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**Saturday, September 1, Afternoon**

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**University Hall Foyer**14.30  
18.00 **Registration**

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**Saturday, September 1, Evening**

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**Roman Bath and Pump Rooms**19.00  
20.30 **Welcome Reception**

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**Sunday, September 2, Morning**

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**University Hall**08.30 **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 Douki<sup>1</sup>, Stephane Mouret<sup>1</sup>, Evelyne Sage<sup>2</sup>, Fabien Joux<sup>3</sup>, Sabine Matallana-Surget<sup>3</sup>, Jarah A. Meador<sup>3</sup>, Jean Cadet<sup>1</sup> (<sup>1</sup>Grenoble, <sup>2</sup>Orsay, <sup>3</sup>Banyuls-sur-Mer, FRA)*11.45 **OC106 Induction and repair of UV-induced DNA damage in *Deinococcus radiodurans***  
*Petra Rettberg<sup>1</sup>, Ulrike Pogoda de la Vega<sup>1</sup>, Thierry Douki<sup>2</sup>, Jean Cadet<sup>2</sup>, Günther Reitz<sup>1</sup> (<sup>1</sup>Köln, GER; <sup>2</sup>Grenoble, FRA)*12.00 **OC107 Towards time-resolving electron transfer between different tryptophan residues during DNA photolyase activation**  
*Martin Byrdin<sup>1</sup>, Andre P.M. Eker<sup>2</sup>, Agathe Espagne<sup>1</sup>, Sandrine Villette<sup>1</sup>, Klaus Brettel<sup>1</sup> (<sup>1</sup>Gif-sur-Yvette, FRA; <sup>2</sup>Rotterdam, 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 Batlle<sup>1</sup>, Gabriela DiVenosa<sup>1</sup>, Adriana Casas<sup>1</sup>, Laura Hermida<sup>1</sup>, Haydée Fukuda<sup>1</sup>, María Victoria Defain<sup>1</sup>, Alexander MacRobert<sup>1,2</sup> (<sup>1</sup>Buenos Aires, ARG; <sup>2</sup>London, GBR)
- 12.00 **OC114 Novel 5-aminolaevulinic acid peptide prodrugs for photodynamic therapy: synthesis, characterisation, and cellular accumulation studies**  
Francesca Giuntini<sup>1</sup>, Ian M. Eggleston<sup>1</sup>, Ludovic Bourre<sup>2</sup>, Alexander J. MacRobert<sup>2</sup>, Michael Wilson<sup>2</sup> (<sup>1</sup>Bath, <sup>2</sup>London, 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 Brooke<sup>1</sup>, Meneka Sidhu<sup>1</sup>, Rachel Watson<sup>1</sup>, Martin Church<sup>2</sup>, Peter Friedmann<sup>2</sup>, Geraldine Clough<sup>2</sup>, Lesley Rhodes<sup>1</sup> (<sup>1</sup>Manchester, <sup>2</sup>Southampton, GBR)
- 12.30 **OC116 Enhanced porphyrin accumulation using peptide derivatives of 5-aminolaevulinic acid for photodynamic therapy**  
Ludovic Bourre<sup>1</sup>, Francesca Giuntini<sup>2</sup>, Ian M. Eggleston<sup>2</sup>, Michael Wilson<sup>1</sup>, Alexander J. MacRobert<sup>1</sup> (<sup>1</sup>London, <sup>2</sup>Bath, 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. Byrne<sup>1</sup>, Alberto Y. Limon-Flores<sup>2</sup>, Stephen E. Ullrich<sup>2</sup> (<sup>1</sup>Sydney, AUS; <sup>2</sup>Houston 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 Kaneko<sup>1</sup>, Ulli Smetana-Just<sup>1</sup>, Mary Matsui<sup>2</sup>, Antony R Young<sup>1</sup>, Susan John<sup>1</sup>, Mary Norval<sup>3</sup>, Susan L Walker<sup>1</sup> (<sup>1</sup>London, <sup>3</sup>Edinburgh, GBR; <sup>2</sup>Melville 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. Haylett<sup>1</sup>, M. Masoodi<sup>2</sup>, M. Brownrigg<sup>1</sup>, K. Gledhill<sup>2</sup>, D.J. Tobin<sup>2</sup>, A.J. Thody<sup>3</sup>, A. Nicolaou<sup>2</sup>, L.E. Rhodes<sup>1</sup> (<sup>1</sup>Manchester, <sup>2</sup>Bradford, <sup>3</sup>Newcastle, 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 Rück (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 Schneckenburger<sup>1</sup>, Michael Wagner<sup>1</sup>, Petra Weber<sup>1</sup>, Thomas Bruns<sup>1</sup>, Brigitte Angres<sup>2</sup>, Heiko Steuer<sup>2</sup>, Wolfgang S.L. Strauss<sup>3</sup> (<sup>1</sup>Aalen, <sup>2</sup>Reutlingen, <sup>3</sup>Ulm, 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 König<sup>1</sup>, Iris Riemann<sup>1</sup>, Frank Stracke<sup>1</sup>, Aisada Uchugonova<sup>1</sup>, Rainer Bückle<sup>2</sup>, Ronan Le Harzic<sup>1,2</sup>, Katja Schenke-Layland<sup>3</sup>, Martin Kaatz<sup>2</sup>, Peter Elsner<sup>2</sup> (<sup>1</sup>St. Ingbert, <sup>2</sup>Jena, GER; <sup>3</sup>Los Angeles, USA)
- 12.15 **OC132 Measurement and assessment of circadian effective radiation of natural and artificial sources**  
Dieter Kockott<sup>1</sup>, Helmut Piazena<sup>2</sup>, Rüdiger Sippel<sup>3</sup> (<sup>1</sup>Hanau, <sup>2</sup>Berlin, <sup>3</sup>Fröndenberg, 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)

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**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 Dewaele<sup>1</sup>, Esther Buytaert<sup>1</sup>, Sofie Van Kelst<sup>1</sup>, Wim Martinet<sup>2</sup>, Jean-Yves Matroule<sup>3</sup>, Jacques Piette<sup>3</sup>, Patrizia Agostinis<sup>1</sup> (<sup>1</sup>Leuven, <sup>2</sup>Antwerp, <sup>3</sup>Liège, BEL)
- 16.30        **IL139    NF- $\kappa$ B 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)

