

13:00  
15:30

## Posters

- P001 Photodynamic therapy improvement with silica nanoparticles**  
Wioleta Borzecka<sup>1</sup>, Tito Trindade<sup>1</sup>, Tomás Torres<sup>2</sup>, João P.C. Tomé<sup>1</sup> (<sup>1</sup>Aveiro, Portugal; <sup>2</sup>Madrid, Spain)
- P002 New chlorin photosensitizers sterically-prevented from self-aggregation for cancer therapy**  
Irwin Alexander Patiño Linares<sup>1</sup>, Kleber Thiago de Oliveira<sup>2</sup>, Janice Perussi Rodrigues<sup>2</sup> (<sup>1</sup>São Paulo, SP, <sup>2</sup>São Carlos, SP, Brazil)
- P003 Aptamer-Phthalocyanine Conjugates, A New Approach For Photodynamic Therapy**  
Serkan Alpugan<sup>1</sup>, Devrim Atilla<sup>1</sup>, Vefa Ahsen<sup>1</sup>, Javed Niazi<sup>2</sup>, Fabienne Dumoulin<sup>1</sup> (<sup>1</sup>Kocaeli, <sup>2</sup>Istanbul, Turkey)
- P004 Octa sulfanyl non-peripheral phthalocyanines: design and synthetic challenges for NIR absorbing photosensitisers**  
Fabienne Dumoulin (Gebze Kocaeli, Turkey)
- P005 Octaglycosylated Porphyrins: Photosensitizing Glycoclusters**  
Serkan Alpugan<sup>1</sup>, Sébastien Vidal<sup>2</sup>, Fabienne Dumoulin<sup>1</sup> (<sup>1</sup>Kocaeli, Turkey; <sup>2</sup>Lyon, France)
- P006 Photostability of hydrophilic quantum dots in the presence of albumin and in the medium with algae cells**  
Agnė Kalnaitytė, Saulius Bagdonas, Ricardas Rotomskis (Vilnius, Lithuania)
- P007 Pluronic®P123/F127 mixed micelles as nanocarriers for benzoporphyrin derivatives applied to photodynamic therapy in cancer cells**  
Francesca Moret<sup>1</sup>, Diogo Silva Pellosi<sup>2</sup>, André Luiz Tessaro<sup>3</sup>, Elisa Gaio<sup>1</sup>, Elena Reddi<sup>1</sup>, Wilker Caetano<sup>2</sup>, Fabiana Quaglia<sup>4</sup>, Noboru Hioka<sup>2</sup> (<sup>1</sup>Padova, <sup>4</sup>Napoli, Italy; <sup>2</sup>Maringá, PR, <sup>3</sup>Apucarana, PR, Brazil)
- P008 Beta-functionalised water soluble porphyrins: new entries to conjugatable photosensitisers**  
Alessandro Pozzoli, Francesca Giuntini (Liverpool, United Kingdom)
- P009 Traversing the challenges of extended conjugation: Bacteriochlorins, a new era in theranostics**  
Miffy Hok Yan Cheng, Ross W. Boyle (Hull, United Kingdom)
- P010 Metallophthalocyanines Substituted with Naturally Occurred Amino Acids for Improved Photodynamic Therapy**  
Meliha Bahri Aliosman<sup>1</sup>, Vanya N Mantareva<sup>1</sup>, Mahmut Durmuş<sup>2</sup> (<sup>1</sup>Sofia, Bulgaria; <sup>2</sup>Gebze, Turkey)
- P011 Development and Biological Evaluation of Photosensitizer-Anti-HER2 Conjugates for Targeted Photodynamic Therapy of Gastric Cancer**  
Barbara Korsak<sup>1</sup>, Rudolf J. Schneider<sup>2</sup>, Bruno Sarmiento<sup>3</sup>, Carla Oliveira<sup>3</sup>, João P.C. Tomé<sup>1</sup> (<sup>1</sup>Aveiro, <sup>3</sup>Porto, Portugal; <sup>2</sup>Berlin, Germany)
