

PROGRAMME

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Thursday, September 1, Afternoon

Uni Mail

15:30
18:30

Registration

Thursday, September 1, Evening

**Uni Bastion
B106**

19:00
21:00

Welcome Reception

- 08:30 **Opening Ceremony – Welcome Address**
- 08:45 **Young Investigator Award Lecture**
Chair: Evelyne Sage (Orsay, France)
PL101 Targeting UV-Activated Regulatory B Cells for Immunotherapy
Scott N Byrne (Sydney, Australia)

- 09:30 **Photosensitization - Biophysical, photophysical and spectroscopic aspects**
Chair: Benjamin Ehrenberg (Ramat Gan, Israel), Santi Nonell (Barcelona, Spain)
- 09:30 **IL102 New approaches to singlet oxygen production and detection**
Santi Nonell (Barcelona, Spain)
- 09:55 **IL103 Two-photon photosensitized singlet oxygen production: advantages and disadvantages, particularly in probing mechanisms of photoinduced cell death.**
Peter R. Ogilby (Århus, Denmark)
- 10:20 **IL104 Singlet oxygen kinetics as measure for photoinduced processes: in vitro and ex vivo studies**
Beate Roeder, Jan Schlothauer, Steffen Hackbarth (Berlin, Germany)
- 10:45 **Coffee break**
- 11:15 **IL105 Singlet oxygen production by nanoparticle-bound photosensitisers**
Mauricio S Baptista (São Paulo, Brazil)
- 11:40 **IL106 Porphyrin photosensitization in nanostructures: from photodynamic to photothermal**
Gang Zheng (Toronto ON, Canada)
- 12:05 **IL107 The relevance of cross-membrane and surface electric potentials in membrane-localized photosensitization**
Benjamin Ehrenberg, Shany Ytzhak, Danor Aharon (Ramat Gan, Israel)
- 12:30 **OC108 Photodynamic induction of lipid membrane permeability: a selectivity paradox**
Elena A. Kotova, Alexey V. Kuzevanov, Yuri N. Antonenko (Moscow, Russian Federation)
- 12:42 **OC109 Photosensitizer Drug Delivery via an Optical Fiber**
Matibur Zamadar, Goutam Ghosh, Adaickapillai Mahendran, Mihaela Minnis, Bonnie I. Krufft, Ashwini Ghogare, David Aebisher, Alexander Greer (Brooklyn NY, United States)

- 09:30 **UV-induced DNA damage, repair, mutagenesis and carcinogenesis**
Chair: Thierry Douki (Grenoble, France), Frank R. de Gruijl (Leiden, Netherlands)
- 09:30 **IL110 UV-Sensitivity of Telomeres**
Douglas E Brash¹, Patrick J Rochette² (¹New Haven CT, United States; ²Quebec QC, Canada)
- 10:00 **IL111 Melanin effect on DNA damage induction by UVA and UVB**
Moon-shong Tang (Tuxedo Park NY, United States)
- 10:30 **Coffee break**
- 11:00 **IL112 Studies on the wavelength- and age-dependence of UV-induced melanoma using a Xiphophorus hybrid fish model**
David Mitchell, Andre Fernandez (Smithville TX, United States)
- 11:30 **IL113 UV-induced selective ablation of the epidermal basal layer resets UV carcinogenesis and shows squamous cell carcinomas to be of interfollicular origin.**
Heggert Rebel, Carolien A Bodmann, Frank R de Gruijl (Leiden, Netherlands)
- 12:00 **OC114 A proposal for the action spectrum of melanoma skin cancer from epidemiological data of Austria**
Alois W. Schmalwieser, Günther Schauburger, Stana Simic, Michael Fitzka, Hanns Moshhammer (Vienna, Austria)
- 12:15 **OC115 Comparative Analysis of the Mitochondrial Common Deletion with a Mitochondrial CC to TT transition**
Daniel Gebhard, Mahler Bettina, Katja Matt, Katharina Burger, Jörg Bergemann (Sigmaringen, Germany)
- 12:30 **OC116 Molecular responses to simulated solar UV of human keratinocytes in 2D versus 3D models: application to sunscreen assessment**
Emilie Planel, Jean-Philippe Belaïdi, Christophe Jones, Laurent Marrot, Jean-Roch Meunier (Aulnay-sous-bois, France)
- 12:45 **OC117 Photoactivation of DNA thiobases: a potential novel phototherapy**
Olivier Reelfs¹, Peter MacPherson², Yao-Zhong Xu³, Xiaolin Ren³, Peter Karran², Antony Young¹ (¹London, ²South Mimms, ³Milton Keynes, United Kingdom)

- 09:30 **Topical sunscreens: assessment of efficacy and impact**
Chair: Nikiforos Kollias (Skillman NJ, United States) , J. Frank Nash (Cincinnati OH, USA)
- 09:30 **IL118 Practice makes perfect: Compliance is the key to photoprotection**
J.F. Nash¹, Becky Finley¹, Paul Tanner¹, Paul Matts² (¹Cincinnati OH, United States; ²Egham, United Kingdom)
- 10:00 **IL119 The benefits and challenges of broad spectrum protection**
Antony R Young (London, United Kingdom)
- 10:30 **Coffee break**
- 11:00 **Non- invasive assessment of sunscreen efficacy on human skin in vivo**
Eduardo Ruvolo Jr. (Skillman NJ, United States)
- 11:30 **IL121 Non-invasive or minimally invasive methods to assess UVA protection**
Nikiforos Kollias (Skillman NJ, United States)
- 12:00 **OC122 The proliferative response of skin cells to sunlight and the impact of sunscreen**
Elke Hacker, Zachary Boyce, Michael Kimlin, Sam Vaartjes, Nicholas Hayward, David Whiteman (Brisbane, Australia)
- 12:15 **OC123 Simulation of Sun Protection Factors and Indices Characterizing the UVA Protection of Sunscreens**
Bernd Herzog¹, Uli Osterwalder² (¹Grenzach-Wyhlen, ²Ludwigshafen, Germany)

14:15 **PDT Poster session**

15:30 **Molecular imaging in translational research**

Chair: Gang Zheng (Toronto ON, Canada), Norbert Lange (Geneva, Switzerland)

15:30 **Clinical Translation of Near-Infrared Optical Imaging Technology Employing Endogenous or Exogenous Contrast**

John V. Frangioni (Boston, MA, United States)

16:00 **IL125 Lipid-based nanomedicine for photonic applications**

Gang Zheng (Toronto ON, Canada)

16:30 **Coffee break**

17:00 **OC126 FLIM and SLIM for molecular imaging in fluorescence guided diagnosis**

Angelika Rueck, Sviatlana Kalinina, Frank Dolp, Svetlana Lorenz, Carmen Hauser (Ulm, Germany)

17:15 **OC127 Photomedicine Treatment Planning with Positron Emission Tomography.**

Thomas Daniel MacDonald, Tracy W.B. Liu, Cheng Jin, Jon Lovell, Gang Zheng (Toronto ON, Canada)

17:30 **OC128 Fluorescence imaging studies of anti-HER2/neu immunotoxin antineoplastic activity**

Irina V. Balalaeva¹, Evgeniya A. Malekhanova¹, Natalia Yu. Lekanova¹, Irina V. Krutova¹, Anna A. Brilkina¹, Oleg A. Stremovskiy², Sergey M. Deyev² (¹Nizhny Novgorod, ²Moscow, Russian Federation)

17:45 **OC129 Fluorescence diagnosis of bladder cancer: a novel in vivo approach with ALA dendrimers**

Aur lie Fran ois¹, Sinan Battah², Alexander MacRobert², Lina Bolotine³, Fran ois Guillemin³, Marie-Ange D'Hallewin³ (¹Vandoeuvre les Nancy, ³Vandoeuvre Les Nancy, France; ²London, United Kingdom)

18:00 **OC130 Rhenium/Technetium-porphyrin conjugates: combining molecular imaging with cytotoxicity**

Cinzia Spagnul¹, Roger Alberto², Teresa Gianferrara¹, Enzo Alessio¹ (¹Trieste, Italy; ²Zurich, Switzerland)

- 15:30 **Photoimmunology**
Chair: Jakub Golab (Warsaw, Poland), Vivienne E Reeve (Sydney, Australia)
- 15:30 **IL131 Photodynamic Therapy induction of Systemic, Antigen-Specific and Tumor Directed Immune Response**
Pawel Mroz (Boston MA, United States)
- 16:00 **IL132 Involvement of DAMPs in tumor response to photodynamic therapy**
Mladen Korbelik (Vancouver BC, Canada)
- 16:30 **Coffee break**
- 17:00 **IL133 How does sunlight protect from autoimmunity?**
Scott N Byrne, Gary M Halliday, Sarah Leighton (The University of Sydney, NSW, Australia)
- 17:30 **IL134 The role of HIF-1alpha in immune suppression by UV radiation in mice**
Vivienne E Reeve, Jun-Lae Cho, Munif Allanson (Sydney, Australia)
- 18:00 **OC135 UVB-induced CD1a+ Langerhans'cell trafficking occurs in histidinaemic human skin lacking urocanic acid.**
Joanne Tye, John H Walter, Christopher EM Griffiths, Neil K Gibbs (Manchester, M13 9T, United Kingdom)
- 18:15 **OC136 Cis-urocanic acid modulates claudin-1 expression and tight junction function in human keratinocytes**
Cath A O'Neill, Neil K Gibbs (Manchester, M13 9T, United Kingdom)
- 18:30 **OC137 Of mice and men: photoprotection by vitamin D compounds**
Katie M Dixon¹, Vivienne E Reeve¹, Diona L Damian¹, Young Jin Kim¹, Gary M Halliday¹, Anthony W Norman², Rebecca S Mason¹ (¹Sydney, Australia; ²Riverside CA, United States)
- 18:45 **OC138 UV irradiation of skin and inflammation of the airways and peritoneum reduce the priming ability of bone marrow-derived dendritic cells**
Prue H Hart¹, Royce LX Ng¹, Naomi M Scott¹, Jacqueline L Bisley¹, Mary Norval² (¹West Perth, Perth, Australia; ²Edinburgh, United Kingdom)