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

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- 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 Kraemer<sup>1</sup>, Jennifer Boyle<sup>2</sup>, Takahiro Ueda<sup>1</sup>, Kyu Seon Oh<sup>1</sup>, Kyoko Imoto<sup>3</sup>, Deborah Tamura<sup>1</sup>, Sikandar G. Khan<sup>1</sup>, John J.DiGiovanna<sup>1</sup> (<sup>1</sup>Bethesda MD, USA; <sup>2</sup>London, GBR; <sup>3</sup>Nara, 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 Javeri<sup>1</sup>, Xiao Xuan Huang<sup>1</sup>, Françoise Bernerd<sup>2</sup>, Rebecca S. Mason<sup>1</sup>, Gary M. Halliday<sup>1</sup> (<sup>1</sup>Sydney, AUS; <sup>2</sup>Clichy, 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)

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

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- 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)

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

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- 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. Viviani<sup>1</sup>, F. G. C. Arnoldi<sup>2</sup>, A. J. Silva Neto<sup>2</sup>, Y. Ohmiya<sup>3</sup> (<sup>1</sup>Sorocaba SP, <sup>2</sup>Rio Claro, BRA; <sup>3</sup>Osaka, JPN)
- 15.30 **IL158 Structural insights into bioluminescent mechanism of calcium-regulated photoproteins**  
Eugene S. Vysotski<sup>1,2</sup>, John Lee<sup>2</sup> (<sup>1</sup>Krasnoyarsk, RUS; <sup>2</sup>Athens GA, USA)
- 16.00 **IL159 Basis and application of ostracod bioluminescence**  
Yoshihiro Ohmiya<sup>1</sup>, Chun Wu<sup>2</sup> (<sup>1</sup>Sapporo, <sup>2</sup>Ikeda, JPN)
- 16.30 **IL160 Multicolor reporter gene technology for new multiplexed bioluminescent cell-based assays**  
Elisa Michelini<sup>1</sup>, Luca Cevenini<sup>1</sup>, Laura Mezzanotte<sup>1</sup>, Danielle Ablamsky<sup>2</sup>, Tara Southworth<sup>2</sup>, Bruce Branchini<sup>2</sup>, Aldo Roda<sup>1</sup> (<sup>1</sup>Bologna, ITA; <sup>2</sup>New 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)



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

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- 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<sup>1,2</sup>, John C. Dowdy<sup>1</sup> (<sup>1</sup>Cordova TN, <sup>2</sup>Memphis 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    **OC207    Does casual exposure to UK sunlight provide sufficient vitamin D levels?**  
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 Roelants<sup>1</sup>, Heinz Falk<sup>2</sup>, Bernd Lackner<sup>2</sup>, Mario Waser<sup>2</sup>, Peter A.M. de Witte<sup>1</sup> (<sup>1</sup>Leuven, BEL; <sup>2</sup>Linz, AUT)
- 10.45 **OC223 Photosensitised reactions by photoinitiators used for curing dental polymer materials**  
Terje Christensen<sup>1,2</sup>, Else Morisbak<sup>1</sup>, Inger Sofie Dragland<sup>1</sup>, Hanne Hjorth Tønnesen<sup>3</sup>, Ellen M. Bruzell<sup>1</sup> (<sup>1</sup>Haslum, <sup>2</sup>Østerås, <sup>3</sup>Oslo, NOR)
- 11.00 **OC224 Photoactivated therapeutic metal complexes**  
Fiona S Mackay<sup>1</sup>, Julie A Woods<sup>2</sup>, Patrick J Bednarski<sup>3</sup>, Pavla Heringova<sup>4</sup>, Jana Kasparkova<sup>4</sup>, Viktor Brabec<sup>4</sup>, Harry Moseley<sup>2</sup>, James Ferguson<sup>2</sup>, Peter J Sadler<sup>1</sup> (<sup>1</sup>Edinburgh, <sup>2</sup>Dundee, GBR; <sup>3</sup>Greiswald, GER; <sup>4</sup>Brno, 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 Rizwan<sup>1</sup>, Andrew Harbottle<sup>2</sup>, Isabel Rodriguez-Blanco<sup>1</sup>, Rachel Watson<sup>1</sup>, Mark Birch-Machin<sup>2</sup>, Lesley Elisabeth Rhodes<sup>1</sup> (<sup>1</sup>Manchester, <sup>2</sup>Newcastle upon Tyne, GBR)
- 11.45 **OC227 Fluorescence dynamics of UV-B sunscreens**  
Thomas M. Nordlund<sup>1</sup>, Rajagopal Krishnan<sup>2</sup> (<sup>1</sup>Birmingham AL, <sup>2</sup>San Francisco CA, USA)
- 12.00 **OC228 In vivo relevance for photoprotection by the vitamin D rapid response pathway**  
Katie M Dixon<sup>1</sup>, Shivashni S Deo<sup>1</sup>, Anthony W Norman<sup>2</sup>, June E Bishop<sup>2</sup>, Gary M Halliday<sup>1</sup>, Vivienne E Reeve<sup>1</sup>, Rebecca S Mason<sup>1</sup> (<sup>1</sup>Sydney, AUS; <sup>2</sup>Riverside 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**  
Helmut Piazena<sup>1</sup>, Leonora Franke<sup>1</sup>, David Sülflow<sup>1</sup>, Katharina Stark<sup>1</sup>, Dieter Kockott<sup>2</sup>, Ralf Uebelhack<sup>1</sup> (<sup>1</sup>Berlin, <sup>2</sup>Hanau, GER)

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

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- 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 Magaraggia<sup>1</sup>, Filippo Faccenda<sup>2</sup>, Fabiola Paterno<sup>2,1</sup>, Andrea Gandolfi<sup>2</sup>, Giulio Jori<sup>1</sup> (<sup>1</sup>Padova, <sup>2</sup>Trento, 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  $\beta$ -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)

