Bruzell¹, Jon E Dahl^{1,2} (¹Haslum, ²Oslo, NOR)
- P631 Spectroscopic and electrochemical properties of 2-aminophenothiazine in acetonitrile.**
Rolando Oyola¹, Carmelo García¹, Luis Piñero¹, Ileana Nieves¹, Nadya Cruz¹, Rafael Arce² (¹Humacao, ²San Juan, PUR)
- P632 Photoreactivity of indirubin derivatives**
David Olivier, Samuel Douillard, Thierry Patrice (Nantes, FRA)

- P633 Photoredox processes in synthetic nucleosides: intramolecular photoreactions of ketoprofen-purine dyads**
Cecilia Paris¹, Nouredine Belmadoui², María José Climent¹, Susana Encinas¹, Miguel Ángel Miranda¹ (¹Valencia, ESP; ²Grenoble, FRA)
- P634 Valence isomerization of hinokitiol under UV irradiation**
Koh-ichi Seki¹, Michiko Maekawa¹, Shigeru Kasahara¹, Shingo Nakamura², Toshihiro Okabe³, Tadamiti Yamamoto³, Yoshihiro Inamori⁴, Naomi Shishido⁵, Masao Nakamura⁵ (¹Sapporo, ²Aomori, ³Hirosaki, ⁴Takatuki, ⁵Asahikawa, JPN)
- P635 Diastereoselective photocycloaddition of nucleoside analogues with naphthalene**
Koh-ichi Seki¹, Masayuki Takahashi², Ken-ichi Nishijima², Kazue Ohkura² (¹Sapporo, ²Ishikari-Tobetsu, JPN)
- P636 The triplet properties of the photocarcinogenic fluoroquinolone antibiotic, lomefloxacin, are not consistent with an energy transfer mechanism for photosensitised thymine dimer formation.**
Kristy Clarke¹, George Truscott¹, David J. McGarvey¹, Neil K. Gibbs² (¹Keele, ²Manchester, GBR)
- P637 Photosensitization of cholesterol by diaryl ketones in model dyads**
Inmaculada Andreu, Isabel M. Morera, Francisco Boscá, Miguel A. Miranda (Valencia, ESP)
- P638 Photophysical and photochemical characteristics of 3-nitrofluoranthene in solution**
Salvador D Gavalda, Rafael Arce (San Juan, PUR)
- P639 The poor teacher's spectrophotometer for *in vitro* and *in vivo* absorption and fluorescence spectra**
Lars Olof Bjorn (Lund, SWE)
- P640 James Prescott Joule (1818 - 1889): a Manchester son and the father of the international unit of energy**
Sandra M Winhoven, Neil K. Gibbs (Manchester, GBR)
- P641 Nanocluster photocatalytic degradation of some organic pollutants**
Souad Ahmed Elfeky, Alsayed Abdelmajid Alsherbini (Giza, EGY)
- P642 Photoinactivation of bacteria in wastewater by porphyrins. Bacterial β -galactosidase activity and leucine-uptake as methods to monitor the process**
C.M B. Carvalho, A.T.P.C. Gomes, S.C.D. Fernandes, A.C.B. Prata, M.A. Almeida, M.A. Cunha, J.P.C. Tomé, M.A.F. Faustino, M.G.P.M.S. Neves, A.C. Tomé, J.A.S. Cavaleiro, Z. Lin, J.P. Rainho, J. Rocha (Aveiro, POR)
- P643 Photochemical degradation of phenylurea herbicide chlorotoluron**
Sarka Klementova, Martina Zemanova (Ceske Budejovice, CZE)
- P644 Bioluminescent control of sterility**
Martina Bancirova, Hana Fabianova (Olomouc, CZE)
- P645 Kinetic properties of bacterial luciferases in water-organic solvents**
Irina E. Sukovataya, Elisaveta V. Kaykova (Krasnoyarsk, RUS)
- P646 Differences in processing of blue light signals between animal and plant cryptochromes**
Tilman Kottke^{1,2}, Alex Berndt³, Helena Breitzkreuz³, Joachim Heberle¹, Margaret Ahmad⁴, Eva Wolf³ (¹Bielefeld, ²Juelich, ³Dortmund, GER; ⁴Paris, FRA)
- P647 A blue light inducible two component signal transduction system in the plant pathogen *Pseudomonas syringae* pv. *tomato***
Zhen Cao¹, Valentina Buttani², Aba Losi², Wolfgang Gaertner¹ (¹Muelheim an der Ruhr, GER; ²Parma, ITA)
- P648 Towards a more sensitive phytoplankton?**