- P012 EGFR targeted nanobody-photosensitizer conjugates for imaging and photodynamic therapy in head and neck cancer –first preclinical studies**  
Pieter B.A.A. van Driel<sup>1</sup>, Mark C. Boonstra<sup>1</sup>, Maxime D. Slooter<sup>1</sup>, Raimond Heukers<sup>2</sup>, Henriëtte S. de Bruijn<sup>3</sup>, Paul J. van Diest<sup>2</sup>, Alexander L. Vahrmeijer<sup>1</sup>, Paul M.P. van Bergen en Henegouwen<sup>2</sup>, Cornelis J.H. van de Velde<sup>1</sup>, Clemens W.G.M. Löwik<sup>1</sup>, Dominic J. Robinson<sup>3</sup>, Sabrina Oliveira<sup>2</sup> (<sup>1</sup>Leiden, <sup>2</sup>Utrecht, <sup>3</sup>Rotterdam, Netherlands)
- P013 New aza-BODIPY-Porphyrin Conjugates**  
Letícia D. Costa, M. Graça P.M.S. Neves, Augusto C. Tomé (Aveiro, Portugal)

- P014 Synthesis of low-molecular weight halogenated porphyrins for PDT applications**  
 Nuno P. F. Gonçalves, Gonçalo N. Costa, Carlos J. P. Monteiro, Fábio A. Schaberle, Mariette M. Pereira, Luís G. Arnaut (Coimbra, Portugal)
- P015 The Singlet Oxygen Strategy: sustainable oxidation procedures for applications in material science, synthesis, waste water treatment, diagnostics and therapeutics**  
Emily Lumley, Annemieke Madder (Ghent, Belgium)
- P016 New phthalocyanines bearing sulfonamide units**  
Raquel Sofia de Oliveira Nunes da Silva, Ângela Cunha, Adelaide Almeida, Augusto C. Tomé (Aveiro, Portugal)
- P017 Singlet molecular oxygen reaction with carnosine**  
 Adauto Luis Lorenzini Pessoa, Fernanda Manso Prado, Paolo Di Mascio, Marisa Helena Gennari Medeiros (São Paulo, SP, Brazil)
- P018 Going NIR! - Porphycene-ITCs for photo-theranostic applications**  
Oriol Planas, Cormac Hally, Òscar Gulias Borau, Thibault Gallavardin, Montserrat Agut, Santi Nonell (Barcelona, Spain)
- P019 Singlet oxygen and genetically-encoded flavin-binding fluorescent proteins: killing from the inside**  
Joaquim Torra<sup>1</sup>, Stephan Endres<sup>2</sup>, Marcus Wingen<sup>2</sup>, Thomas Drepper<sup>2</sup>, Thomas Gensch<sup>2</sup>, Rubén Ruiz-González<sup>1</sup>, Santi Nonell<sup>1</sup> (<sup>1</sup>Barcelona, Spain; <sup>2</sup>Jülich, Germany)
- P020 Polyacrylamide nanoprobess: a new scaffold for assessing singlet oxygen production in biological environments**  
Roger Bresolí Obach<sup>1</sup>, Rubén Ruiz-González<sup>1</sup>, Òscar Gulias Borau<sup>1</sup>, Montserrat Agut<sup>1</sup>, Huguette Savoie<sup>2</sup>, Ross W. Boyle<sup>2</sup>, Francesca Giuntini<sup>2</sup>, Santi Nonell<sup>1</sup> (<sup>1</sup>Barcelona, Spain; <sup>2</sup>Hull, United Kingdom)
- P021 The use of  $\beta$ -LG protein as nanocarrier for the natural photosensitizer hypericin. Influence of DMSO as a co-solvent in the photophysical and photoinactivation properties**  