- 15:30 **Blue-light photoreceptors: structure, function, applications, new trends**
Chair: Abla Losi (Parma, Italy)
- 15:30 **IL139 Engineered Photoreceptors As Novel Optogenetic Tools**
Andreas Möglich (Berlin, Germany)
- 16:00 **IL140 Ultrafast hydrogen bond switching in BLUF domains: insights from chemical modification and isotope labeling**
John Kennis¹, Tilo Mathes¹, Peter Hegemann² (¹Amsterdam, Netherlands; ²Berlin, Germany)
- 16:30 **Coffee break**
- 17:00 **IL141 Application of FT-IR Spectroscopy to the Structural Study of Channelrhodopsin-2**
Ionela Radu¹, Melanie Nack¹, Christian Bamann², Ernst Bamberg², Joachim Heberle¹ (¹Bielefeld, ²Frankfurt, Germany)
- 17:30 **IL142 Bacterial LOV proteins: tuning the photocycle and propagating signals**
Abla Losi¹, Sarah Raffelberg², Madina Mansurova², Wolfgang Gärtner² (¹Parma, Italy; ²Muelheim a.d. Ruhr, Germany)
- 18:00 **OC143 Photochromism in a flavin binding photoreceptor**
Abla Losi¹, Wolfgang Gärtner², Carmen Mandalari¹, Stefania Abbruzzetti¹, Cristiano Viappiani¹ (¹Parma, Italy; ²Mülheim a.d. Ruhr, Germany)
- 18:15 **OC144 Study of excitation energy transport and degradation in aqueous solution of FMN**
Józef Kuśba¹, Hanna Grajek² (¹Gdańsk, ²Olsztyn, Poland)

08:30 Plenary lecture*Chair: Kristian Berg (Oslo, Norway)***PL201 Photosensitiser-nanoparticle conjugates for targeted photodynamic therapy**

David A. Russell (Norwich, United Kingdom)

09:30 Systemic photoprotection*Chair: Lesley E Rhodes (Manchester, United Kingdom), Albena T Dinkova-Kostova (Dundee, United Kingdom)***09:30 IL202 Control of ROS detoxification in normal and UV-irradiated skin**Matthias Schäfer, Sabine Werner (Zurich, Switzerland)**10:00 IL203 The role of the Keap1/Nrf2/ARE pathway in protection against UV radiation**Albena T Dinkova-Kostova, Sukirti Kalra, Elena Knatko, Ying Zhang (Dundee, United Kingdom)**10:30 Coffee break****11:00 IL204 Systemic photoprotection of the human immune system by restoring cellular energy with B group vitamins**Gary M Halliday, Diona L. Damian, Devita Surjana (Sydney, NSW, Australia)**11:30 IL205 Nicotinic acid and the nicotinic acid receptor in photodamaged skin: A new paradigm for prevention of skin cancer**Myron K Jacobson, Yira Bermudez, Claudia A Benevante, Ralph G Meyer, W Russell Coyle, Elaine L Jacobson (Tucson AZ, United States) - The Niadyne Lecturer**12:00 OC206 Impact of oral long chain omega-3 PUFA on a human contact hypersensitivity model of photoimmunosuppression and potential mediation by reduced cutaneous PGE2:PGE3 ratio**Suzanne M Pilkington¹, Karen A Massey², Susan P Bennett¹, Khaled Roshdy¹, Naser MI Al-Aasswad², Anna Nicolaou², Lesley E Rhodes¹ (¹Manchester, ²Bradford, United Kingdom)**12:20 OC207 Green tea catechins are bioavailable in human skin and protect against UVR-induced skin inflammation**Gemma Darby¹, Tristan P Dew², Karen A Massey³, Kayleigh A Clarke², Susan Bennett¹, Rachel E Watson¹, Anna Nicolaou³, Gary Williamson², Lesley E Rhodes¹ (¹Manchester, ²Leeds, ³Bradford, United Kingdom)**12:40 OC208 Photoprotective properties of endogenous urocanic acid in human skin**Zenas Yui, Joanne Tye, John H Walter, Christopher EM Griffiths, Neil K Gibbs (Manchester, M13 9T, United Kingdom)

- 09:30 **Molecular and cellular aspects of PDT**
Chair: Zvi N. Malik (Ramat Gan, Israel), Jacques G Piette (Liège, Belgium)
- 09:30 **IL209 PpIx synthesis pathway and cellular stress mechanisms are central in the cancer metabolene and ALA-PDT efficacy**
Zvi N. Malik (Ramat Gan, Israel)
- 10:00 **IL210 Modulation of autophagy and apoptosis pathways by ROS after hypericin-PDT**
Noemí Rubio¹, Johan Grooten², Jacques Piette¹, Patrizia Agostinis³ (¹Liège, ²Gent, ³Leuven, Belgium)
- 10:30 **Coffee break**
- 11:00 **IL211 Therapeutic targeting of proteostatic cytoprotective mechanisms in photodynamic therapy**
Jakub Golab (Warsaw, Poland)
- 11:30 **IL212 PDT: questioning earlier assumptions**
David Kessel (Detroit MI, United States)
- 12:00 **IL213 Glioblastoma cell death mechanisms by ALA-PDT**
Jacques G Piette (Liège, Belgium)
- 12:30 **OC214 Synthesis and Evaluation of Folate Directed Photodynamic Therapy Agents**
Kenneth W. Olsen, Godfred Boateng, Rojenia Jones, Prakash Sanjeevaiah, Basel Zaitoun, Marco Palomo, Amanda Moore, Andrew Canning, David S. Crumrine, Eric Schroeter (Chicago IL, United States)
- 12:45 **OC215 The generation of both singlet oxygen and superoxide ion by halogenated sulfonamide bacteriochlorins, and their synergism in PDT**
Luis G. Arnaut¹, Mariete M. Pereira¹, Sérgio Simões¹, Janusz M. Dabrowski², Artur A Abreu¹, Carlos JP Monteiro¹, Luis B Rocha¹, Gonçalo FF Sá¹, Elsa FF Silva¹, Peter R Ogilby¹ (¹Coimbra, Portugal; ²Krakow, Poland)

- 09:30 **Environmental applications of photosynthetic organisms**
Chair: Massimo Trotta (Bari, Italy), Peter Maroti (Szeged, Hungary)
- 09:30 **IL216 Photosynthetic bacteria play heavy metal**
Massimo Trotta (Bari, Italy)
- 10:00 **IL217 Chromate reduction by the photosynthetic bacterium *Rhodobacter sphaeroides***
Francesca Italiano¹, Sara Rinalducci², Lello Zolla², Luigi R Ceci¹, Francesca De Leo¹, Angela Agostiano¹, Massimo Trotta¹ (¹Bari, ²Viterbo, Italy)
- 10:30 **Coffee break**
- 11:00 **IL218 Biomonitoring the environment by photosynthetic bacteria**
Peter Maroti, Emese Asztalos, Mariann Kis, Zoltán Gingl (Szeged, Hungary)
- 11:30 **IL219 Conformational control of cofactors in nature –Conservation of tetrapyrrole conformations in the photosynthetic reaction centers of purple bacteria**
Mathias O. Senge (Dublin, Ireland)
- 12:00 **OC220 Regulation of photoprotection in plants**
Alexander V Ruban (London, United Kingdom)

14:15 Plenary lecture*Chair: Norbert Lange (Geneva, Switzerland)*

- PL221 Excited-state dynamics of multichromophoric molecules: from DNA probing to artificial photosynthesis**
Eric Vauthey (Geneva, Switzerland)

15:15 Nanotechnology: from photochemistry to photomedicine*Chair: Elena Reddi (Padova, Italy), Alexander J MacRobert (London, United Kingdom)***15:15 Introductory remarks**

Elena Reddi (Padova, Italy)

- 15:20 IL222 Combination of Photodynamic and Nano Technologies for Therapy and Treatment Monitoring**
Tayyaba Hasan (Boston MA, United States)

15:50 IL223 Characterization of temoporfin-loaded PEGylated PLGA nanoparticles for use in photodynamic therapy

Petra Kocbek¹, Matija Rojnik¹, Francesca Moret², Chiara Compagnin², Lucia Celotti², Melissa J Bovis³, Josephine H Woodhams³, Alexander J MacRobert³, Dietrich Scheglmann⁴, Wijnand Helfrich⁵, Marco V Verkaik⁵, Emanuele Papini², Elena Reddi², Janko Kos¹ (¹Ljubljana, Slovenia; ²Padova, Italy; ³London, United Kingdom; ⁴Jena, Germany; ⁵Groningen, Netherlands)

16:20 Coffee break

16:50 IL224 In vitro testing of stealth ORMOSIL-NPs covalently linked to Temoporfin and targeted to EGFR for future applications in PDT

Daniela Segat, Giulio Fracasso, Marco Colombatti, Regina Tavano, Elena Reddi, Fabrizio Mancin, Rio-Echevarria Maria Iria, Francesco Selvestrel, Emanuele Papini (Padova, Italy)

17:20 OC225 Role of HSA in the photochemical synthesis of silver nanocubes

Carlos J Bueno Alejo, Emilio Alarcon, Juan C Scaiano (Ottawa ON, Canada)

17:35 OC226 Orthogonally bifunctionalised polyacrylamide nanoparticles: a support for phototherapeutic and photodiagnostic nanodevices

Francesca Giuntini¹, Andrea S. Lavado², Jonathan W. Aylott², Geri A. Rosser³, Andrew Beeby³, Huguette Savoie¹, Ross W. Boyle¹ (¹Hull, ²Nottingham, ³Durham, United Kingdom)

17:50 IL227 Spectroscopic and biological properties of m-THPC in biodegradable and silica nanocarriers

Alexander J MacRobert (London, United Kingdom)

18:20 OC228 Quantum dots as photosensitizers and radiosensitizers

Petras Juzenas¹, Wei Chen², Manuel Coelho³, Ya-Ping Sun⁴ (¹Oslo, Norway; ²Arlington TX, ⁴Clemson SC, United States; ³Porto, Portugal)

18:35 OC229 In Vivo Photodynamic activity of meta-tetra(hydroxyphenyl)chlorin entrapped in ORMOSIL nanoparticles.