Cristina Sobrino¹, Patrick J. Neale², Robert E. Moeller³, Jason Porter⁴, Jesse Phillips-Kress² (¹Vigo, ESP; ²Edgewater MD, ³Oxford OH, ⁴Bethlehem PA, USA)
- P649 Mycosporines and Mycosporine-like Amino Acids (MAAs) - an old story but ever exciting**
Manfred Klisch, Donat-P. Häder (Erlangen, GER)
- P650 Short term impact of ultraviolet radiation on photosynthesis of marine diatoms**
Luis Mendía, Marcos Lagunas, E. Walter Helbling (Playa Unión-Rawson, ARG)

- P651 Sun and shade acclimation of the photosynthetic apparatus within single leaves**
Christine Ewers, Wolfgang Bilger (Kiel, GER)
- P652 High light induced ROS and their effects on photoinhibition in *Arabidopsis thaliana* mutants with reduced amount of light harvesting complexes**
Milos Bartak¹, Jaroslav Lang¹, Kristyna Vecerova¹, Pavel Pospisil², Petr Ilik² (¹Brno, ²Olomouc, CZE)
- P653 Why form plants UV-B screening pigments at low temperature?**
Matthias Schultze, Wolfgang Bilger (Kiel, GER)
- P654 Impact of high intensity UV-B radiation on leaf chlorophyll fluorescence and content of ultraviolet-absorbing compounds of cucumber and peppermint plants**
Elzbieta Skórska, Maja Wencierska (Szczecin, POL)
- P655 Morphological and physiological changes in the UV-B irradiated plants of triticale differing in leaf wax presence**
Elzbieta Skórska, Wiktor Szwarz (Szczecin, POL)
- P656 Effect of dehydration stress on delayed luminescence of plant leaves**
Joonho Kang¹, Daeshik Kim¹, Daewoong Jeong¹, Sanghyun Park², Kwangsup Soh² (¹Busan, ²Seoul, KOR)
- P657 Effect of isotope substitution and controlled dehydration on the molecular mobility and photoinduced electron transport reactions of quinone acceptors and multiheme cytochrome c in bacterial photosynthetic reaction center**
Constantine Chamorovsky, Sergei Chamorovsky, Peter Knox (Moscow, RUS)
- P658 Ultraviolet interferential filters for the realization of sensors with spectral responses equivalent to biological action curves**
M.G. Pelizzo, D. Garoli, P. Nicolosi (Padova, ITA)
- P659 Photo-stability of sunscreen products in the full solar spectral range**
D. Garoli, M.G. Pelizzo, P. Nicolosi, A. Peserico, M. Alaibac (Padova, ITA)
- P660 Photosensitization induced by Rufloxacin leads to mutagenesis in yeast**
M. E. Serrentino^{1,2}, A. Reynaud-Angelin², A. Catalfo¹, G. De Guidi¹, E. Sage² (¹Catania, ITA; ²Orsay, FRA)

Poster session II

- P701** **Porphyrin transport in HaCaT keratinocytes after treatment with 5-aminolevulinic acid or its methyl ester derivative: effect of fumitremorgin C on intracellular porphyrin content, phototoxicity and photogenotoxicity.**
Claire Hill, Nicola J Traynor, Harry Moseley, William Ogilvie, James Ferguson, Julie A Woods (Dundee, GBR)
- P702** **Isolation and characterization of squamous carcinoma cells resistant to photodynamic treatment with methyl-aminolevulinic acid.**
V. Rivarola¹, F. Sanz-Rodríguez², A. Zamarrón², B. Rumie¹, I. Yslas¹, A. Blázquez², A. Juarranz² (¹Rio Cuarto, ARG; ²Madrid, ESP)
- P703** **Assessment of the topical photoallergy potential of METVIX cream.**
Douglas Brian Learn¹, Christopher Paul Sambuco¹, Paul Donald Forbes¹, Jacques Cambrou², Franck Chuzel² (¹Horsham PA, USA; ²Sophia Antipolis, FRA)
- P704** **Combined effect of 5-ALA treatment with the use of NF-κB inhibitors for the survival of Glioblastoma Multiforme cells.**
Isabelle Coupienne, Pierre A Robe, Jacques Piette, Sebastien Bontems (Liege, BEL)
- P705** **Activation and reorganization of skin keratinocytes and fibroblasts by photodynamic therapy with methyl-aminolevulinic acid**