 Pietro Delcanale<sup>1</sup>, Jordi Juárez-Jiménez<sup>2</sup>, Stefania Abbruzzetti<sup>1</sup>, Andrea Summer<sup>1</sup>, Montserrat Agut<sup>2</sup>, F. Javier Luque<sup>2</sup>, Santi Nonell<sup>2</sup>, Cristiano Viappiani<sup>1</sup> (<sup>1</sup>Parma, Italy; <sup>2</sup>Barcelona, Spain)
- P022 A novel photoreactivity of 9-substituted phenalenones**  
Òscar Gulias Borau<sup>1</sup>, Roger Bresolí Obach<sup>1</sup>, Rubén Ruiz-González<sup>1</sup>, Montserrat Agut<sup>1</sup>, Götz Bucher<sup>2</sup>, Santi Nonell<sup>1</sup> (<sup>1</sup>Barcelona, Spain; <sup>2</sup>Glasgow, United Kingdom)
- P023 PLA targeted nanoparticles for photodynamic therapy**  
Ester Boix<sup>1</sup>, Norbert Lange<sup>2</sup>, Santi Nonell<sup>1</sup>, Maria Lluïsa Sagristà<sup>1</sup>, Margarita Mora<sup>1</sup> (<sup>1</sup>Barcelona, Spain; <sup>2</sup>Geneva, Switzerland)
- P024 Novel activated glycodendrimer-based photosensitizers developed for photodynamic therapy**  
Jose Antonio Gonzalez-Delgado<sup>1</sup>, Barbara Korsak<sup>1</sup>, João P.C. Tomé<sup>2</sup>, Marta Ferreira<sup>1</sup>, Bruno Sarmento<sup>1</sup> (<sup>1</sup>Porto, <sup>2</sup>Aveiro, Portugal)
- P025 Multifunctional polymer-ruthenium cyclopentadienyl complexes: application as anticancer agents for photodynamic therapy**  
Fernanda Marques<sup>1</sup>, Adhan Pilon<sup>2</sup>, M. Amparo F. Faustino<sup>3</sup>, Hélia Jeremias<sup>2</sup>, Maria Helena Garcia<sup>2</sup>, Andreia Valente<sup>2</sup> (<sup>1</sup>Loures, <sup>2</sup>Lisboa, <sup>3</sup>Aveiro, Portugal)
- P026 Phototoxic potential of silymarin and its components**  
Alena Rajnochová Svobodová<sup>1</sup>, Michaela Psoťová<sup>1</sup>, Jitka Ulrichová<sup>1</sup>, Bohumil Zálešák<sup>1</sup>, David Biedermann<sup>2</sup>, Jitka Vostálová<sup>1</sup> (<sup>1</sup>Olomouc, <sup>2</sup>Prague, Czech Republic)
- P027 Planar sources of radiation for induction and monitoring of photodynamic processes *in vitro***  
Robert Bajgar, Hana Kolarova, Petr Kolar, Klara Pizova, Adela Hanakova (Olomouc, Czech Republic)
- P028 Synthetic Exendin-4 Analogues for Imaging Pancreatic Beta Cells**  
Karolina Janikowska, Vineetha Chellakudam, Andrej Babic, Laurent Vinet, Smaragda Lamprianou, Eric Allémann, Paolo Meda, Norbert Lange (Geneva, Switzerland)

- P029 New prodrugs for the systemic delivery of 5-aminolevulinic acid (5-ALA)**  
 Andrej Babic, Viktorija Herceg, Norbert Lange (Geneva, Switzerland)
- P030 *In vitro* characterization of near-infrared dyes for non-invasive optical diagnosis**  
Ana Catarina S. Lobo, Alexandre Silva, Mário J. F. Calvete, Mariette M. Pereira, Luís G. Arnaut (Coimbra, Portugal)
- P031 Role of Diclofenac Metabolites in Increasing its Photogenotoxic Potential**  
Inmaculada Andreu, Maria Dolores Coloma, Daniel Limones-Herreros, María Consuelo Jiménez, Miguel Angel Miranda (Valencia, Spain)
- P032 Biosynthesis of Metal Nanoparticles from Plant Extract**  
Shimaa Moustafa Ibrahim Alexeree, Mahmoud A. Sliem, Rehab M. Amin (Giza, Egypt)