Josephine H Woodhams¹, Melissa Bovis¹, F Selvestrel², I Echevarria², M Loizidou¹, S G Bown¹, F Mancin³, E Reddi², A J MacRobert¹ (¹London, ³Padova, United Kingdom; ²Padova, Italy)

18:50 OC230 Chlorin e6 mediated photodisruption of endocytic vesicles entrapped with quantum dots

Ricardas Rotomskis, Jurga Valanciunaite, Vitalijus Karabanovas, Mindaugas Valius (Vilnius, Lithuania)

- 15:15 **Photodermatological advances of the 21st Century (ESP/ESPD Joint Symposium)**
Chair: John LM Hawk (London, United Kingdom), Giovanni Leone (Rome, Italy), Marie-Claude Marguery (Toulouse, France)
- 15:15 **IL231 Photocarcinogenesis and photoageing: common mechanisms?**
Antony R Young (London, United Kingdom)
- 15:45 **IL232 Vitamin D sufficiency and how to achieve it**
Lesley E Rhodes, Jacqueline L Berry, Richard Kift, Ann R Webb (Manchester, United Kingdom)
- 16:15 **Coffee break**
- 16:45 **IL233 The Auto-Immune Photodermatoses –Are They Really Auto-Immune?**
John LM Hawk (London, United Kingdom)
- 17:15 **IL234 The Porphyrins - New diseases, but any new treatments?**
Alexander Vincent Anstey (Newport, United Kingdom)
- 17:45 **IL235 Sunscreen in Photoageing and Photocarcinogenesis –Does it Work?**
Gillian M Murphy (Dublin, Ireland)
- 18:15 **IL236 Phototherapy Today –Its Use and Safety in the World of Biologics**
Herbert Hönigsmann (Vienna, Austria)

- 15:15 **From the lab to the real world: metagenomics, microchips and bioinformatics in the field of photosensory biology**
Chair: *Wolfgang Gärtner (Muelheim a. d. Ruhr, Germany)*
- 15:15 **IL237 Extreme photoreceptors from Argentinean High-Altitude Lakes (over 4.000 m)**
Virginia H Albarracin¹, Gopal Pathak¹, Maria E Farias², Claudio Borsarelli³, Wolfgang Gärtner¹
(¹Mülheim a. d. Ruhr, Germany; ²S. M. de Tucuman, ³Santiago del Estero, Argentina)
- 15:45 **IL238 Metagenomes and novel blue-light photoreceptors**
Gopal P. Pathak¹, Aba Losi², Wolfgang Gärtner¹ (¹Mülheim a. d. Ruhr, Germany; ²Parma, Italy)
- 16:15 **Coffee break**
- 16:45 **OC239 Function of photoreceptors in the plant pathogen *Pseudomonas syringae***
Rashmi Shah¹, Victoria Moriconi², Matias Rugnone², Jorge Casal², Wolfgang Gaertner¹ (¹Muelheim a. d. Ruhr, Germany; ²Buenos Aires, Argentina)
- 17:00 **IL240 Light-modulation of cellular cAMP by a small bacterial photoactivated adenylyl cyclase, bPAC**
Manuela Stierl¹, Rolf Hagedorn¹, Suneel Kateriya², Peter Hegemann¹ (¹Berlin, Germany; ²New Delhi, India)
- 17:30 **IL241 Autofluorescent Proteins. Building blocks of intelligent probes and superresolution.**
Thomas Gensch (Juelich, Germany)
- 18:00 **IL242 Structural basis of photosensitivity in a bacterial light-oxygen-voltage/helix-turn-helix (LOV-HTH) DNA-binding protein**
Hartmut Hudel Luecke (Irvine CA, United States)

08:30 Plenary lecture*Chair: Janet F. Bornman (Perth, Australia)***PL301 Role of protein kinases and phosphatases in the assembly and dynamics of photosynthetic complexes**

Jean-David Rochaix (Geneva, Switzerland)

09:30 PDT for skin cancer: present and future (ESP/ASP Joint Symposium)*Chair: Lesley E Rhodes (Manchester, United Kingdom), Edward V. Maytin (Cleveland OH, United States), Rolf-Markus Szeimies (Recklinghausen, Germany)***09:30 IL302 Novel Differentiation Therapies for Enhancement of PDT**

Edward V. Maytin (Cleveland OH, United States)

10:00 IL303 Iron-chelators to enhance PDT –experience from laboratory to clinic.Sandra M Campbell, Alison Curnow (Truro, United Kingdom)**10:30 Coffee break****11:00 IL304 Photodynamic therapy-induced immunosuppression in humans**Diona Damian, Georgia Frost, Gary Halliday (Camperdown, Australia)**11:30 IL305 Immunosuppression as an explosive mix for the skin: PDT in field cancerization of renal transplant recipients.**

Günther FL Hofbauer (Zürich, Switzerland)

12:00 IL306 Light fractionated ALA-PDT: from mouse to man

Dominic J Robinson (Rotterdam, Netherlands)

12:30 IL307 Daylight-mediated PDT

Hans Christian Wulf (Copenhagen, Denmark) – The Galderma Lecturer

- 09:30 **The impact of climatic and environmental factors on personal UV radiation exposure and human health**
Chair: Antony R Young (London, United Kingdom), Ann R Webb (Manchester, United Kingdom)
- 09:30 **IL308 The impact of climatic and environmental factors on personal UV radiation exposure**
Mario Blumthaler (Innsbruck, Austria)
- 10:00 **IL309 The EC ICEPURE project: An overview of the biological aspects**
Antony R Young (London, United Kingdom)
- 10:30 **Coffee break**
- 11:00 **IL310 Dosimetry and modelling of personal UV exposure in ICEPURE**
Paul Eriksen (Copenhagen, Denmark)
- 11:30 **IL311 Assessing Real-life Exposures from Controlled Experiments**
Ann R Webb, Richard Kift, Jacqueline E Berry, Lesley E Rhodes (Manchester, United Kingdom)
- 12:00 **OC312 Natural skin protection against solar UV radiation in the course of the year**
Peter M. Knuschke¹, Marco Janßen², Guenter Ott², Ines Unverricht¹ (¹Dresden, ²Dortmund, Germany)
- 12:15 **OC313 Impact of lifestyle differences on UV exposure patterns and dosages in the photosensitive population**
Richard Kift, Lesley E Rhodes, Jacqueline L Berry, Sarah J Cooper, Marie T Durkin, Andy Vail, Andrew RD Smedley, Ann R Webb (Manchester, United Kingdom)
- 12:30 **OC314 Modelling the biologically effective UV exposure distribution of the human body**
Aqif Nasufi¹, Alois W. Schmalwieser¹, Mette M.-L. Grage², Paul Eriksen², Graham Harrison³, Antony Young³, Katarzyna Baczynska⁴, Andy Pearson⁴, John O'Hagan⁴, Elisabeth Thieden⁵, Jakob Heydenreich⁵, Peter Philipsen⁵ (¹Vienna, Austria; ²Copenhagen, ³Copenhagen, Denmark; ⁴London, ⁵Chilton, United Kingdom)
- 12:45 **OC315 Sun Exposure In Farmers' Families: Like Parent, Like Child**
Mette B Larsen, Bibi Petersen, Peter A. Philipsen, Elisabeth Thieden, Hans Christian Wulf (Copenhagen, Denmark)

- 09:30 **Photostability, photochemistry and phototoxicity of drugs**
Chair: Hanne Hjorth Tønnesen (Oslo, Norway), Miguel A Miranda (Valencia, Spain)
- 09:30 **IL316 Photostability testing in practice**
David Clapham (Ware, United Kingdom)
- 10:00 **IL317 Photophysical properties and formulation of curcuminoids**
Hanne Hjorth Tønnesen (Oslo, Norway)
- 10:30 **Coffee break**
- 11:00 **IL318 Photobehavior of drugs encapsulated within transport proteins**
Maria Consuelo Jimenez (Valencia, Spain)
- 11:30 **IL319 A Theoretical Perspective of Photodegradation and Photostability of NSAIDs**
Leif A Eriksson (Galway, Ireland)
- 12:00 **OC320 Photosafety Evaluation of Investigational Drugs: A Threshold-Based Tiered Testing Strategy**
Daniel Bauer (Basel, Switzerland)
- 12:15 **OC321 Drug photosensitization induced in proteins and in cells**
Giuseppina Bracchitta, Alfio Catalfo, Guido De Guidi (Catania, Italy)
- 12:30 **OC322 Use of a modified oral UV-LLNA in Balb/c mice for the investigation of phototoxicity mechanisms and pharmacokinetic properties in skin**
Stéphanie Boudon, Catherine Schiltz, Philippe Scheubel, Brendan Prideaux, Daniel Luehrs, Markus Stoeckli, Jens Schuemann, Daniel Bauer (Basel, Switzerland)

- 09:30 **Photomorphogenesis**
Chair: Ida Ruberti (Rome, Italy)
- 09:30 **IL323 Intra- and intercellular features of phytochrome-A mediated signalling**
Daniel Kirchenbauer¹, Eva Adam², Stefan Kircher¹, Laszlo Kozma-Bognar², Eberhard Schafer¹, Ferenc Nagy² (¹Freiburg, Germany; ²Szeged, Hungary)
- 10:00 **IL324 Regulation of asymmetric growth responses by members of the Phytochrome Kinase Substrate (PKS) family**
Christian Fankhauser, Matthieu de Carbonnel, Chitose Kami, Emilie Demarsy (Lausanne, Switzerland)
- 10:30 **Coffee break**
- 11:00 **IL325 Molecular mechanisms of plant adaptation to canopy shade**
Ida Ruberti, Giovanna Sessa, Andrea Ciolfi, Marco Possenti, Monica Carabelli, Massimiliano Sassi, Valentino Ruzza, Giorgio Morelli (Rome, Italy)
- 11:30 **IL326 Shining light on temperature signalling**
Julia Foreman¹, A. Henrik Johansson¹, Peter D. Gould², Mirela Domijan³, Aurora Piñas Fernández¹, Dana MacGregor⁴, Steven Penfield⁴, Andrew J. Millar¹, David A. Rand³, Anthony J.W. Hall², Karen J. Halliday¹ (¹Edinburgh, ²Liverpool, ³Coventry, ⁴York, United Kingdom)

- 14:15 **Research insights in the photosensitivity disorders**
Chair: Alexander Vincent Anstey (Newport, United Kingdom,)Franois Aubin (Besanon, France)
- 14:15 **IL327 Update on solar urticaria**
Franois Aubin (Besanon, France)
- 14:45 **IL328 Update on erythropoietic protoporphyria (EPP)**
Alexander Vincent Anstey (Newport, United Kingdom)
- 15:15 **IL329 Photosensitivity in lupus: what is new?**
Annegret Kuhn (Muenster, Germany)
- 15:45 **Coffee break**
- 16:15 **IL330 What is new in PLE?**
Rik Roelandts (Leuven, Belgium)
- 16:45 **IL331 Alpha-MSH and cutaneous disorders: what is new?**
Dennis J Wright (Baar, Switzerland)

- 14:15 **Plant photobiology and climate change**
Chair: Janet F. Bornman (Perth, Australia)
- 14:15 **IL332 Variations of UV radiation in the 21st century due to ozone and climate changes**
Alkiviadis F. Bais (Thessaloniki, Greece)
- 14:45 **IL333 Implications for plant systems from environmental impacts of climate change**
Janet F. Bornman (Perth, Australia)
- 15:15 **IL334 Acclimative leaf antioxidant responses to UV-B**
Eva Hideg¹, Petra Majer² (¹Pécs, ²Szeged, Hungary)
- 15:45 **Coffee break**
- 16:15 **IL335 UV-stimulated methane emissions from plants: methods, rates and global impact**
Wes T Fraser, Andy R McLeod, Stephen Fry, Mark F Newman, Dave S Reay (Edinburgh, United Kingdom)
- 16:45 **IL336 Exploiting plant responses to solar UV radiation in improved protecting cropping systems**
Eslam Elfadly¹, Jason Wargent², Jason Moore³, Wagdy Sobeih³, Nigel Paul³ (¹Alexandria, Egypt; ²Palmerston North, New Zealand; ³Lancaster, United Kingdom)