A. Juarranz¹, F. Sanz Rodríguez¹, A. Blázquez¹, M.C. Iglesias-de la Cruz¹, L. Bagazgoitia¹, J. Cuevas², S. González^{3,1}, P. Jaen¹ (¹Madrid, ²Guadalajara, ESP; ³New York, USA)
- P706** **Evaluation of porphyrin production from 5-aminolaevulinic acid by pathogenic microbes**
Ludovic Bourre¹, Francesca Giuntini², Ian M. Eggleston², Alexander J. MacRobert¹, Michael Wilson¹ (¹London, ²Bath, GBR)
- P707** **Visible light inactivation of selected bacteria and fungi by modified titania**
Agnieszka Jańczyk¹, Dariusz Mitoraj^{1,2}, Magdalena Strus¹, Wojciech Macyk¹, Piotr Bogumił Heczko¹, Horst Kisch², Grażyna Stochel¹ (¹Kraków, POL; ²Erlangen, GER)
- P708** **Antibacterial effect of PDT using the cationic photosensitiser**
V. Negrimovsky, V. Mamikonyan, M. Balayan, M. Budzinskaya, F. Fedorov, M. Strakhovskaya, S. Shevchik, V. Loschenov, S. Kuzmin, G. Vorozhtsov (Moscow, RUS)
- P709** **Targeted delivery of photosensitizing dyes via conjugation with bacterial peptide derivatives for the photodynamic therapy of bacterial infections**
Ulysses Wilson Sallum, Humra Athar, Sarika Verma, Tayyaba Hasan (Boston MA, USA)
- P710** **Photodynamic inactivation of *Alliicyclobacillus acidoterrestris* with phenothiazinic dyes**
Janice R. Perussi, Juliana V. Alberice, Roberta M. Maria, Emanuel Carrilho, Hidetake Imasato (São Carlos, BRA)
- P711** **Photodynamic effect on *Helicobacter pylori***
M. H. El Batanouny, Rehab M. Amin, E.S. El Gohary, M.K. Ibrahim, M.I. Naga, M.S. Salama (Cairo, EGY)
- P712** **Metal-phosphate coordination determines the adsorption and photodynamic activity of sulfonated metallophthalocyanines on phospholipid membranes**
Alina A. Pashkovskaya, Elena A. Sokolenko, Valeri S. Sokolov, Elena A. Kotova, Yuri N. Antonenko (Moscow, RUS)
- P713** **Dark and photohemolytic activity of some amphiphilic deuteroporphyrin derivatives**
Mikhail V. Malakhov, Galina V. Mansurova, Gellii V. Ponomarev, Andrei V. Reshetnikov, Alexander Ya. Potapenko (Moscow, RUS)

- P714** ***In vitro* phototoxicity study using novel phthalocyanines and incoherent light source**
Nil Saydan, Sinem Tuncer, Menaf Ayhan, Devrim Atilla, Ayse Gul Gurek, Mahmut Durmus, Vefa Ahsen (Gebze, TUR)
- P715** **Comparative photodynamic effects of three photosensitisers in a human carcinoma cell line**
Alcira Batlle¹, María Gabriela Alvarez², Viviana Rivarola², Haydée Fukuda¹ (¹Buenos Aires, ²Río Cuarto, ARG)
- P716** **Preparation and characterization of novel biofunctionalized fluorescent silica nanoparticles and their possibility for photodynamic therapy**
Michihiro Nakamura, Masayuki Shono, Kazunori Ishimura (Tokushima, JPN)
- P717** **Photodynamic effect in human epithelial cells of a new methionine-porphyrin conjugate**
M.A.F. Faustino¹, V. Vaz Serra¹, J.P.C. Tomé¹, M.G.P.M.S. Neves¹, A.C.Tomé¹, J.A.S. Cavaleiro¹, F. Sanz-Rodríguez², B. Bautista², A. Zamarrón², A. Blázquez², A. Juarranz² (¹Aveiro, POR; ²Madrid, ESP)
- P718** **Synthesis and characterization of phenothiazine- and squaraine-based photosensitizers for photodynamic therapy**
Prakash Sanjeevaiah, Basel Zaitoun, Kenneth W. Olsen, David S. Crumrine (Chicago IL, USA)
- P719** **New porphyrin amino acid conjugates: synthesis and photodynamic effect in human epithelial cells**
F. Sanz-Rodríguez¹, A. Zamarrón¹, B. Bautista¹, A. Blázquez¹, A. Juarranz¹, V. Vaz Serra², M.A.F. Faustino², J.P.C. Tomé², M.G.P.M.S. Neves², A.C. Tomé², J.A.S. Cavaleiro² (¹Madrid, ESP; ²Aveiro, POR)