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

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- 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-Heyob<sup>1</sup>, Noémie Thomas<sup>1</sup>, Loraine Tirand<sup>1</sup>, Denise Bechet<sup>1</sup>, Régis Vanderesse<sup>2</sup>, François Guillemin<sup>1</sup>, Céline Frochot<sup>2</sup> (<sup>1</sup>Vandoeuvre-les-Nancy, <sup>2</sup> 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)

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

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- 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. Wirtz<sup>1</sup>, M.C. van Hemert<sup>1</sup>, J. Lugtenburg<sup>1</sup>, H.A. Frank<sup>2</sup>, E.J.J. Groenen<sup>1</sup> (<sup>1</sup>Leiden, NED; <sup>2</sup>Storrs 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. Rozanowska<sup>1</sup>, Anna Pawlak<sup>2</sup>, Bartosz Rozanowski<sup>2</sup> (<sup>1</sup>Cardiff, GBR; <sup>2</sup>Krakow, 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)

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**Monday, September 3, Afternoon****Room 5W 2.3**

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- 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 Smith<sup>1</sup>, Murray JV Wilkie<sup>1</sup>, Yusuf Y Deeni<sup>1</sup>, Peter M Farr<sup>2</sup>, James Ferguson<sup>1</sup>, C Roland Wolf<sup>1</sup>, Sally H Ibbotson<sup>1</sup> (<sup>1</sup>Dundee, <sup>2</sup>Newcastle upon Tyne, GBR)
- 18.15 **P607 Role of UV-induced oxidative stress in the regulation of the GTPase RhoB**  
Bruno Canguilhem, Sarah Blaquièrre, H  l  ne 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 Gracanic, 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**

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**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 Colombetti<sup>1</sup>, Paolo Bianchini<sup>2</sup>, Ranieri Bizzarri<sup>1</sup>, Giovanni Checcucci<sup>1</sup>, Alberto Diaspro<sup>2</sup>, Sabina Lucia<sup>1</sup>, Mattia Pesce<sup>2</sup>, Paola Ramoino<sup>2</sup>, Cesare Usai<sup>2</sup>, Giuseppe Vicidomini<sup>2</sup> (<sup>1</sup>Pisa, <sup>2</sup>Genova, ITA)



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**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 Sarasin<sup>1</sup>, Anne Stry<sup>1</sup>, Quentin Gueranger<sup>2</sup>, Claude-Agnès Reynaud<sup>2</sup>, Jean-Claude Weill<sup>2</sup>  
 (<sup>1</sup>Villejuif, <sup>2</sup>Paris, FRA)
- 11.45    **OC306    The UV-B damage response in *Daphnia* spp.: diverse repair strategies at 10 and 20°C**  
Sandra J Connelly<sup>1</sup>, Craig E Williamson<sup>1</sup>, David L Mitchell<sup>2</sup> (<sup>1</sup>Oxford OH, <sup>2</sup>Smithville TX, USA)
- 12.00    **OC307    Association of the extracellular chaperone clusterin with altered elastic fibers *in vivo* and *in vitro***  
Elke Janig<sup>1</sup>, Martin Halsbeck<sup>2</sup>, Johannes Buchner<sup>2</sup>, Ariane Aigelsreiter<sup>1</sup>, Helmut Denk<sup>1</sup>, Kurt Zatloukal<sup>1</sup>, Peter Wolf<sup>1</sup> (<sup>1</sup>Graz, AUT; <sup>2</sup>Garching - Munich, GER)
- 12.15    **OC308    After UVB irradiation, p21 expression is regulated by p53 through DNA-protein contact and protein-protein interactions**  
 Nathalie Bastien<sup>1</sup>, Walid Dridi<sup>1</sup>, Isabelle Paradis<sup>1</sup>, Mylene Blais<sup>1</sup>, Raouf Fetni<sup>2</sup>, Claude Asselin<sup>1</sup>, Regen Drouin<sup>1</sup> (<sup>1</sup>Sherbrooke, <sup>2</sup>Montreal, CAN)

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

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**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 Nonell<sup>1</sup>, Ana Jiménez-Banzo<sup>1</sup>, Johan Hofkens<sup>2</sup>, Cristina Flors<sup>2</sup> (<sup>1</sup>Barcelona, ESP; <sup>2</sup>Leuven, 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 Gbur<sup>1</sup>, Daniel Jancura<sup>1</sup>, Roman Dedic<sup>2</sup>, Dusan Chorvat jr.<sup>3</sup>, Jan Hala<sup>2</sup>, Pavol Miskovsky<sup>1,3</sup>  
(<sup>1</sup>Kosice, <sup>3</sup>Bratislava, SVK; <sup>2</sup>Prague, 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 Moan<sup>1</sup>, Asta Juzeniene<sup>1</sup>, Kristian P. Nielsen<sup>2</sup> (<sup>1</sup>Oslo, <sup>2</sup>Bergen, NOR)

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**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 Koepke<sup>1</sup>, Jean Verdebout<sup>2</sup> (<sup>1</sup>Munich, GER; <sup>2</sup>Ispra, 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 erythema irradiance over Europe from measurements of solar irradiance and total ozone**  
Andreas Kazantzidis<sup>1</sup>, Alkiviadis Bais<sup>1</sup>, Peter Den Outer<sup>2</sup>, Harry Slaper<sup>2</sup>, Tapani Koskela<sup>3</sup>, Uwe Feister<sup>4</sup>, M. Woldt<sup>4</sup> (<sup>1</sup>Thessaloniki, GRE; <sup>2</sup>Bilthoven, NED; <sup>3</sup>Jokioinen, FIN; <sup>4</sup>Lindenberg, 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 Litynska<sup>1</sup>, Aleksander Curylo<sup>1</sup>, Bozena Lapeta<sup>2</sup>, Julita Biszczuk<sup>1</sup>, Janusz Krzyscin<sup>3</sup>, Barbara Bogdanska<sup>3</sup>, Jakub Walawender<sup>2</sup> (<sup>1</sup>Legionowo, <sup>2</sup>Krakow, <sup>3</sup>Warsaw, 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 Gibbs<sup>1</sup>, Antony Young<sup>2</sup> (<sup>1</sup>Manchester, <sup>2</sup>London, 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)