- 14:15 **New drugs and drug delivery for PDT**
Chair: Kristian Berg (Oslo, Norway), Norbert Lange (Geneva, Switzerland)
- 14:15 **IL337 Drug Delivery Session: Biodistribution, Clearance, and Elimination of Optically Active Nanoparticles**
John V. Frangioni (Boston MA, USA)
- 14:45 **IL338 Photochemical internalization (PCI), a technology for site-specific drug delivery. Recent advances**
Kristian Berg¹, Anette Weyergang¹, Marie Vikdal¹, Maria Bergstad¹, Bente Bull-Hansen¹, Michael Rosenblum², Pål Kristian Selbo¹ (¹Oslo, Norway; ²Houston TX, United States)
- 15:15 **IL339 Bioconjugation of photosensitisers with anti-angiogenic monoclonal antibodies –Synthesis and biological evaluation.**
Ross W Boyle (Kingston-upon-Hull, United Kingdom)
- 15:45 **Coffee break**
- 16:15 **IL340 New drug developments in the treatment of non melanoma skin cancer**
Rolf-Markus Szeimies (Recklinghausen, Germany)
- 16:45 **OC341 Development of a new LDL based transport system for hydrophobic drug delivery to cancer cells**
Pavol Miskovsky¹, Veronika Huntosova¹, Dana Petrovajova¹, Zuzana Nadova¹, Franck Sureau², Daniel Jancura¹ (¹Kosice, Slovakia; ²Paris, France)
- 17:00 **OC342 Photochemical internalization (PCI) of immunotoxins targeting cancer stem cell markers**
Monica Bostad, Kristian Berg, Anders Høgset, Pål Kristian Selbo (Oslo, Norway)
- 17:15 **OC343 Using PEGylated PLGA nanoparticles to enhance the delivery of m-THPC for in vivo PDT**
Melissa J Bovis¹, Josephine H Woodhams¹, Rachael Fisher², Matija Rojnik³, Petra Kocbek³, Janko Kos³, Marilena Loizidou¹, Stephen G Bown¹, Alexander J MacRobert¹ (¹London, ²Edinburgh, United Kingdom; ³Ljubljana, Slovenia)
- 17:30 **OC344 Selective antitumor effect in PhotoDynamic Therapy mediated by photo-activatable molecules, activated by endopeptidases**
Marc Verhille, Hamanou Benachour, Régis Vanderesse, Muriel Barberi-Heyob, Philippe Arnoux, Céline Frochot (Nancy, France)

- 14:15 **Photobiology oral communications**
Chair: Thierry Douki (Grenoble, France)
- 14:15 **OC345 Sunburns, sunscreen use, exposure and validation of self-reported sunburns in sun worshippers during one week on Tenerife and in skiers during one week in Austria.**
Bibi Petersen, Peter Philipsen, Elisabeth Thieden, Hans Christian Wulf (København N.V., Denmark)
- 14:30 **OC346 People stick to their sun exposure behaviour**
Elisabeth Thieden, Peter Philipsen, Jakob Heydenreich, Hans Christian Wulf (Copenhagen NV, Denmark)
- 14:45 **OC347 What do outdoor workers think about occupational photo protection? The AUVA working trade survey**
Harald Maier, Alois W. Schmalwieser, Emmerich Kitz (Vienna, Austria)
- 15:00 **OC348 Phototesting in rosacea patients**
Magdalena Misiak-Galazka, Hanna Wolska (Warsaw, Poland)
- 15:15 **OC349 Antagonising the CXCR4-CXCL12 chemokine pathway inhibits sunlight-induced skin tumour formation**
Seri Narti Edayu Sarchio, Gary Halliday, Scott Byrne (New South Wales, Australia)
- 15:30 **OC350 Chemical versus UVB carcinogenesis regimens yield opposing tumor responses in skin of Chop/gadd153 null mice**
Sanjay Anand, Edward V Maytin (Cleveland OH, United States)
- 15:45 **Coffee break**
- 16:15 **OC351 Cellular effects of melanogenesis stimulus in melanoma cells - above and beyond melanin synthesis**
Elizabeth S. Cunha, Rebeca Kawahara, Eduardo Aliprandini, Hudson G. Amstalden, Sheila M.B. Winnischofer, Guilhermina R Noletto, Silvia M.S.C. Cadena, Maria E.M. Rocha, Glaucia R Martinez (Curitiba, Brazil)
- 16:30 **OC352 Use of two-photon laser microscopy for skin imaging – *ex vivo* and *in vitro* safety evaluation**
Norbert M Wikonkal (Budapest, Hungary)
- 16:45 **OC353 Photo-controlled induction of membrane asymmetry, bending and permeabilization: cholesterol-related stress relaxation**
Rachid Kerdous, Stéphanie Bonneau (Paris, France)
- 17:00 **OC354 Time resolved sub-cellular singlet oxygen detection –ensemble measurements vs. single cell experiments**
Steffen Hackbarth, Jan Schlothauer, Annegret Preuss, Carmen Ludwig, Beate Roeder (Berlin, Germany)
- 17:15 **OC355 Aggregation of Merocyanine 540 in the presence of salts of mono-, di- and trivalent cations.**
Alexander Ya Potapenko, Tatiyana A. Shmigol, Elena A. Kozhinova, Alla A. Kyagova, Mikhail V. Malakhov (Moscow, Russian Federation)
- 17:30 **OC356 Fluorescent cholic acid derivatives for biological applications**
Maria L Marin, Miguel A. Miranda, Miguel Gomez-Mendoza (Valencia, Spain)

Sunday, September 4, Afternoon

Uni Mail S150

17:45 **ESP General Assembly**

Sunday, September 4, Evening

Café Restaurant Du Parc des Bastions

19:45 **Conference Gala Dinner and Medal Award Ceremony**

- 08:30 **Plenary lecture**
Chair: Lesley E Rhodes (Manchester, United Kingdom)
- PL401 Ocular Photobiology**
Joan E Roberts (New York City NY, United States)

- 09:30 **Photobiology and environment**
Chair: Francesco Ghetti (Pisa, Italy), Giulio Jori (Padova, Italy)
- 09:30 **IL402 Applications of chlorophyll fluorescence to assess the vitality of plants**
Reto J Strasser¹, Sheng Qiang², Shiguo Chen², Vasilij Goltsev³ (¹Jussy/Geneva, Switzerland; ²Nanjing, China; ³Sofia, Bulgaria)
- 10:00 **IL403 Porphyrin-photosensitised processes: an environmentally friendly approach for the prevention of malaria**
Giulio Jori (Padova, Italy)
- 10:30 **Coffee break**
- 11:00 **IL404 Chlorophyllin-based photosensitization for food safety**
Zivile Luksiene (Vilnius, Lithuania)
- 11:30 **OC405 Applicability of photodynamic antimicrobial chemotherapy as an alternative to inactivate fish pathogenic bacteria in aquaculture systems**
Adelaide Almeida, Carla Pereira, João Tomé, Amparo Faustino, Graça Neves, Augusto Tomé, JoséCavaleiro, Ângela Cunha, Newton Gomes (Aveiro, Portugal)
- 11:48 **OC406 Photodynamic Control of Malaria, Filariasis and Dengue Fever Vectors in Sub-Saharan Africa Swamps**
Mahmoud Hashem Abdel-Kader¹, Tarek Abdallah Eltayeb² (¹New Cairo, ²Cairo, Egypt)
- 12:06 **OC407 A critical review on photoinitiated degradation of triazine and phenylurea herbicides in aqueous solutions**
Sarka Klementova (Ceske Budejovice, Czech Republic)
- 12:24 **OC408 Influence of species on serum resistance to singlet oxygen**
Thierry Patrice¹, Isabelle Lhommeau¹, Samuel Douillard¹, Régis Bataille², Edith Bigot¹ (¹Nantes, ²Saint Herblain, France)
- 12:42 **OC409 Personal electronic UVR dosimeter and corresponding ground station for sun behaviour field studies**
Jakob Heydenreich (Copenhagen NV, Denmark)

- 09:30 **State of the art of phototherapy**
Chair: Sally H Ibbotson (Dundee, United Kingdom), Peter Wolf (Graz, Austria)
- 09:30 **IL410 Current understanding of mechanisms of phototherapy**
Thomas Schwarz (Kiel, Germany)
- 10:00 **IL411 New insights into the mechanisms of PUVA**
Peter Wolf, Tej P Singh (Graz, Austria)
- 10:30 **Coffee break**
- 11:00 **IL412 Profiling of current phototherapeutic modalities: strengths and weaknesses**
Adrian Tanew (Vienna, Austria)
- 11:30 **IL413 Optimising clinical use of phototherapy**
Sally H Ibbotson (Dundee, United Kingdom)
- 12:00 **IL414 Long term risk of phototherapies**
Robert S Dawe (Dundee, United Kingdom)
- 12:30 **OC415 Cell death induced *in vitro* by the bulk photovoltaic effect under low-intensity visible light**
Alfonso Blázquez-Castro, Juan C. Stockert, Begoña López-Arias, Fernando Agulló-López, Ángel García-Cabañes, Mercedes Carrascosa (Madrid, Spain)
- 12:45 **OC416 Skin thickening due to UV radiation – the dose-response relationship**
Peter M. Knuschke, Maximiliano Cuevas, Edmund Koch, Henriette Rönsch, Angela Sauer (Dresden, Germany)

- 09:30 **Sphingolipids as mediators of light-tissue interaction**
Chair: Mladen Korbelik (Vancouver, Canada), Duska Separovic (Detroit MI, United States)
- 09:30 **IL434 The Sphingolipid response to UV light: the many facets of one pathway.**
Chiara Luberto (Charleston SC, United States)
- 10:00 **IL435 Novel insights into the regulation and role of sphingolipids in cell death after PDT**
Duska Separovic¹, Alicja Bielawska², Mladen Korbelik³ (¹Detroit MI, ²Charleston SC, United States;
³Vancouver BC, Canada)
- 10:30 **Coffee break**
- 11:00 **IL436 Role of sphingolipid activity in tumor response to photodynamic therapy**
Mladen Korbelik¹, Duska Separovic² (¹Vancouver BC, Canada; ²Detroit MI, United States)
- 11:30 **IL437 A PS-lectin conjugate targeting T/Tn antigens triggers ceramide increase and both apoptotic and necrotic cell deaths by phototherapy**
Guillaume Poiroux, Marguerite Pitié, Bruno Ségui, Geneviève Pratviel, Pierre Rougé, Annick Barre, Thierry Levade, HervéBenoist (Toulouse, France)
- 12:00 **IL438 Inhibition of *de novo* biosynthesis of ceramide rescues photoreceptor function in a mouse model of Retinitis Pigmentosa**
Riccardo Ghidoni¹, Claudia Gargini², Paolo Gasco³, Giusy Sala¹, Elena Novelli⁴, Ilaria Piano⁴, Enrica Strettoi² (¹Milano, ²Pisa, ³Torino, ⁴Roma, Italy)