- P033 CFM and FLIM analysis on A $\beta$ peptide: observation of viscosity changes in cell membrane and estimation of the effect of potential aggregation inhibitors on the formation of amyloid fibrils**  
 Antonella Battisti<sup>1</sup>, Antonella Sgarbossa<sup>2</sup>, Francesco Ghetti<sup>2</sup>, Silvia Vilasi<sup>1</sup>, Pier Luigi San Biagio<sup>1</sup>, Antonio Palumbo Piccionello<sup>1</sup>, Maria Grazia Ortore<sup>3</sup>, Ranieri Bizzarri<sup>2</sup> (<sup>1</sup>Palermo, <sup>2</sup>Pisa, <sup>3</sup>Ancona, Italy)
- P034 Photodynamic inactivation of bacteria by carboranyl-chlorin e6**  
 Pavel A. Nazarov, Elena O. Omarova, Alexander M. Firsov, Marina G. Strakhovskaya, Valentina A. Ol'shevskaya, Valery N. Kalinin, Elena A. Kotova, Yuri. N. Antonenko (Moscow, Russian Federation)
- P035 Subdiffraction localization of a nanostructured photosensitizer in bacterial cells**  
Pietro Delcanale<sup>1</sup>, Francesca Pennacchietti<sup>2</sup>, Giulio Maestrini<sup>1</sup>, Beatriz Rodríguez Amigo<sup>3</sup>, Paolo Bianchini<sup>2</sup>, Alberto Diaspro<sup>2</sup>, Alessandro Iagatti<sup>4</sup>, Barbara Patrizi<sup>4</sup>, Paolo Foggi<sup>4</sup>, Montserrat Agut<sup>3</sup>, Santi Nonell<sup>3</sup>, Stefania Abbruzzetti<sup>1</sup>, Cristiano Viappiani<sup>1</sup> (<sup>1</sup>Parma, <sup>2</sup>Genova, <sup>4</sup>Sesto Fiorentino, Florence, Italy; <sup>3</sup>Barcelona, Spain)
- P036 Action spectrum determination for the phototherapy of *H. pylori* infection in stomach tissue models**  
Giovanni Romano, Silvia Calusi, Barbara Orsini, Alessandro Filomena, Patrizia Pecile, Alessio Gnerucci, Franco Fusi (Florence, Italy)
- P037 Study of inactivation of *Listeria monocytogenes* with porphyrins and porphyrin-chitosan materials**  
Kelly A. D. F. Castro<sup>1</sup>, Nuno M. M. Moura<sup>1</sup>, Ana Fernandes<sup>1</sup>, M. Amparo F. Faustino<sup>1</sup>, Mário M. Q. Simões<sup>1</sup>, José A.S. Cavaleiro<sup>1</sup>, Shirley Nakagaki<sup>2</sup>, Adelaide Almeida<sup>1</sup>, Ângela Cunha<sup>1</sup>, Armando J. D. Silvestre<sup>1</sup>, Carmem S. R. Freire<sup>1</sup>, Ricardo J. B. Pinto<sup>1</sup>, M. Graça P.M.S. Neves<sup>1</sup> (<sup>1</sup>Aveiro, Portugal; <sup>2</sup>Curitiba, PR, Brazil)
- P038 Photoinactivation of *Staphylococcus aureus* using Rose Bengal or Methylene Blue alone or in combination with gentamicin, mupirocin or linezolid**  
Vanesa Pérez-Laguna<sup>1</sup>, Verónica Lampaya<sup>1</sup>, Luna Pérez-Artiaga<sup>1</sup>, Sofía Samper<sup>1</sup>, Lorena Fernández-Lacasta<sup>1</sup>, Yolanda Gilaberte<sup>2</sup>, Santi Nonell<sup>3</sup>, María Carmen Alejandre<sup>1</sup>, María José Revillo<sup>1</sup>, Antonio Rezusta<sup>1</sup> (<sup>1</sup>Zaragoza, <sup>2</sup>Huesca, <sup>3</sup>Barcelona, Spain)