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

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- 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 Filipe<sup>1</sup>, Patrice Morlière<sup>2</sup>, René Santus<sup>3</sup> (<sup>1</sup>Lisbon, POR; <sup>2</sup>Amiens, <sup>3</sup>Paris, 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 Garcia<sup>1</sup>, Rolando Oyola<sup>1</sup>, Luis E. Piñero<sup>1</sup>, Rafael Arce<sup>2</sup> (<sup>1</sup>Humacao, <sup>2</sup>Rio 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 Saoussen<sup>1</sup>, EL Khatib Sami<sup>1</sup>, Brie David<sup>1</sup>, Fotinos Nicolas<sup>2</sup>, Guedenet Jean-Claude<sup>1</sup>, Bezdetnaya Lina<sup>1</sup>, Guillemain François<sup>1</sup>, D'Hallewin Marie-Ange<sup>1</sup> (<sup>1</sup>Vandœuvre-lès-Nancy, FRA; <sup>2</sup>Genève, 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 Juzeniene<sup>1</sup>, Xiao Puzhuoma<sup>2</sup>, Johan Moan<sup>1</sup> (<sup>1</sup>Oslo, NOR; <sup>2</sup>Lhasa 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. Selbo<sup>1</sup>, Lawrence H. Cheung<sup>2</sup>, Wendy Zhang<sup>2</sup>, Michael G. Rosenblum<sup>2</sup>, Kristian Berg<sup>1</sup> (<sup>1</sup>Oslo, NOR; <sup>2</sup>Houston TX, USA)
- 16.30 **OC346 An *in vitro* investigation of the mechanisms of  $\delta$ -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)

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

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- 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 Zastrow<sup>1</sup>, Louis Ferrero<sup>1</sup>, Dieter Kockott<sup>2</sup>, Frank Klein<sup>3</sup>, Norbert Groth<sup>3</sup>, Jürgen Lademann<sup>2</sup> (<sup>1</sup>Monaco, MON; <sup>2</sup>Hanau-Stenheim, <sup>3</sup>Berlin, 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 Helbling<sup>1</sup>, M. Alejandra Marcoval<sup>1</sup>, Paul P.Janknegt<sup>2</sup>, Marco de Graaff<sup>2</sup>, Ronald J. W. Visser<sup>2</sup>, Anita G. J. Buma<sup>2</sup>, Virginia E. Villafañe<sup>1</sup> (<sup>1</sup>Playa Unión-Rawson, ARG; <sup>2</sup>Haren, 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. Neale<sup>1</sup>, Cristina Sobrino<sup>2</sup> (<sup>1</sup>Edgewater MD, USA; <sup>2</sup>Vigo, ESP)
- 15.55 **IL363 Plant responses to UV radiation: from signalling pathways to sustainable production**  
Nigel D. Paul<sup>1</sup>, Gareth Jenkins<sup>2</sup>, Jason J. Wargent<sup>1</sup> (<sup>1</sup>Lancaster, <sup>2</sup>Glasgow, GBR)
- 16.20 **OC364 Fitting action spectra: ambient levels of UV-A and UV-B radiation affect phenolic compounds in birch leaves**  
Titta Katariina Kotilainen<sup>1</sup>, Tuulia Venäläinen<sup>1</sup>, Riitta Tegelberg<sup>2</sup>, Riitta Julkunen-Tiitto<sup>3</sup>, Pedro Jose Aphalo<sup>2</sup> (<sup>1</sup>Jyväskylä, <sup>2</sup>Helsinki, <sup>3</sup>Joensuu, 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<sup>1,2</sup>, Fabien Joux<sup>1</sup>, Jarah Meador<sup>1,3</sup>, Thierry Douki<sup>3</sup>, Rick Cavicchioli<sup>2</sup> (<sup>1</sup>Banyuls-sur-mer, <sup>3</sup>Grenoble, FRA; <sup>2</sup>Sydney, 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 Glaeser<sup>1</sup>, Bork Berghoff<sup>1</sup>, Hans-Peter Grossart<sup>2</sup>, Jens Glaeser<sup>1</sup> (<sup>1</sup>Giessen, <sup>2</sup>Stechlin, GER)

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

- 17.15 **ESP General Assembly**

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

- 19.30 **Banquet – ESP Medal Awards**



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

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- 08.30    **PL401    Photobiology Update**  
**Impacts of UV-B radiation on biotic and abiotic systems in relation to global climate change**  
*Janet F. Bormman (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 Sage<sup>1</sup>, Violetta Smirnova<sup>1</sup>, Anne Reynaud-Angelin<sup>1</sup>, Pierre-Marie Girard<sup>1</sup>, Stefania Francesconi<sup>1</sup>, Delphine Dardalhon<sup>1</sup>, Ludovic Tessier<sup>1</sup>, Stanislav Kozmin<sup>1</sup>, Thierry Douki<sup>2</sup> (<sup>1</sup>Orsay, <sup>2</sup>Grenoble, 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 Mitchell<sup>1</sup>, Andrea Koreck<sup>2</sup>, Edina Garaczi<sup>2</sup>, Zsolt Bella<sup>2</sup>, Lajos Kemeny<sup>2</sup> (<sup>1</sup>Smithville TX, USA; <sup>2</sup>Szeged, 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 Just<sup>1</sup>, Elke Dimou<sup>1</sup>, Robert Knobler<sup>1</sup>, Gabriele Klosner<sup>1</sup>, Erika Ivancic<sup>1</sup>, Hildegard Greinix<sup>1</sup>, Alexander Becherer<sup>2</sup>, Franz Trautinger<sup>3</sup> (<sup>1</sup>Vienna, <sup>2</sup>Feldkirch, <sup>3</sup>St Pölten, AUT)
- 12.51 **OC417 Synergies of VEGF inhibition and photodynamic therapy in the treatment of age-related macular degeneration**  
Maria Fernanda Zuluaga<sup>1</sup>, Carolina Mailhos<sup>2</sup>, Gregory Robinson<sup>2</sup>, David T. Shima<sup>2</sup>, Robert Gurny<sup>1</sup>, Norbert Lange<sup>1</sup> (<sup>1</sup>Geneva, SUI; <sup>2</sup>Lexington MA, USA)