- 09:30 **PDT oral communications**
Chair: Pål Kristian Selbo (Oslo, Norway), Norbert Lange (Geneva, Switzerland)
- 09:30 **OC417 Development of Mouse Models of Skin Cancer for Pre-Clinical Exploration of New Combination Approaches to Aminolevulinic Acid-Based Photodynamic Therapy (ALA-PDT)**
Sanjay Anand¹, Tayyaba Hasan², Edward V Maytin¹ (¹Cleveland OH, ²Boston MA, United States)
- 09:45 **OC418 Responses of Human Bladder Cancer Cells to Laser-Induced Phototoxicity with Sulfonated Aluminum Phthalocyanines**
Rehab Amin¹, Carmen Hauser², Ingrid Kinzler², Claudia Scalfi-Happ², Angelika Rueck² (¹Giza, Egypt; ²Ulm, Germany)
- 10:00 **OC419 Fluorescence imaging of living A549 cells combined with HLF cells: Reducing PVP-Hypericin side effects on HLF cells by modifying excitation light dose of pulsed blue LED**
Rozhin Penjweini, Hans G Loew, Maria Eisenbauer, Paul Breit, Karl W Kratky (Vienna, Austria)
- 10:15 **OC420 Vascular damage photoinduced by liposomal formulations of mTHPC in xenografted CAM: influence of drug release**
Julie Garrier¹, Vadzim Reshetov¹, Clémentine Ruch¹, François Guillemin¹, Vladimir Zorin², Lina Bezdetnaya¹ (¹Vandœuvre-lès-Nancy, France; ²Minsk, Belarus)
- 10:30 **Coffee break**
- 11:00 **OC421 Interactions of mTHPC liposomal formulations with serum proteins**
Vadzim A. Reshetov¹, Agnieszka Siupa², Lina Bezdetnaya³, Vladimir Zorin⁴ (¹Minsk / Vandœuvre-Les-Nancy, France, ²Amesbury, United Kingdom; ³Vandœuvre-Les-Nancy, France)
- 11:15 **OC422 Amphiphilic photosensitizers used in photochemical internalization are not substrates for the cancer stem cell marker ABCG2**
Pål K Selbo, Anette Weyergang, Monica Bostad, Anders Høgset, Kristian Berg (Oslo, Norway)
- 11:30 **OC423 Vascular targeting of tumors by photochemical internalization**
Marie Vikdal, Anette Weyergang, Kristian Berg (Oslo, Norway)
- 11:45 **OC424 Photodynamic therapy modulates inflammation and positively influences healing of excisional wounds in human skin**
Mark D Farrar, Stuart J Mills, Christopher EM Griffiths, Gillian S Ashcroft, Lesley E Rhodes (Manchester, United Kingdom)
- 12:00 **OC425 Comparative *in vitro* and *in vivo* study on the characteristics of water-soluble halogenated chlorin and bacteriochlorin photosensitizers for PDT**
Janusz Marcin Dabrowski (Krakow, Poland)
- 12:15 **OC426 Hypericin mediated photodynamic killing of melanoma cells**
Britta Kleemann, Dirk Lang, Lester M Davids (Cape Town, South Africa)
- 12:30 **OC427 Photodynamic Molecular Beacons: Image-Guided Therapeutic Approach for Vertebral Metastases**
Tracy WB Liu, Margarete K Akens, Juan Chen, Lisa Wise-Milestone, Brian C Wilson, Gang Zheng (Toronto ON, Canada)
- 12:45 **OC428 PDT effect on the crayfish nerve cord: proteomics study**
Mikhail S Kolosov, Mikhail Y Bibov, Svetlana V Demyanenko, Anatoly B Uzdensky (Rostov-on-Don, Russian Federation)

14:15 PDT oral communications

Chair: *Pål Kristian Selbo (Oslo, Norway), Norbert Lange (Geneva, Switzerland)*

14:15 **OC429 Novel PEG-organized biocompatible fluorescent nanoparticles doped with an ytterbium cyanoporphyrine complex for biophotonic applications†**
Larisa Klapshina (Nyzhny Novgorod, Russian Federation)

14:30 **OC430 Methacrylate monomers increase cellular photosensitivity**
Terje Christensen¹, Pål Kristian Selbo², Ellen M. Bruzell² (¹Østerås, ²Oslo, Norway)

14:45 **OC431 A comparative spectroscopic study of endogenous porphyrins induced with aminolevulinic acid (ALA) and its methyl ester in rabbit rheumatoid arthritis model *in vivo*, and in human synoviocytes *ex vivo***
Saulius Bagdonas, Romualdas Rudys, Giedre Streckyte, Gailute Kirdaite (Vilnius, Lithuania)

15:00 **OC432 In vivo measurement of the PpIX delayed fluorescence lifetime to monitor the tissular oxygen depletion during PDT**
Filippo Piffaretti, Anna-Maria Novello, Rajendran Senthilkumar, Patrycja Nowak-Sliwinska, Hubert E. van den Bergh, Georges A. Wagnieres (Lausanne, Switzerland)

15:15 **OC433 Photochemical internalization (PCI) of HER2-targeted toxins. Synergy is dependent on the treatment sequence**
Maria E. B. Berstad, Anette Weyergang, Kristian Berg (Oslo, Norway)

14:15 **Photobiology Poster session**

- 15:30 **Photoaging - mechanisms and reversal**
Chair: Sewon Kang (Baltimore MD, United States), Rachel E B Watson (Manchester, United Kingdom)
- 15:30 **IL439 UV modulation of the skin's microfibrillar network**
Rachel E B Watson (Manchester, United Kingdom)
- 16:00 **IL440 Thermal skin aging**
Soyun Cho, Mi Hee Shin, Yeon Kyung Kim, Young Mee Lee, Chi-hyun Park, Jin Ho Chung (Seoul, Korea, Republic Of)
- 16:30 **Coffee break**
- 17:00 **IL441 Stressed out mitochondria**
Mark Birch-Machin (Newcastle upon Tyne, United Kingdom)
- 17:30 **IL442 Repair of photoaged skin –a unifying concept**
Sewon Kang (Baltimore MD, United States)
- 18:00 **IL443 Cosmeceuticals in Antiaging treatment**
Stacy Hawkins (Trumbull CT, United States)
- 18:30 **OC444 Photodamaged Extracellular Matrix Proteins: Mechanisms and functional consequences**
Sarah A Thurstan, Rachel E. B. Watson, Chris E. M. Griffiths, Neil K Gibbs, Mike J Sherratt (Manchester, United Kingdom)
- 18:45 **OC445 Resistance to singlet oxygen of sera from cancer patients**
Thierry Patrice, Samuel Douillard, Isabelle Lhommeau, Edith Bigot, Régis Bataille (Nantes, France)

- 15:30 **PDT and vascular targeting**
Chair: Tayyaba Hasan (Boston MA, United States), Patrycja Nowak-Sliwinska (Lausanne, Switzerland)
- 15:30 **IL446 Image-based anti-vascular therapy with PDT**
Tayyaba Hasan, Sung Chang, Nicolas Solban, Zhiming Mai, Bryan Spring (Boston MA, United States)
- 16:00 **IL447 Novel ways of angiogenesis inhibition and drug delivery to tumor endothelial cells**
Arjan W Griffioen (Amsterdam, Netherlands)
- 16:30 **Coffee break**
- 17:00 **IL448 Cellular photodynamic responses**
David Kessel (Detroit MI, United States)
- 17:30 **IL449 Circulating Endothelial Cells as Biomarkers and Targets for Photodynamic Therapy**
Charles Gomer (Los Angeles CA, United States)
- 18:00 **IL450 Efficacy assessment of photodynamic vascular damage in combination with anti-angiogenic kinase inhibitors**
Patrycja M Nowak-Sliwinska (Lausanne, Switzerland)
- 18:30 **OC451 PDT for Drug Delivery: Combination Therapy Improving Leakage**
Elodie Debefve, Yabo Wang, Thorsten Krueger, Hans-Beat Ris, Hubert van den Bergh (Lausanne, Switzerland)
- 18:45 **OC452 VEGFR2 expressing cells are hypersensitive to PDT**
Anette Weyergang¹, Pål Kristian Selbo¹, Johannes Waltenberger², Kristian Berg¹ (¹Oslo, Norway; ²Münster, Germany)

- 15:30 **UVA and oxidative stress**
Chair: Paolo Di Mascio (São Paulo, Brazil), Albert W Girotti (Milwaukee WI, United States)
- 15:30 **IL453 ¹⁸O-Hydroperoxides, ¹⁸O-singlet oxygen, mass spectrometry, and light emission as valuable tools for studying the role of O₂ (¹Δ_g) in biological systems**
Paolo Di Mascio (São Paulo, Brazil)
- 16:00 **IL454 Oxidatively generated damage to isolated and cellular DNA by sensitization reactions to UVA radiation**
Jean Cadet, Jean-Luc Ravanat, Thierry Douki (Grenoble, France)
- 16:30 **Coffee break**
- 17:00 **IL455 A dynamic regulation of nitric oxide production and oxidative-stress in ultraviolet light-irradiated keratinocytes**
Shiyong Wu (Athens OH, United States)
- 17:30 **IL456 Cytoprotective Upregulation of Nitric Oxide Synthase in Photodynamically Stressed Tumor Cells**
Albert W Girotti, Reshma Bhowmick (Milwaukee WI, United States)
- 18:00 **OC457 Antioxidant treatment after UVAI exposure offers protection against ROS and DNA photodamage**
George J Delinassios, Marcus S Cooke, Antony R Young (Leicester, United Kingdom)
- 18:15 **OC458 UVA1 induces key molecular events associated with inflammation, response to hypoxia and immunosuppression in vivo in humans.**
Angela Tewari, Robert Sarkany, Antony Young (London, United Kingdom)