- P039 Photoinactivation of *Pseudomonas aeruginosa* using Methylene Blue alone or in combination with Colistin**  
 Luna Pérez-Artiaga<sup>1</sup>, Vanesa Pérez-Laguna<sup>1</sup>, Verónica Lampaya<sup>1</sup>, Sofía Samper<sup>1</sup>, Alba Gimeno<sup>1</sup>, Yolanda Gilaberte<sup>2</sup>, Santi Nonell<sup>3</sup>, María Carmen Alejandre<sup>1</sup>, María José Revillo<sup>1</sup>, Antonio Rezusta<sup>1</sup> (<sup>1</sup>Zaragoza, <sup>2</sup>Huesca, <sup>3</sup>Barcelona, Spain)
- P040 Effect of photodynamic therapy on the virulence factors of *Staphylococcus aureus***  
Maria Manuel Bartolomeu, Sónia Rocha, Ângela Cunha, M. Graça P.M.S. Neves, M. Amparo F. Faustino, Adelaide Almeida (Aveiro, Portugal)
- P041 *In vitro* photodynamic inactivation of *Pseudomonas aeruginosa* using Methylene Blue in combination with gentamicin and different irradiation conditions**  
Vanesa Pérez-Laguna<sup>1</sup>, Verónica Lampaya<sup>1</sup>, Luna Pérez-Artiaga<sup>1</sup>, Yolanda Gilaberte<sup>2</sup>, Santi Nonell<sup>3</sup>, María Carmen Alejandre<sup>1</sup>, Pilar Soria<sup>1</sup>, María José Revillo<sup>1</sup>, Antonio Rezusta<sup>1</sup> (<sup>1</sup>Zaragoza, <sup>2</sup>Huesca, <sup>3</sup>Barcelona, Spain)

- P042 Photodynamic Inactivation of *Escherichia coli* with quaternized amphiphilic water-soluble Zn(II)phthalocyanines**  
Deisy Rocha, Nutalapati Venkatramaiah, Maria Clara Gomes, M. Amparo F. Faustino, Adelaide Almeida, Filipe Paz, Ângela Cunha, João P.C. Tomé (Aveiro, Portugal)
- P043 Photodynamic impact of quaternized mono- Lu(III) phthalocyanines towards representative pathogenic microorganisms**  
Vanya N Mantareva<sup>1</sup>, Meliha Bahri Aliosman<sup>1</sup>, Mahmut Durmuş<sup>2</sup>, Ivan Angelov<sup>1</sup>, Vesselin Kussovski<sup>1</sup> (<sup>1</sup>Sofia, Bulgaria; <sup>2</sup>Gebze, Turkey)
- P044 Control of fish parasite *Anisakis* by photodynamic reactions**  
Paula Ramos<sup>1</sup>, Pedro Silva<sup>1</sup>, Ana Grade<sup>1</sup>, M. Graça P.M.S. Neves<sup>2</sup>, M. Amparo F. Faustino<sup>2</sup>, Adelaide Almeida<sup>2</sup> (<sup>1</sup>Lisboa, <sup>2</sup>Aveiro, Portugal)
- P045 Photodynamic inactivation of microorganisms in wastewaters**  
Sílvia Reis, Ângela Cunha, M. Graça P.M.S. Neves, Milton Fontes, M. Amparo F. Faustino, Adelaide Almeida (Aveiro, Portugal)
- P046 Cytometric approach for evaluation of *Candida albicans* susceptibility to photodynamic antimicrobial chemotherapy with phenothiazinium photosensitizers**  
Gabriela Braga Rodrigues<sup>1</sup>, Mariana de S. L. Rambaldi<sup>1</sup>, Emerson de S. Santos<sup>1</sup>, Sérgio Akira Uyemura<sup>1</sup>, Mark Wainwright<sup>2</sup>, Gilberto Úbida Leite Braga<sup>1</sup> (<sup>1</sup>Ribeirão Preto, SP, Brazil; <sup>2</sup>Liverpool, United Kingdom)
- P047 Interactive effect of visible light and an extract of *Curcuma longa* on *Listeria* biofilms**  