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

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- 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 Gabriel<sup>1</sup>, Norbert Lange<sup>1</sup>, Marino Andres Campo<sup>1</sup>, Veronique Chobaz-Péclat<sup>2</sup>, Robert Gurny<sup>1</sup>,  
Alexander So<sup>2</sup>, Nathalie Busso<sup>2</sup> (<sup>1</sup>Geneva, <sup>2</sup>Lausanne, SUI)
- 12.15 **OC423 Photodynamic therapy induces immunity against a beta-galactosidase expressing tumor**  
Pawel A Mroz, Michael R Hamblin (Boston MA, USA)

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

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- 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 Hamblin<sup>1</sup>, George P Tegos<sup>1</sup>, Aguiinaldo S Garcez<sup>2</sup> (<sup>1</sup>Boston MA, USA; <sup>2</sup>São 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 Boyle<sup>1</sup>, Timothy Paget<sup>2</sup>, Carrie-Anne Bristow<sup>1</sup> (<sup>1</sup>Kingston-upon-Hull, <sup>2</sup>Chatham, 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. Brown<sup>1</sup>, C. O'Grady<sup>1</sup>, K. Mellish<sup>1</sup>, J. Griffiths<sup>1</sup>, H. Moseley<sup>2</sup>, M. Rizwan<sup>3</sup>, L.E. Rhodes<sup>3</sup>, S.M. Morley<sup>2</sup> (<sup>1</sup>Leeds, <sup>2</sup>Dundee, <sup>3</sup>Manchester, 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)

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

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- 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. Lerche<sup>1</sup>, Peter A. Philipsen<sup>1</sup>, Thomas Poulsen<sup>2</sup>, Hans Christian Wulf<sup>1</sup> (<sup>1</sup>Copenhagen, <sup>2</sup>Soenderborg, 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 Claerhout<sup>1</sup>, An Van Laethem<sup>1</sup>, Lien Verschooten<sup>1</sup>, Charlotte Proby<sup>2</sup>, Patrizia Agostinis<sup>1</sup>, Marjan Garmyn<sup>1</sup> (<sup>1</sup>Leuven, BEL; <sup>2</sup>London, 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)

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

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- 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. Ryan<sup>1</sup>, Rilka Taskova<sup>1</sup>, Allan Burne<sup>1</sup>, Lisa Bryant<sup>1</sup>, Rod Seppelt<sup>2</sup>, Phil Garnock-Jones<sup>1</sup>  
(<sup>1</sup>Wellington, NZL; <sup>2</sup>Hobart, AUS)
- 17.30     **OC441     Plant response action spectra in the spot-light**  
Emma McLoughlin<sup>1</sup>, Kevin Newsham<sup>2</sup>, John Moncrieff<sup>1</sup>, Andrew McLeod<sup>1</sup> (<sup>1</sup>Edinburgh, <sup>2</sup>Cambridge, GBR)
- 17.45     **OC442     Effect of UV-B light and temperature on primary photosynthetic processes in two lichen species from contrasting habitats**  
Hana Vrablikova<sup>1</sup>, Per Larsson<sup>2</sup>, Kristyna Vecerova<sup>1</sup>, Knut-Asbjorn Solhaug<sup>2</sup>, Yngvar Gauslaa<sup>2</sup> (<sup>1</sup>Brno, CZE; <sup>2</sup>Aas, NOR)

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**Thursday, September 6, Morning**
**University Hall**


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- 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 Utzinger<sup>1</sup>, Molly Brewer<sup>2</sup> (<sup>1</sup>Tucson AZ, <sup>2</sup>Farmington 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-Heckly<sup>1</sup>, Luc Thiberville<sup>2</sup>, Sophie Moreno-Swirc<sup>2</sup>, Christine Vever-Bizet<sup>1</sup> (<sup>1</sup>Paris, <sup>2</sup>Rouen, 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 Zonios<sup>1</sup>, Aikaterini Dimou<sup>1</sup>, Ioannis Bassukas<sup>1</sup>, Dimitrios Galaris<sup>1</sup>, Efthimios Kaxiras<sup>2</sup> (<sup>1</sup>Ioannina, GRE; <sup>2</sup>Cambridge 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 Mascio<sup>1</sup>, Glauca R. Martinez<sup>2</sup>, Marisa H.G. Medeiros<sup>1</sup>, Didier Gasparutto<sup>3</sup>, Jean-Luc Ravanat<sup>3</sup>, Jean Cadet<sup>3</sup> (<sup>1</sup>São Paulo SP, <sup>2</sup>Curitiba, BRA; <sup>3</sup>Grenoble, 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 $\beta$ -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 Girotti<sup>1</sup>, Witek Korytowski<sup>1,2</sup>, Tamas Kriska<sup>1</sup> (<sup>1</sup>Milwaukee WI, USA; <sup>2</sup>Krakow, POL)
- 11.45 **OC515 Adaptive responses to singlet oxygen generated stress in *Rhodobacter***  
Jens Glaeser<sup>1</sup>, Monica Zobawa<sup>2</sup>, Friedrich Lottspeich<sup>2</sup>, Gabriele Klug<sup>1</sup> (<sup>1</sup>Giessen, <sup>2</sup>Martinsried, GER)