08:30 Plenary lecture*Chair: Miguel A Miranda (Valencia, Spain)***PL501 Using photochemistry to make nanoparticles, and nanoparticles to direct catalytic and biochemical behaviour**

Tito Scaiano (Ottawa ON, Canada)

09:30 PDT to treat microbial infections*Chair: Michael R Hamblin (Boston MA, United States), Mark Wainwright (Liverpool, United Kingdom)***09:30 IL502 Photodynamic therapy can induce a protective immune response against a bacterial pathogen.**Michael R Hamblin¹, Masamitsu Tanaka¹, Pawel Mroz¹, Yuji Morimoto² (¹Boston MA, United States; ²Tokorozawa, Japan)**10:00 IL503 Enzyme Targeted Photodynamic Therapy and Rapid Optical Diagnostics**Tayyaba Hasan, Ulysses Sallum, Xiang Zheng, Sarika Verma (Boston MA, United States)**10:30 Coffee break****11:00 IL504 Relationship between membrane interaction/damage to the efficiency of photoinduced cell death**
Mauricio S Baptista (São Paulo, Brazil)**11:30 IL505 MBDs –Getting Towards the Clinic?**

Mark Wainwright (Liverpool, United Kingdom)

12:00 OC506 Possibilities of improving activity of antimicrobial photodynamic therapy

Kamola Rustamovna Kasimova (Tashkent, Uzbekistan)

12:15 OC507 Cationic meso-substituted porphyrins as antimicrobial photodynamic agents *in vivo*: treatment of spontaneous bacterial infections in dogsGiulio Jori, Ilaria Cattin, Furio Corsi, Clara Fabris, Marina Soncin (Padova, Italy)**12:30 OC508 Antifungal effects of silicon phthalocyanine Pc 4 photodynamic therapy**Elma D. Baron, Paul Jou, Minh Lam, Pranab Mukherjee, Mahmoud Ghannoum, Nancy Oleinick, Kevin Cooper (Cleveland OH, United States)

- 09:30 **Molecular and cellular effects of UVA**
Chair: Evelyne Sage (Orsay, France), Rex Tyrrell (Bath, United Kingdom)
- 09:30 **IL509 UVA activation of gene expression and cellular redox homeostasis**
Rex Tyrrell (Bath, United Kingdom)
- 10:00 **IL510 A novel molecular mechanism potentiating cutaneous photo-oxidative damage: UVA impairs autophagic flux with p62/Lamp-1 accumulation downstream of cathepsin B inactivation**
Georg T Wondrak (Tucson AZ, United States)
- 10:30 **Coffee break**
- 11:00 **IL511 The slowing down of DNA replication by UVA-induced ROS: the fact of DNA damage or protein oxidation?**
Evelyne Sage, Dany Graindorge, Pierre-Marie Girard (Orsay, France)
- 11:30 **IL512 UVA-induced epigenetic changes in human primary keratinocytes**
Ruediger Greinert (Buxtehude, Germany)
- 12:00 **OC513 UVA1 induced epidermal and dermal thymine dimers in human skin *in vivo***
Angela Tewari, Robert Sarkany, Antony Young (London, United Kingdom)
- 12:15 **OC514 The specificity of UV-induced DNA damage in human melanocytes**
Thierry Douki, Stéphane Mouret, Anne Forestier (Grenoble, France)
- 12:30 **OC515 UVA-Mediated Protein Crosslinking to DNA 6-TG *In Vivo* and *In Vitro***
Quentin Gueranger, Feng Li, Azadeh Kia, Sally Dewhurst, Peter Karran (South Mimms, United Kingdom)
- 12:45 **OC516 UVA induced epigenetic regulation of p16INK4a in human keratinocytes is dependent on UV-exposure patterns**
I-Peng Chen, Stefan Henning, Alexandra Faust, Rüdiger Greinert, Beate Volkmer (Buxtehude, Germany)

- 09:30 **Sunlight exposure, sunbeds and vitamin D**
Chair: Frank R. de Gruijl (Leiden, Netherlands), Ann R Webb (Manchester, United Kingdom)
- 09:30 **IL517 Genetic influences on seasonal vitamin D statuses**
Greta Snellman¹, Håkan Melhus¹, Rolf Gedeberg¹, Sylvia Olofsson¹, Alicia Wolk², Nancy L Pedersen², Karl Michaëlsson¹ (¹Uppsala, ²Stockholm, Sweden)
- 10:00 **IL518 Relative risk of vitamin D insufficiency in people with photosensitivity conditions compared with healthy individuals at northerly latitude**
Lesley E Rhodes, Richard Kift, Jacqueline L Berry, Sarah J Cooper, Marie T Durkin, Andy Vail, Ann R Webb (Manchester, United Kingdom)
- 10:30 **Coffee break**
- 11:00 **IL519 1,25-dihydroxyvitamin D3 analogue in prevention of polymorphic light eruption**
Peter Wolf, Alexandra Gruber-Wackernagel (Graz, Austria)
- 11:30 **IL520 UV exposure inhibits intestinal tumor development in intestine-specific Apc mutant mice kept on low vitamin D diet.**
Heggert Rebel, Celia van der Spek, Els C. Robanus-Maandag, Frank R. de Gruijl (Leiden, Netherlands)
- 12:00 **OC521 Lack of responsibility in the artificial tanning business: The Vienna Tanning Bed Survey 2010/2011**
Harald Maier, Alois W. Schmalwieser, Markus Grabenhofer, Bernhard Maier, Angela Tichy (Vienna, Austria)
- 12:15 **OC522 UV measurements in sunbeds related to selected biological effects**
Lill Tove N Nilsen¹, Tommy N Aalerud¹, Merete Hannevik¹, Marit B Veierød² (¹Østerås, ²Oslo, Norway)
- 12:30 **OC523 Does sunscreen thickness influence vitamin D production in humans?**
Peter A Philipsen, Ditte Beyer, Morten Bogh, Hans Christian Wulf (Copenhagen, Denmark)
- 12:45 **OC524 Parameters influencing the efficiency of vitamin D production caused by solar radiation, solar simulated radiation or sunbed radiation**
Peter M. Knuschke, Andrea Bauer, Bodo Lehmann, Andrea Loos, Henriette Rönsch (Dresden, Germany)

PDT Posters

- P001 Photodynamic Therapy To Treat Basal-Cell Skin Cancer In The Periorbital Area**
Violeta A Purtskhvanidze, Alexander A Radaev, Natalia V Kovaleva (Moscow, Russian Federation)
- P002 Combined Photodynamic Therapy and Laser Hyperthermia with Low-temperature Patronage of Healthy tissue in patients with nodular malignant skin tumors**
Elena V. Filonenko (Moscow, Russian Federation)
- P003 Photosensitizer for PDT in mode of photodynamic dose saturation**
Boris Kogan, Nikolay Malimonenko, Alexander Butenin, Semen Dudkin, Elena Makarova, Eugeny Lukyanets, Georgy Vorozhtsov (Moscow, Russian Federation)
- P004 Gold Nanoparticles as a Drug Delivery System for Baclofen; Synthesis and Characterization.**
Sarah A. Aboulmagd, Mona B. Mohamed, Mahmoud H. Abdelkader (Cairo, Egypt)
- P005 Antitumor effects of the combination of photodynamic therapy and methyltransferase inhibitor**
Malgorzata Wachowska, Weronika Bednarek, Angelika Muchowicz, Jakub Golab (Warsaw, Poland)
- P006 Enhancement of PDT selectivity using folic acid-targeted PEGylated liposomes as carriers of meta-tetra(hydroxyphenyl)chlorin**
Francesca Moret¹, Dietrich Scheglmann², Elena Reddi¹ (¹Padova, Italy; ²Jena, Germany)
- P007 Liposomal formulations of photosensitizers for photodynamic cancer therapy**
Edyta Paszko, Gisela F Vaz, Carsten Ehrhardt, Mathias O Senge (Dublin, Ireland)
- P008 Photophysical properties of porphyrin-pyrazole derivatives**
Nuno M M Moura¹, Maria A F Faustino¹, Maria G P M S Neves¹, Augusto C Tomé¹, E M Rakib², A Hannioui², S Mojahidi², Artur M S Silva¹, Philipp Reichert³, Steffen Hackbarth³, Beate Röder³, José A S Cavaleiro¹ (¹Aveiro, Portugal; ²Beni-Mellal, Morocco; ³Berlin, Germany)
- P009 Analysis of stress and DNA damage responses induced by hexylaminolevulinatemediated photodynamic treatment**
Yan Baglo, Rebekka Müller, Marit Otterlei, Odrun Arna Gederaas (Trondheim, Norway)
- P010 Photoactivated Hypericin induced PKC isoforms subcellular relocalization**
Lenka Dzuřova¹, Veronika Huntosova¹, Franck Sureau², Pavol Miskovsky¹, Zuzana Nadova¹ (¹Kosice, Slovakia; ²Paris, France)
- P011 Grp78-targeting subtilase cytotoxin potentiates Photofrin-PDT in prostate cancer cell lines**
Malgorzata Firczuk, Magdalena Gabrysiak (Warsaw, Poland)
- P012 Transport of Hypericin and Emodin through bilayer lipid membranes**
Alena Strejckova, Jana Stanicova, Gregor Bano, Katarina Stroffekova, Gabriela Fabriciova, Pavol Miskovsky (Kosice, Slovakia)
- P013 Controlled-Release of Photosensitizer into Homogeneous Solutions and Liposomes via a Fiber Optic Device**
Adaickapillai Mahendran, Goutam Ghosh, Yasemin Kopkalli, Mihaela Minnis, Ashwini Ghogare, Matibur Zamadar, David Aebisher, Lesley Davenport, Alexander Greer (Brooklyn NY, United States)
- P014 Reaction of Singlet Oxygen with Hydrazone Prodrugs as a Potential Route to Nitrosamine Drugs**
Alvaro Castillo, Ashwini Ghogare, Benjamin Rudshateyn, Nahed Sawwan, Alexander Greer (Brooklyn NY, United States)