- P720** **Development of sensitizers based on halogenated tetrapyrroles as new PDT-agents against selected melanoma and adenocarcinoma cells.**
Janusz M. Dabrowski¹, Carlos J.P. Monteiro², Luis G. Arnaut², Mariette M. Pereira², Krystyna Urbańska¹, Grażyna Stochel¹ (¹Krakow, POL; ²Coimbra, POR)
- P721** **Metabolic profile and *in vivo* stability of a peptide-conjugated chlorin-type photosensitiser targeting neuropilin-1: interest of pseudopeptides.**
Noémie Thomas¹, Loraine Tirand¹, Denise Bechet¹, Regis Vanderesse², François Plénat¹, Céline Frochot², François Guillemin¹, Muriel Barberi-Heyob¹ (¹Vandoeuvre-lès-Nancy, ²Nancy, FRA)
- P722** **Investigations of photosensitizer peptide conjugates for increased PDT efficacy**
Alexis Lynn Reid, Katie Latulippe, Roy Pottier, Eva Gudgin-Dickson, James T.C. Wojtyk (Kingston, CAN)
- P723** **Chlorin e6 polyvinylpyrrolidone selectively accumulates and causes photodynamic damage in human bladder carcinoma: from chick chorioallantoic membrane model to clinical patients**
William WL Chin, Weber KO Lau, Paul WS Heng, Pei Li Lim, Ramaswamy Bhuvanewari, Malini Olivo (Singapore, SIN)
- P724** **The membrane localization of tetrapyrrolic photosensitizers as a determinant of their photodynamic efficiency. A comparison between Chlorin e6 and mTHPC**
Halina Mojziso, Stéphanie Bonneau, Christine Vever-Bizet, Daniel Brault (Paris, FRA)
- P725** **A preliminary study of photodynamic effect on matrix metalloproteinases activity in mesothelioma cell lines**
Meltem Goksel Dizge, Nil Saydan, Mahmut Durmus, Ayse Gul Gurek, Vefa Ahsen (Gebze, TUR)
- P726** **Disorganisation of cytoskeleton and differential cell adhesion in cells resistant to photodynamic therapy**
A. Casas¹, F. Sanz-Rodríguez², G. Di Venos¹, A. Batlle¹, J.C. Stockert², A. Juarranz² (¹Buenos Aires, ARG; ²Madrid, ESP)
- P727** **Optimizing hypericin mediated photodynamic therapy downregulates the expression of angiogenic proteins in bladder carcinoma**
Ramaswamy Bhuvanewari, Gan Yap-Yik Yuen, Soo Khee Chee, Malini Olivo (Singapore, SIN)
- P728** **Characterization by MALDI-FTICR mass spectrometry of target protein potentially implied in photodynamic therapy**
Benoit Maunit¹, Marc Dodeller¹, David DA Silva¹, Lina Bezdetsnaya², François Guillemin², Jean François Muller¹ (¹Metz, ²Nancy, FRA)

- P729 The effect of photodynamic therapy on mesothelioma cell lines**
Murat Dogru, Sinem Tuncer, Devrim Atilla, Ayse Gul Gurek, Mahmut Durmus, Vefa Ahsen, Nil Saydan (Gebze, TUR)
- P730 Modulation of photodynamic injury of crayfish neuronal and glial cells by neurotrophic factors**
 Andrej V.Lobanov, Anatoly B. Uzdensky (Rostov-on-Don, RUS)
- P731 Zn(II)phthalocyanine-mediated mitotic catastrophe on HeLa cells**
 Santiago Rello-Varona, Juan Carlos Stockert, Magdalena Cañete, Angeles Villanueva (Madrid, ESP)
- P732 Intracellular localisation of mTHPC and effect of photodynamic therapy in cells of the mammalian peripheral nervous system**
K.E. Wright¹, A.J. MacRobert², J.B. Phillips¹ (¹Milton Keynes, ²London, GBR)
- P733 LDL as delivery system of hypericin in U-87MG glioma cell line: sub-cellular distribution of hypericin and efficiency of PDT**
Zuzana Nadova¹, Veronika Huntosova¹, Anton Mateasik², Jaromir Mikes¹, Pavol Miskovsky¹ (¹Kosice, ²Bratislava, SVK)
- P734 The effects of increasing oxygen concentrations in PDT on cell survival and lipid peroxidation in different cancer cell lines**
 Astrid Hjelde, Odrun A. Gederaas, Hans E. Krokan, Alf O. Brubakk (Trondheim, NOR)