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

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- 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 Sanz<sup>1</sup>, Julio Rodriguez-Romero<sup>2</sup>, Alex Idnurm<sup>3</sup>, Victor G. Tagua<sup>2</sup>, Luis M. Corrochano<sup>2</sup>, Joseph Heitman<sup>3</sup>, Arturo P. Eslava<sup>1</sup> (<sup>1</sup> Salamanca, <sup>2</sup> Sevilla, ESP; <sup>3</sup> 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 Paris<sup>1</sup>, Diego J. Comerci<sup>1</sup>, Trevor E. Swartz<sup>2</sup>, Roberto Bogomolni<sup>2</sup>, Rodolfo A. Ugalde<sup>1</sup>, Fernando A. Goldbaum<sup>1</sup> (<sup>1</sup> Buenos Aires, ARG; <sup>2</sup> Santa Cruz CA, USA)
- 11.45 **OC520 Ultrafast studies on novel blue-light photoreceptors**  
Cosimo Bonetti<sup>1</sup>, Tilo Mathes<sup>2</sup>, Ivo H. M. van Stokkum<sup>1</sup>, Marie-Louise Groot<sup>1</sup>, Rienk van Grondelle<sup>1</sup>, Peter Hegemann<sup>2</sup>, John T.M. Kennis<sup>1</sup> (<sup>1</sup> Amsterdam, NED; <sup>2</sup> Berlin, GER)
- 12.00 **OC521 Radical formation and autophosphorylation in the light-sensitive domain of the plant cryptochrome from *Chlamydomonas***  
Dominik Immeln<sup>1,2</sup>, Ramona Schlesinger<sup>2</sup>, Joachim Heberle<sup>1</sup>, Tilman Kottke<sup>1,2</sup> (<sup>1</sup> Bielefeld, <sup>2</sup> Jülich, GER)

**Poster session I**

- P601 UVB-induced DNA damage: high proportion of mutagenic photoproducts in GC-rich genomes**  
Sabine Matallana Surget<sup>1</sup>, Jarah Meador<sup>1,2</sup>, Fabien Joux<sup>1</sup>, Thierry Douki<sup>2</sup> (<sup>1</sup>Banyuls-sur-mer, <sup>2</sup>Grenoble, 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. Davies<sup>1</sup>, John F. Malone<sup>1</sup>, Yu Gan<sup>2</sup>, Christine J. Cardin<sup>2</sup>, Michael P. H. Lee<sup>3</sup>, Stephen Neidle<sup>3</sup> (<sup>1</sup>Belfast, <sup>2</sup>Reading, <sup>3</sup>London, 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. Lee<sup>1</sup>, Huib van Weelden<sup>1</sup>, Piet L.B. Bruijnzeel<sup>2</sup> (<sup>1</sup>Utrecht, <sup>2</sup>Oss, 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. Schmalwieser<sup>1</sup>, Peter Koepke<sup>2</sup> (<sup>1</sup>Vienna, AUT; <sup>2</sup>Munich, 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 Tourpali<sup>1</sup>, Alkiviadis Bais<sup>1</sup>, Andreas Kazantzidis<sup>1</sup>, Neal Butchart<sup>2</sup>, Christoph Brühl<sup>3</sup>, Martin Chipperfield<sup>4</sup>, Martin Dameris<sup>5</sup>, M. A. Giorgetta<sup>6</sup>, U. Langematz<sup>7</sup>, Eva Mancini<sup>8</sup>, E. Manzini<sup>9</sup>, Gianni Pitari<sup>8</sup>, E. Rozanov<sup>10</sup> (<sup>1</sup>Thessaloniki, GRE; <sup>2</sup>Exeter, <sup>4</sup>Leeds, GBR; <sup>3</sup>Mainz, <sup>5</sup>Oberpfaffenhofen, <sup>6</sup>Hamburg, <sup>7</sup>Berlin, GER; <sup>8</sup>L'Aquila, <sup>9</sup>Bologna, ITA; <sup>10</sup>Davos, 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 Verschooten<sup>1</sup>, Katrien Smaers<sup>1</sup>, Lieve Declercq<sup>2</sup>, Daniel Maes<sup>2</sup>, Marjan Garmyn<sup>1</sup> (<sup>1</sup>Leuven, <sup>2</sup>Oevel, BEL)
- P629 Which hazard weighting function should be used for assessment of eye exposure from dental radiation sources?**  
Ellen M Bruzell<sup>1</sup>, Bjørn Johnsen<sup>2</sup>, Tommy Nakken Aalerud<sup>2</sup>, Terje Christensen<sup>2</sup> (<sup>1</sup>Haslum, <sup>2</sup>Østerås, NOR)
- P630 Misuse of light in tooth bleaching**  
Ellen M Bruzell<sup>1</sup>, Jon E Dahl<sup>1,2</sup> (<sup>1</sup>Haslum, <sup>2</sup>Oslo, NOR)
- P631 Spectroscopic and electrochemical properties of 2-aminophenothiazine in acetonitrile.**  
Rolando Oyola<sup>1</sup>, Carmelo García<sup>1</sup>, Luis Piñero<sup>1</sup>, Ileana Nieves<sup>1</sup>, Nadya Cruz<sup>1</sup>, Rafael Arce<sup>2</sup> (<sup>1</sup>Humacao, <sup>2</sup>San 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 Paris<sup>1</sup>, Nouredine Belmadoui<sup>2</sup>, María José Climent<sup>1</sup>, Susana Encinas<sup>1</sup>, Miguel Ángel Miranda<sup>1</sup> (<sup>1</sup>Valencia, ESP; <sup>2</sup>Grenoble, FRA)
- P634 Valence isomerization of hinokitiol under UV irradiation**  
Koh-ichi Seki<sup>1</sup>, Michiko Maekawa<sup>1</sup>, Shigeru Kasahara<sup>1</sup>, Shingo Nakamura<sup>2</sup>, Toshihiro Okabe<sup>3</sup>, Tadamiti Yamamoto<sup>3</sup>, Yoshihiro Inamori<sup>4</sup>, Naomi Shishido<sup>5</sup>, Masao Nakamura<sup>5</sup> (<sup>1</sup>Sapporo, <sup>2</sup>Aomori, <sup>3</sup>Hirosaki, <sup>4</sup>Takatuki, <sup>5</sup>Asahikawa, JPN)
- P635 Diastereoselective photocycloaddition of nucleoside analogues with naphthalene**  
Koh-ichi Seki<sup>1</sup>, Masayuki Takahashi<sup>2</sup>, Ken-ichi Nishijima<sup>2</sup>, Kazue Ohkura<sup>2</sup> (<sup>1</sup>Sapporo, <sup>2</sup>Ishikari-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 Clarke<sup>1</sup>, George Truscott<sup>1</sup>, David J. McGarvey<sup>1</sup>, Neil K. Gibbs<sup>2</sup> (<sup>1</sup>Keele, <sup>2</sup>Manchester, 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  $\beta$ -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<sup>1,2</sup>, Alex Berndt<sup>3</sup>, Helena Breitzkreuz<sup>3</sup>, Joachim Heberle<sup>1</sup>, Margaret Ahmad<sup>4</sup>, Eva Wolf<sup>3</sup> (<sup>1</sup>Bielefeld, <sup>2</sup>Juelich, <sup>3</sup>Dortmund, GER; <sup>4</sup>Paris, FRA)
- P647 A blue light inducible two component signal transduction system in the plant pathogen *Pseudomonas syringae* pv. *tomato***  
Zhen Cao<sup>1</sup>, Valentina Buttani<sup>2</sup>, Aba Losi<sup>2</sup>, Wolfgang Gaertner<sup>1</sup> (<sup>1</sup>Muelheim an der Ruhr, GER; <sup>2</sup>Parma, ITA)
- P648 Towards a more sensitive phytoplankton?**  
Cristina Sobrino<sup>1</sup>, Patrick J. Neale<sup>2</sup>, Robert E. Moeller<sup>3</sup>, Jason Porter<sup>4</sup>, Jesse Phillips-Kress<sup>2</sup> (<sup>1</sup>Vigo, ESP; <sup>2</sup>Edgewater MD, <sup>3</sup>Oxford OH, <sup>4</sup>Bethlehem 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 Bartak<sup>1</sup>, Jaroslav Lang<sup>1</sup>, Kristyna Vecerova<sup>1</sup>, Pavel Pospisil<sup>2</sup>, Petr Ilik<sup>2</sup> (<sup>1</sup>Brno, <sup>2</sup>Olomouc, 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 Kang<sup>1</sup>, Daeshik Kim<sup>1</sup>, Daewoong Jeong<sup>1</sup>, Sanghyun Park<sup>2</sup>, Kwangsop Soh<sup>2</sup> (<sup>1</sup>Busan, <sup>2</sup>Seoul, 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)