- P015 Influence of photoactivated hypericin on metabolic state of mitochondria**
Dana Petrovajova¹, Zuzana Nadova¹, Xavier Ragas², Maria Garcia², Daniel Jancura¹, Santi Nonell², Alzbeta Chorvatova³, Pavol Miskovsky¹ (¹Kosice, ³Bratislava, Slovakia; ²Barcelona, Spain)
- P016 A high content analysis method for the research and development of novel photosensitizers**
Gisela M F Vaz, Edyta Pazko, Anthony M Davies, Mathias O Senge (Dublin, Ireland)
- P017 Biological characterisation of temocene: a new photosensitizer for possible biomedical application**
 Jorge Soriano¹, María García-Díaz², David Sanchez García², Maria Lluisa Sagristà², Margarita Mora², Angeles Villanueva¹, Juan Carlos Stockert¹, Santi Nonell², Magdalena Cañete¹ (¹Madrid, ²Barcelona, Spain)
- P018 Photophysical properties and tumor cell localization of amphiphilic galactopyranosyl Zn(II)-phthalocyanine in dependence on spectrum of applied light irradiation.**
Ivan Angelov¹, Vanya Mantareva¹, Anton Kril¹, Roumen Dimitrov¹, Veselin Kussovski¹, Lachesar Avramov¹, Ekaterina Borisova¹, Dieter Wohrle² (¹Sofia, Bulgaria; ²Bremen, Germany)
- P019 Evaluating Primary Human Ovarian Cancer using a targeted multi-modal theranostic agent**
Tracy WB Liu, Jocelyn Stewart, Juan Chen, Jiyun Shi, Thomas D MacDonald, Brian C Wilson, Gang Zheng (Toronto ON, Canada)
- P020 The role of thioredoxin system in tumor cells resistance to photodynamic therapy.**
Angelika Muchowicz, Szymon Klossowski, Ryszard Ostaszewski, Jakub Golab (Warsaw, Poland)
- P021 Enhanced efficacy of PDT upon the combined injection of two photosensitizing agents: studies at the cellular and animal level**
 Pilar Acedo¹, Monica Camerin², Giulio Jori², Angeles Villanueva¹ (¹Madrid, Spain; ²Padova, Italy)
- P022 Spectroscopic study of ALA and its methyl ester induced endogenous porphyrins in human synoviocytes and cartilage tissue**
Romualdas Rudys, Saulius Bagdonas, Giedrė Streckytė, Gailutė Kirdaitė (Vilnius, Lithuania)
- P023 Glutamate and NAAG prevent photoinduced apoptosis of crayfish glial cells**
Anatoly B Uzdensky, Mikhail Rudkovskii, Elena Berezhnaya, Vera Kovaleva (Rostov-on-Don, Russian Federation)
- P024 Irradiation- and Sensitizer-Dependent Changes in the Lifetime of Intracellular Singlet Oxygen Produced in a Photosensitized Process**
Elsa FF Silva¹, Brian W Pederson¹, Rasmus Toftegaard¹, Thomas Breitenbach¹, Luis G. Arnaut², Peter R. Ogilby¹ (¹Aarhus, Denmark; ²Coimbra, Portugal)
- P025 Comparison of blue and red light LED arrays as illumination devices for hexylaminolevulinatemediated photodynamic therapy**
Linda Helander¹, Kristjan Plaetzer², Aloys Munyeshyaka¹, Barbara Krammer², Odrun A Gederaas¹ (¹Trondheim, Norway; ²Salzburg, Austria)
- P026 Expression of surface markers associated with aggressiveness in synovial mesenchymal stem cells of patients with Rheumatoid arthritis and the dynamics of protoporphyrin IX accumulation**
Jaroslav Denkovskij, Eiva Bernotiene, Gailute Kirdaite (Vilnius, Lithuania)
- P027 Effect of Porphyrin Transport Proteins and Ferrochelatase on Porphyrin accumulation and PDT Efficacy**
Gemma Barron, Julie A Woods, Harry Moseley (Dundee, United Kingdom)
- P028 Real-time transdermal monitoring of photosensitizer level in vivo**
Malgorzata Szczygiel¹, Bozena Boron², Anna Susz¹, Zenon Matuszak¹, Krystyna Urbanska¹, Leszek Fiedor¹ (¹Krakow, ²Katowice, Poland)
- P029 On the trail of cationic porphycenes for photodynamic therapy. State of the art**
 Rubén Ruiz (Barcelona, Spain)
- P030 Synthetic strategies for unsymmetrical porphyrins and porphyrin arrays for QSAR studies in photodynamic therapy.**
Luke Rogers, Aoife Ryan, Prof. Mathias Senge (Dublin, Ireland)

- P031 PEG-ylated LDL particles: a potential drug delivery system**
Diana Buzova¹, Daniel Jancura¹, Peter Kasak², Pavol Miskovsky¹ (¹Kosice, ²Bratislava, Slovakia)
- P032 Pharmaceutical preformulation of the novel photosensitizer TPCS2a for use in photochemical internalization (PCI)**
Marianne Lilletvedt, Hanne Hjorth Tønnesen, Anders Høgset, Gro Smistad, Solveig Kristensen (Oslo, Norway)
- P033 Physicochemical evaluation of four structurally related meso-porphyrin photosensitizers as part of drug formulation**
Jan J. Sobczynski, Hanne H. Tønnesen, Solveig Kristensen (Oslo, Norway)
- P034 PCI of HER2 targeted immunotoxins; a novel approach for breast cancer therapy**
Bente Bull-Hansen¹, Maria E. B. Berstad¹, Kristian Berg¹, Michael G. Rosenblum², Anette Weyergang¹ (¹Oslo, Norway; ²Houston TX, United States)
- P035 Design, Synthesis and Biological Evaluation of Glycosylated Lipid Porphyrin Derivatives as Anti-Cancer Therapeutics**
Claire Moylan, Robin Daly, Gisela Vaz, Carsten Ehrhardt, Mathias O. Senge, Eoin M. Scanlan (Dublin, Ireland)
- P036 Aptamers based photodiagnostic**
Henri-Pierre Lassalle¹, Frédéric Ducongé², Agnès Cibiel², Sophie Marchal¹, Aurélie François¹, François Guillemain¹, Lina Bezdetnaya¹ (¹Vandœuvre-lès-Nancy, ²Orsay, France)
- P037 Cationic phthalocyanine derivatives as antibacterial agents**
Joana B Pereira, Eliana F A Carvalho, Maria A F Faustino, Maria G P M S Neves, José A S Cavaleiro, Ângela Cunha, Adelaide Almeida, João P C Tomé (Aveiro, Portugal)
- P038 The photo-induced antitumor efficiency of meso-tetraaryl bacteriochlorin derivatives**
Raisa Yakubovskaya, Natalya Morozova, Anna Plutinskaya, Valery Chissov, Evgeny Lukyanets, Georgy Vorozhtsov, Elena Makarova, Semen Dudkin, Anna Shchukina (Moscow, Russian Federation)
- P039 Monoglycoconjugated water-soluble phthalocyanines. Design, synthesis and investigation of their *in vitro* behaviour**
Fabienne Dumoulin¹, Huguette Savoie², Yunus Zorlu¹, Dominique Lafont³, Vefa Ahsen¹, Ross W Boyle² (¹Gebze Kocaeli, Turkey; ²East Yorkshire, UK HU6 7RX, United Kingdom; ³Villeurbanne, France)
- P040 Towards the near-infra red absorption: a water-soluble non-peripherally octasulfanyl substituted Zn phthalocyanine**
Duygu Aydın, Fabienne Dumoulin, Mahmut Durmuş, Ayşe Gül Gürek, Vefa Ahsen (Gebze Kocaeli, Turkey)
- P041 Visible Light photoactivated trans-Platinum Complexes for Chemotherapy**
Julie-Ann Woods¹, Kim S Robinson¹, Ana M Pizarro², Nicola J Farrer², Harry Moseley¹, Virginia Appleyard¹, Karen Murray¹, Peter J Sadler² (¹Dundee, ²Coventry, United Kingdom)
- P042 Photochemical internalization (PCI) of the vascular targeting immunotoxin VEGF121/rGel, a novel method for selective targeting of tumor vasculature**
Anette Weyergang¹, Maria EB Berstad¹, Lawrence Cheung², Michael Rosenblum², Khalid Mohamedali², Johannes Waltenberger³, Kristian Berg¹ (¹Oslo, Norway; ²Houston TX, United States; ³Münster, Germany)
- P043 Study of ytterbium cyanoporphyrine complex as a potential photosensitizer for fluorescence diagnostics and photodynamic therapy of cancer**
Marina V. Shirmanova, Irina V. Balalaeva, Larisa G. Klapshina, Natalya Yu. Lekanova, Anna A. Brilkina, Elena V. Zagaynova (Nizhny Novgorod, Russian Federation)
- P044 Heterogeneous sensitizer for germ photodynamic inactivation**
Nina A. Kuznetsova, Olga A. Yuzhakova, Oleg L. Kaliya, Georgy N. Vorozhtsov, Alexander E. Nedachin, Tamara Z. Artemova, Elena K. Gipp, Raisa A. Dmitrieva, Tatyana V. Doskina, Natalya N. Butorina, Anzhelika V. Zagaynova, Tatyana N. Maksimkina (Moscow, Russian Federation)
- P045 Selective photoinactivation of *Escherichia coli* using a derivative of Zinc Phthalocyanine**
Wanessa C. M. A. Melo¹, Tania T. Tominaga², Anderson O. Ribeiro³, Janice R Perussi¹ (¹Sao Carlos - SP, ²Guarapuava-PR, ³Santo Andre - SP, Brazil)