- P735 Surface-enhanced Raman and fluorescence spectroscopy of hypericin in the presence of LDL and phosphatidylcholine**
Gejza Lajos¹, Santiago Sanchez-Cortes², Daniel Jancura¹, Jose Vicente Garcia-Ramos², Pavol Miskovsky^{1,3} (¹Kosice, ³Bratislava, SVK; ²Madrid, ESP)
- P736 Photochemical Internalization (PCI) with adenovirus targeted to the epidermal growth factor receptor (EGFR)**
Anette Bonsted, Håvard Kirkevold, Inger Lise Aagaard, Kristian Berg (Oslo, NOR)
- P737 Kinetics of the interactions of hypericin with low density lipoproteins**
Luboslava Buriankova¹, Veronika Huntosova¹, Diana Buzova¹, Daniel Jancura¹, Pavol Miskovsky^{1,2} (¹Kosice, ²Bratislava, SVK)
- P738 Serum albumin as carriers for phthalocyanines**
Ana Maria Edwards, Emilio Alarcon, Angelica Garcia (Santiago, CHI)
- P739 Oligonucleotides binding constants of photosensitizer dyes and of alkylating quinones and nitroarenes with potential use in photodynamic therapy in hypoxic environments**
Yisaira Diaz-Espinosa¹, Rafael Arce², Antonio Alegria³ (¹San Juan, ²Rio Piedra, ³Humacao, PUR)
- P740 Full determination of PDT parameters for optimizing PDT applications**
Lilian Tan Moriyama, Priscila Fernanda Campos de Menezes, José Dirceu Vollet Filho, Juliana Ferreira, Vanderlei Salvador Bagnato (São Carlos, BRA)
- P741 Photodynamic therapy for cancer cells using mixed wavelength LEDs**
 Toshiyuki Kosobe¹, Yasushi Takei¹, Xuepeng Qiu², Norimichi Kawashima¹, Yoshikazu Tokuoka¹ (¹Yokohama, JPN; ²Changchun, CHN)
- P742 Treatment of acne: the role of photodynamic therapy and micropeeling**
 Marcello Monti, Stefania Motta (Milano, ITA)
- P743 Spectroscopic evaluation of near-IR quantum dots for cancer diagnosis**
Elnaz Yaghini, Arthur Iga, Alexander M. Seifalian, Alexander J. MacRobert (London, GBR)
- P744 Possibilities for real time dosimetry for PDT**
 Priscila Fernanda Campos de Menezes (São Carlos, BRA)

- P745 Early diagnosis of cancers by fluorescence imaging of cytologic slides**
Karine Steenkeste¹, Ariane Deniset¹, Sandrine Lécart¹, Sandrine Lévêque Fort¹, Pascal Eschwege², Sophie Ferlicot², Michèle Fabre², Basile Maldant³, Marie-Pierre Fontaine-Aupart¹ (¹Orsay, ²Le Kremlin Bicêtre, ³Bièvres, FRA)
- P746 The photodynamic action vs catechol**
Martina Bancirova, Jana Jarošová, Veronika Borská (Olomouc, CZE)
- P747 Products of photosensitizer photooxidation are responsible for systemic immunosuppression**
Alla A. Kyagova, Elena A. Kozhinova, Lyudmila A. Kozir, Galina V. Mansurova, Zoya I. Moshnina, Geli V. Ponomarev, Alexander Ya. Potapenko (Moscow, RUS)
- P748 Fluorescence imaging for demarcation of Basal Cell Carcinoma tumor borders**
Claes D. Enk¹, Joseph Alcalay², Clemens Fritsch³, Thomas Ruzicka³, Ronen Alkalay¹ (¹Jerusalem, ²Tel Aviv, ISR; ³Munich, GER)
- P749 Induced phototoxicity of cell culture media**
Thierry Patrice, David Olivier, Samuel Douillard (Nantes, FRA)
- P750 Phototoxicity is not associated with Rose Bengal-photosensitized tissue bonding**
Min Yao, Kenneth Bujold, Robert Redmond, Irene Kochevar (Boston MA, USA)
- P751 Photochemical reactions of bilirubin and folic acid in different solutions**
A.Vorobey¹, V.Plavsky¹, P.Vorobey¹, A.H.Steindal², J.Moan² (¹Minsk, BLR; ²Oslo, NOR)
- P752 Differentiation of curcumin phototoxicity in cells and bacteria by change in pharmaceutical preparation**
Tone Haukvik^{1,2}, Ellen M. Bruzell², Inger Sofie Dragland², Else Morisbak², Hanne Hjorth Tønnesen¹ (¹Oslo, ²Haslum, NOR)