## 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. Rivarola<sup>1</sup>, F. Sanz-Rodríguez<sup>2</sup>, A. Zamarrón<sup>2</sup>, B. Rumie<sup>1</sup>, I. Yslas<sup>1</sup>, A. Blázquez<sup>2</sup>, A. Juarranz<sup>2</sup> (<sup>1</sup>Rio Cuarto, ARG; <sup>2</sup>Madrid, ESP)
- P703** **Assessment of the topical photoallergy potential of METVIX cream.**  
Douglas Brian Learn<sup>1</sup>, Christopher Paul Sambuco<sup>1</sup>, Paul Donald Forbes<sup>1</sup>, Alan M. Hoberman<sup>1</sup>, Jacques Cambrou<sup>2</sup>, Franck Chuzel<sup>2</sup> (<sup>1</sup>Horsham PA, USA; <sup>2</sup>Sophia 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. Juarranz<sup>1</sup>, F. Sanz Rodríguez<sup>1</sup>, A. Blázquez<sup>1</sup>, M.C. Iglesias-de la Cruz<sup>1</sup>, L. Bagazgoitia<sup>1</sup>, J. Cuevas<sup>2</sup>, S. González<sup>3,1</sup>, P. Jaen<sup>1</sup> (<sup>1</sup>Madrid, <sup>2</sup>Guadalajara, ESP; <sup>3</sup>New York, USA)
- P706** **Evaluation of porphyrin production from 5-aminolaevulinic acid by pathogenic microbes**  
Ludovic Bourre<sup>1</sup>, Francesca Giuntini<sup>2</sup>, Ian M. Eggleston<sup>2</sup>, Alexander J. MacRobert<sup>1</sup>, Michael Wilson<sup>1</sup> (<sup>1</sup>London, <sup>2</sup>Bath, GBR)
- P707** **Visible light inactivation of selected bacteria and fungi by modified titania**  
Agnieszka Jańczyk<sup>1</sup>, Dariusz Mitoraj<sup>1,2</sup>, Magdalena Strus<sup>1</sup>, Wojciech Macyk<sup>1</sup>, Piotr Bogumił Heczko<sup>1</sup>, Horst Kisch<sup>2</sup>, Grażyna Stochel<sup>1</sup> (<sup>1</sup>Kraków, POL; <sup>2</sup>Erlangen, 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 *Allicyclobacillus 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 Batlle<sup>1</sup>, María Gabriela Alvarez<sup>2</sup>, Viviana Rivarola<sup>2</sup>, Haydée Fukuda<sup>1</sup> (<sup>1</sup>Buenos Aires, <sup>2</sup>Río 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. Faustino<sup>1</sup>, V. Vaz Serra<sup>1</sup>, J.P.C. Tomé<sup>1</sup>, M.G.P.M.S. Neves<sup>1</sup>, A.C.Tomé<sup>1</sup>, J.A.S. Cavaleiro<sup>1</sup>, F. Sanz-Rodríguez<sup>2</sup>, B. Bautista<sup>2</sup>, A. Zamarrón<sup>2</sup>, A. Blázquez<sup>2</sup>, A. Juarranz<sup>2</sup> (<sup>1</sup>Aveiro, POR; <sup>2</sup>Madrid, 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-Rodríguez<sup>1</sup>, A. Zamarrón<sup>1</sup>, B. Bautista<sup>1</sup>, A. Blázquez<sup>1</sup>, A. Juarranz<sup>1</sup>, V. Vaz Serra<sup>2</sup>, M.A.F. Faustino<sup>2</sup>, J.P.C. Tomé<sup>2</sup>, M.G.P.M.S. Neves<sup>2</sup>, A.C. Tomé<sup>2</sup>, J.A.S. Cavaleiro<sup>2</sup> (<sup>1</sup>Madrid, ESP; <sup>2</sup>Aveiro, POR)
- P720** **Development of sensitizers based on halogenated tetrapyrroles as new PDT-agents against selected melanoma and adenocarcinoma cells.**  
Janusz M. Dąbrowski<sup>1</sup>, Carlos J.P. Monteiro<sup>2</sup>, Luis G. Arnaut<sup>2</sup>, Mariette M. Pereira<sup>2</sup>, Krystyna Urbańska<sup>1</sup>, Grażyna Stochel<sup>1</sup> (<sup>1</sup>Krakow, POL; <sup>2</sup>Coimbra, POR)
- P721** **Metabolic profile and *in vivo* stability of a peptide-conjugated chlorin-type photosensitiser targeting neuropilin-1: interest of pseudopeptides.**  
Noémie Thomas<sup>1</sup>, Loraine Tirand<sup>1</sup>, Denise Bechet<sup>1</sup>, Regis Vanderesse<sup>2</sup>, François Plénat<sup>1</sup>, Céline Frochot<sup>2</sup>, François Guillemin<sup>1</sup>, Muriel Barberi-Heyob<sup>1</sup> (<sup>1</sup>Vandoeuvre-lès-Nancy, <sup>2</sup>Nancy, 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 Bhuvaneshwari, 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. Casas<sup>1</sup>, F. Sanz-Rodríguez<sup>2</sup>, G. Di Venos<sup>1</sup>, A. Batlle<sup>1</sup>, J.C. Stockert<sup>2</sup>, A. Juarranz<sup>2</sup> (<sup>1</sup>Buenos Aires, ARG; <sup>2</sup>Madrid, ESP)