Daniel Bonifácio, Joana Couceiro, Ana Aires Fernandes, M. Amparo F. Faustino, Adelaide Almeida, Ângela Cunha (Aveiro, Portugal)
- P048 *In Vitro* Photodynamic effect on *Staphylococcus aureus*: Protoporphyrin IX vs. PpIX-PLGA-PEG nanoparticles**  
Vanesa Pérez-Laguna<sup>1</sup>, Luna Pérez-Artiaga<sup>1</sup>, Verónica Lampaya<sup>1</sup>, Yolanda Gilaberte<sup>2</sup>, Ester Boix<sup>3</sup>, Oriol Planas<sup>3</sup>, Santi Nonell<sup>3</sup>, Sofia Samper<sup>1</sup>, María José Revillo<sup>1</sup>, Antonio Rezusta<sup>1</sup> (<sup>1</sup>Zaragoza, <sup>2</sup>Huesca, <sup>3</sup>Barcelona, Spain)
- P049 *In planta* photodynamic inactivation of the plant-pathogenic fungi *Colletotrichum acutatum* with methylene blue and solar radiation**  
Júlia Cunha Gonzales<sup>1</sup>, Gabriela Braga Rodrigues<sup>1</sup>, Luciano Bachmann<sup>1</sup>, Mark Wainwright<sup>2</sup>, Gilberto Úbida Leite Braga<sup>1</sup> (<sup>1</sup>Ribeirão Preto, SP, Brazil; <sup>2</sup>Liverpool, United Kingdom)
- P050 Photoinactivation of plant-pathogenic fungi *Colletotrichum acutatum* with coumarins and furocoumarins under solar radiation**  
Letícia Facarolli<sup>1</sup>, Gabriela Braga Rodrigues<sup>1</sup>, Júlia Cunha Gonzales<sup>1</sup>, Ana Carolina Pereira<sup>1</sup>, Luciano Bachmann<sup>1</sup>, Mark Wainwright<sup>2</sup>, Jairo Kenupp Bastos<sup>1</sup>, Gilberto Úbida Leite Braga<sup>1</sup> (<sup>1</sup>Ribeirão Preto, SP, Brazil; <sup>2</sup>Liverpool, United Kingdom)
- P051 *In Vitro* Photodynamic effect of methylene blue, protoporphyrin IX and curcumin on *Escherichia coli***  
Verónica Lampaya<sup>1</sup>, Vanesa Pérez-Laguna<sup>1</sup>, Luna Pérez-Artiaga<sup>1</sup>, Yolanda Gilaberte<sup>2</sup>, Sofia Samper<sup>1</sup>, Lorena Fernández<sup>1</sup>, María José Revillo<sup>1</sup>, Antonio Rezusta<sup>1</sup> (<sup>1</sup>Zaragoza, <sup>2</sup>Huesca, Spain)
- P052 *In Vitro* Photodynamic effect of Methylene Blue and Rose Bengal on *Streptococcus sanguis***  
Luna Pérez-Artiaga<sup>1</sup>, Vanesa Pérez-Laguna<sup>1</sup>, Verónica Lampaya<sup>1</sup>, Yolanda Gilaberte<sup>2</sup>, Sofia Samper<sup>1</sup>, María José Revillo<sup>1</sup>, Antonio Rezusta<sup>1</sup> (<sup>1</sup>Zaragoza, <sup>2</sup>Huesca, Spain)
- P053 Photodynamic Inactivation based on natural substances and derivatives thereof against *Candida albicans* and *Aspergillus niger***  
Barbara Schamberger<sup>1</sup>, Tim Maisch<sup>2</sup>, Andreas Spaeth<sup>2</sup>, Kristjan Plaetzer<sup>1</sup> (<sup>1</sup>Salzburg, Austria; <sup>2</sup>Regensburg, Germany)
- P054 Efficient removal of 17 $\beta$ -estradiol from aqueous media by visible-light assisted photosensitization and biodegradation**  
Lucía Fernández<sup>1</sup>, Adelaide Almeida<sup>1</sup>, Valdemar I. Esteves<sup>1</sup>, Ângela Cunha<sup>1</sup>, Rudolf J. Schneider<sup>2</sup>, João P.C. Tomé<sup>1</sup> (<sup>1</sup>Aveiro, Portugal; <sup>2</sup>Berlin, Germany)