- P046 Behaviour of a non-enveloped virus after ten repeated cycles of aPDT**
Liliana AS Costa, Maria AF Faustino, João PC Tomé, Maria GPMS Neves, Augusto C Tomé, JoséAS Cavaleiro, Ângela Cunha, Newton CM Gomes, Adelaide Almeida (Aveiro, Portugal)
- P047 Photodynamic Inactivation of Conidia of *Penicillium chrysogenum* by Cationic Porphyrins**
Maria C. Gomes¹, Sandra M. Woranovicz-Barreira², Maria A. F. Faustino¹, Rosa Fernandes³, Maria G. P. M. S. Neves¹, Augusto Tomé¹, JoséA. S. Caveleiro¹, Adelaide Almeida¹, Ângela Cunha¹, João P. C. Tomé¹ (¹Aveiro, ²Curitiba, ³Coimbra, Portugal)
- P048 Effect of merocyanine 540 aggregation on the photosensitized inactivation of *Staphylococcus aureus* and *Pseudomonas aeruginosa***
Tatiana Shmigol, Elena Sysolyatina, Vladimir Bekhalo, Elena Nagurskaya, Svetlana Ermolaeva, Alexander Potapenko (Moscow, Russian Federation)
- P049 Photodynamic therapy with water-soluble and cationic phthalocyanines for advance inactivation of dental pathogenic microorganisms**
Vanya Mantareva¹, Veselin Kussovski¹, Ivan Angelov¹, Slavcho Dimitrov¹, Dieter Wohrle² (¹Sofia, Bulgaria; ²Bremen, Germany)
- P050 Photodynamic inactivation of bacteria and bacteriophages with new cationic nanomagnet-porphyrin hybrids**
Eliana Alves, Liliana Costa, Carla M.B. Carvalho, João P.C. Tomé, Maria A.F. Faustino, Maria G.P.M.S. Neves, Augusto C. Tomé, JoséA.S. Cavaleiro, Adelaide Almeida, Ângela Cunha, Zhi Lin, João Rocha (Aveiro, Portugal)
- P051 Photodynamic Inactivation for water disinfection using cationic photosensitizers casted in chitosan membranes**
Cintia R. Camargo, Virginia C.A. Martins, Ana M.G. Plepis, Janice R Perussi (Sao Carlos, Brazil)
- P052 Effect of gold nanoparticles in the treatment of established collagen arthritis in rats**
Teisutis Asmenavicius, Laima Leonaviciene, Gailute Kirdaite, Ruta Bradunaite, Dalia Vaitkiene, Audrius Vasiliauskas, Almyra Ramanaviciene, Arunas Ramanavicius, Zygmunt Mackiewicz (Vilnius, Lithuania)
- P053 Cancer stem-like cells and their response to Quantum Dots**
Simona Petrosiute, Simona Lukoseviciute, Petras Juzenas, Ricardas Rotomskis (Vilnius, Lithuania)
- P054 Silver coated carbon dots for photodynamic applications**
Andrius Kleinauskas¹, Ya-Ping Sun², Petras Juzenas¹ (¹Oslo, Norway; ²Clemson SC, United States)
- P055 Carbon dots as antioxidants and prooxidants**
Ingeborg L Christensen¹, Ya-Ping Sun², Petras Juzenas¹ (¹Oslo, Norway; ²Clemson SC, United States)
- P056 Elucidating the mechanism of cellular uptake of carboxylated and platelet-derived growth factor-coated quantum dots**
Vitalijus Karabanovas, Ricardas Rotomskis, Mindaugas Valius (Vilnius, Lithuania)
- P057 Micellar containers for chemiluminescent oxalates as light sources in PDT**
Andrei V. Romanyuk, Umed T. Boltaev, Nickolay S. Melik-Nubarov (Moscow, Russian Federation)
- P058 Interactions in the system chlorin E6 –Pluronic F127 –albumin –lipid membranes**
Umed T Boltaev¹, Timur M Zhiyentayev², Anna B Solovieva¹, Nikolay S Melik-Nubarov¹ (¹Moscow, Russian Federation; ²Pasadena CA, United States)
- P059 Improved efficacy of HER2 targeted immunotoxins using Photochemical internalization (PCI)**
Maria E. B. Berstad¹, Kristian Berg¹, Michael G. Rosenblum², Yu Cao², James Marks³, Anette Weyergang¹ (¹Oslo, Norway; ²Houston TX, ³San Francisco CA, United States)
- P060 Photodynamic activity of photosensitizer loaded nanoparticles on mesothelioma cells: preparation, characterization and *in vitro* application**
Nil Saydan, Gulden Asci, Meltem Goksel, Pelin Balci Ercin, Ayhan Celik (41400-KOCAELI, Turkey)
- P061 Mechanisms of mTHPC-PDT in hepatocellular carcinoma**
Jasmin Breymayer, Ingrid Kinzler, Carmen Hauser, Rudolf Steiner, Angelika Rueck (Ulm, Germany)

- P062** **Ruthenium-Porphyrin Conjugates with Cytotoxic and Phototoxic Antitumor Activity**
Cinzia Spagnol, Teresa Gianferrara, Alberta Bergamo, Ioannis Bratsos, Barbara Milani, Gianni Sava, Enzo Alessio (Trieste, Italy)
- P063** **Hypericin incorporation and localization in fixed HeLa cells**
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- P064** **Gold nanorods: a precious bio-medical tool**
Raffaella Mercatelli¹, Giovanni Romano¹, Fulvio Ratto², Paolo Matteini², Sonia Centi¹, Antonio Conti¹, Roberto Pini², Franco Fusi¹ (¹Firenze, ²Sesto Fiorentino, Italy)

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- P065 Repair of UVB-induced DNA damage by photolyase-encoding mRNA delivery**
Gabor Boros¹, Dávid Rózsa¹, Eszter Emri¹, Georgina Nagy¹, Edit Miko¹, Attila Juhász¹, István Juhász¹, Gijsbertus T.J. van der Horst², Hiromi Muramatsu³, Drew Wiessman³, Katalin Karikó³, Irén Horkay¹, Gabriella Emri¹, Éva Remenyik¹ (¹Debrecen, Hungary; ²Rotterdam, Netherlands; ³Philadelphia PA, United States)
- P066 Simultaneous quantification of exocyclic DNA by an on-line liquid chromatography-electrospray tandem mass spectrometry assay**
Marisa H. G. Medeiros (São Paulo, Brazil)
- P067 Evaluation of psoriasis climate therapy using reflectance spectroscopy and UV measurements**
Lise Lyngsnes Randeberg¹, Julio E. Hernandez-Palacios², Lill Tove Norvang Nilsen³, Anne-Lene Krogstad⁴ (¹Trondheim, ²Lørenskog, ³Østerås, ⁴Oslo, Norway)
- P068 Photoinduced color changes in two polymorphic forms of riboflavin**
Milica Vukicevic¹, Lise L. Randeberg², Jos E. Boschker², Thomas Tybell², Solveig Kristensen¹, Hanne H. Tønnesen¹ (¹Oslo, ²Trondheim, Norway)
- P069 Phototoxicity of blebbistatin in normal and cancer cells**
Aliaksandr Mikulich¹, Simona Lukoseviciute¹, Vasili A. Mostovnikov², Petras Juzenas¹ (¹Oslo, Norway; ²Minsk, Belarus)
- P070 Fluorescence based host cell reactivation assay to determine the repair of UV induced damages**
Stefanie Haller, Katharina Burger, Katja Matt, Daniel Gebhard, Jörg Bergemann (Sigmaringen, Germany)
- P071 Comparison of modelled and measured UVR on horizontal and inclined surfaces**
Mette M-L Grage¹, Jakob Heyedenreich², Andy Pearson³, Katarzyna Baczyńska³ (¹Copenhagen OE, ²Copenhagen, Denmark; ³Chilton, United Kingdom)
- P072 Reactivity of nucleosides with hydroxyl radical in non-aqueous medium**
Gemma Maria Rodriguez (Valencia, Spain)
- P073 Photosensitizing properties of dipicolinic acid**
Virginie Lhiaubet-Vallet, Giacomo Nardi, Miguel Angel Miranda (Valencia, Spain)
- P074 Suppression of contact hypersensitivity to 2,4-dinitrofluorobenzene in mice caused by psoralen photooxidation products**
Alla A. Kyagova, Svetlana I. Pavlova, Diana Z. Albegova, Ilya A. Pyatnitskiy, Ivan G. Kozlov, Lyudmila A. Kozir, Alexander Ya Potapenko (Moscow, Russian Federation)
- P075 Assessment of solar radiation-induced tissue damage in porcine skin explants and organotypic human skin model**
Daniel Bacqueville, ChloéBelles, Laure Duprat, Sandrine Bessou-Touya, Hélène Duplan (Toulouse, France)
- P076 DNA repair by photolyase: Kinetics of cyclobutane thymine dimer splitting directly monitored in the UV**
Viruthachalam Thiagarajan¹, Martin Byrdin¹, AndréPM Eker², Pavel Müller¹, Klaus Brettel¹ (¹Gif-sur-Yvette, France; ²Rotterdam, Netherlands)
- P077 Assessment of the tissue oxygenation *in vivo* by measuring the luminescence lifetime of Ru(Phen)₃ 2+ as poorly photosensitizing probe**
Sandrine Gay, Rajendran Senthilkumar, Cedric Paulou, Patrycja Nowak-Sliwinska, Georges Wagnieres (Lausanne, Switzerland)
- P078 Photochemical and photophysical properties of dibenzoylmethane derivatives within protein**

Mireia Marin¹, Virginie Lhiaubet-Vallet¹, Cecilia Paris¹, Minoru Yamaji², Miguel Angel Miranda¹
(¹Valencia, Spain; ²Gunma, Japan)

- P079 Infrared light induced protective effect and transgenerational genetic instability on mice and their offspring**
Alsu R Dyukina, Svetlana I Zaichkina, Olga M Rozanova, Sergey P Romanchenko (Pushchino, Russian Federation)
- P080 Probing Lipid Peroxidation Using Linoleic Acid and Benzophenone as Paradigm**
Inmaculada Andreu (Valencia, Spain)
- P081 The photochemistry of 5-tert-butyl uracil**
M. Consuelo Cuquerella (Valencia, Spain)
- P082 Two-Photon Irradiation of an Intracellular Singlet Oxygen Photosensitizer: Achieving Localized Sub-Cellular Excitation in Spatially-Resolved Experiments**
Brian W Pedersen¹, Thomas Breitenbach¹, Robert W Redmond², Peter R Ogilby¹ (¹Aarhus, Denmark; ²Boston MA, United States)
- P083 Photoinduced aggregation in psoralen aqueous solutions and its role in hemolytic effects of photooxidized psoralen**
Mikhail V. Malakhov, Ilya A. Pyatnitskiy, Eugene V. Nevezhin, Alexey D. Ryabov, Alexander Ya. Potapenko (Moscow, Russian Federation)
- P084 Optical characterisation of biomaterial/radiation-exposed oral mucosa by reflection spectroscopy**
Lise L. Randeberg¹, Jon E. Dahl², Ellen M. Bruzell² (¹Trondheim, ²Oslo, Norway)
- P085 The role of microenvironment in generation of free radicals and singlet oxygen photosensitized by WST11**
Tomasz Oles, Grzegorz Szewczyk, Tadeusz Sarna (Kraków, Poland)
- P086 Dose-limiting progressive sunscreens. A new strategy for photoprotection?**
Adaya Gallardo (Barcelona, Spain)
- P087 Photomovement of *Dunaliella* Teod.**
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- P088 Narrowband Ultraviolet B phototherapy is a suitable treatment option for solar urticaria**
Marina Venturini, Maria Teresa Rossi, Raffaella Sala, Cristina Zane, Piergiacomo Calzavara-Pinton (Brescia, Italy)
- P089 Local angioedema following sun exposures: a report of five cases**
Marina Venturini, Maria Teresa Rossi, Raffaella Sala, Cristina Zane, Piergiacomo Calzavara-Pinton (Brescia, Italy)
- P090 Dermoscopic, histological and immunohistochemical evaluation of cancerous features in acquires melanocytic nevi that have been repeatedly exposed to UVA or UVB**
Marina Venturini, Ausilia Maria Manganoni, Maria Teresa Rossi, Raffaella Sala, Elena Sereni, Marco Ungari, Piergiacomo Calzavara-Pinton (Brescia, Italy)