- P727** **Optimizing hypericin mediated photodynamic therapy downregulates the expression of angiogenic proteins in bladder carcinoma**  
Ramaswamy Bhuvaneshwari, 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 Maunit<sup>1</sup>, Marc Dodeller<sup>1</sup>, David DA Silva<sup>1</sup>, Lina Bezdetsnaya<sup>2</sup>, François Guillemin<sup>2</sup>, Jean François Muller<sup>1</sup> (<sup>1</sup>Metz, <sup>2</sup>Nancy, 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. Wright<sup>1</sup>, A.J. MacRobert<sup>2</sup>, J.B. Phillips<sup>1</sup> (<sup>1</sup>Milton Keynes, <sup>2</sup>London, GBR)
- P733 LDL as delivery system of hypericin in U-87MG glioma cell line: sub-cellular distribution of hypericin and efficiency of PDT**  
Zuzana Nadova<sup>1</sup>, Veronika Huntosova<sup>1</sup>, Anton Mateasik<sup>2</sup>, Jaromir Mikes<sup>1</sup>, Pavol Miskovsky<sup>1</sup> (<sup>1</sup>Kosice, <sup>2</sup>Bratislava, 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 Lajos<sup>1</sup>, Santiago Sanchez-Cortes<sup>2</sup>, Daniel Jancura<sup>1</sup>, Jose Vicente Garcia-Ramos<sup>2</sup>, Pavol Miskovsky<sup>1,3</sup> (<sup>1</sup>Kosice, <sup>3</sup>Bratislava, SVK; <sup>2</sup>Madrid, 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 Buriankova<sup>1</sup>, Veronika Huntosova<sup>1</sup>, Diana Buzova<sup>1</sup>, Daniel Jancura<sup>1</sup>, Pavol Miskovsky<sup>1,2</sup> (<sup>1</sup>Kosice, <sup>2</sup>Bratislava, SVK)
- P738 Serum albumin as carriers for phthalocyanines**  
 Emilio Alarcón<sup>1</sup>, Ana M. Edwards<sup>1</sup>, Angélica García<sup>1</sup>, Marcelo Muñoz<sup>1</sup>, Maureen Fajardo<sup>1</sup>, Giulio Jori<sup>2</sup> (<sup>1</sup>Santiago, CHI; <sup>2</sup>Padova, ITA)
- P739 Oligonucleotides binding constants of photosensitizer dyes and of alkylating quinones and nitroarenes with potential use in photodynamic therapy in hypoxic environments**  
Yisaira Diaz-Espinosa<sup>1</sup>, Rafael Arce<sup>2</sup>, Antonio Alegria<sup>3</sup> (<sup>1</sup>San Juan, <sup>2</sup>Rio Piedra, <sup>3</sup>Humacao, 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 Kosobe<sup>1</sup>, Yasushi Takei<sup>1</sup>, Xuepeng Qiu<sup>2</sup>, Norimichi Kawashima<sup>1</sup>, Yoshikazu Tokuoka<sup>1</sup> (<sup>1</sup>Yokohama, JPN; <sup>2</sup>Changchun, 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 Steenkeste<sup>1</sup>, Ariane Deniset<sup>1</sup>, Sandrine Lécart<sup>1</sup>, Sandrine Lévêque Fort<sup>1</sup>, Pascal Eschwege<sup>2</sup>, Sophie Ferlicot<sup>2</sup>, Michèle Fabre<sup>2</sup>, Basile Maldant<sup>3</sup>, Marie-Pierre Fontaine-Aupart<sup>1</sup> (<sup>1</sup>Orsay, <sup>2</sup>Le Kremlin Bicêtre, <sup>3</sup>Bièvres, 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. Enk<sup>1</sup>, Joseph Alcalay<sup>2</sup>, Clemens Fritsch<sup>3</sup>, Thomas Ruzicka<sup>3</sup>, Ronen Alkalay<sup>1</sup> (<sup>1</sup>Jerusalem, <sup>2</sup>Tel Aviv, ISR; <sup>3</sup>Munich, 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.Vorobey<sup>1</sup>, V.Plavsky<sup>1</sup>, P.Vorobey<sup>1</sup>, A.H.Steindal<sup>2</sup>, J.Moan<sup>2</sup> (<sup>1</sup>Minsk, BLR; <sup>2</sup>Oslo, NOR)
- P752 Differentiation of curcumin phototoxicity in cells and bacteria by change in pharmaceutical preparation**  
Tone Haukvik<sup>1,2</sup>, Ellen M. Bruzell<sup>2</sup>, Inger Sofie Dragland<sup>2</sup>, Else Morisbak<sup>2</sup>, Hanne Hjorth Tønnesen<sup>1</sup> (<sup>1</sup>Oslo, <sup>2</sup>Haslum, NOR)