- P055 Application of phthalocyanines and porphyrins in blood sterilization**  
Luís Carlos Teles, Leandro Lourenço, Ângela Cunha, M. Amparo F. Faustino, M. Graça P.M.S. Neves, José A.S. Cavaleiro, João P.C. Tomé, Adelaide Almeida (Aveiro, Portugal)
- P056 Singlet Oxygen Induced Furan Oxidation for Peptide Derivatisation**  
Eirini Antonatou<sup>1</sup>, Kurt Hoogewijs<sup>1</sup>, Dimitris Kalaitzakis<sup>2</sup>, Georgios Vassilikogiannakis<sup>2</sup>, Annemieke Madder<sup>1</sup> (<sup>1</sup>Ghent, Belgium; <sup>2</sup>Iraklion, Crete, Greece)
- P057 Reduced immune induction in imiquimod model of psoriasis by PUVA pretreatment**  
Nitesh Shirsath, Gerlinde Mayer, Jennifer Ober, Nina Schweintzger, Peter Wolf (Graz, Austria)
- P058 Vitamin D and ultraviolet phototherapy in Caucasians**  
Mantas Grigalavicius, Johan Moan, Arne Dahlback, Asta Juzeniene (Oslo, Norway)
- P059 PUVA-bath treatment experience in Graft Versus Host Disease from 2007 to the present time**  
Carolina Vila-Sava, Ana Maria Carrizosa-Esquivel, Agueda Pulpillo-Ruiz, Francisco Camacho (Seville, Spain)
- P060 A study on removal of non-pigmented hair using photodynamic therapy**  
Hyoseung Shin<sup>1</sup>, Ji-Seon Yoon<sup>2</sup>, Semchin Munkhbayer<sup>2</sup>, Ohsang Kwon<sup>2</sup> (<sup>1</sup>Goyang, <sup>2</sup>Seoul, Republic of Korea)
- P061 Excimer laser treatment for hypopigmentation after lichen striatus: A retrospective case series of 12 patients**  
Jung Min Bae, Han Mi Jung, Ji Yoon Choo, Ji Hae Lee, Gyong Moon Kim (Suwon, Republic of Korea)
- P062 Treatment of Nevus Depigmentosus using the 308-nm Excimer Laser: A Retrospective Study of 14 Patients**  
Jung Min Bae, Han Mi Jung, Ji Hae Lee, Gyong Moon Kim (Suwon, Republic of Korea)
- P063 Efficacy of extracorporeal photopheresis in the treatment of acute rejection after heart transplantation**  
Ulrike Just, Stephanie Wallner, Johannes Goekler, Robert Ullrich, Andreas Zuckermann, Robert Knobler (Vienna, Austria)
- P064 The expression patterns of antimicrobial peptides psoriasin, RNase7, HBD-2,-3 and LL37 in polymorphic light eruption**  
VijayKumar Patra, Gerlinde Mayer, Ulrike Schmidbauer, Alexandra Gruber-Wackernagel, Michael Horn, Peter Wolf (Graz, Austria)
- P065 An *in vivo* platform to study angiogenic sprouting and vessel formation following vascular photo-occlusion**  
Andrea B Weiss<sup>1</sup>, Hubert van den Bergh<sup>1</sup>, Arjan W. Griffioen<sup>2</sup>, Patrycja Nowak-Sliwinska<sup>2</sup> (<sup>1</sup>Lausanne, Switzerland; <sup>2</sup>Amsterdam, Netherlands)
- P066 Effect of Actinica®Lotion Sunscreen on Metvix Absorption in *Ex Vivo* Human Skin**  
Guy Bouvier<sup>1</sup>, Hanan Osman-Ponchet<sup>1</sup>, Karine Sevin<sup>1</sup>, Alexandre Gaborit<sup>1</sup>, Johanna Hanaizi<sup>1</sup>, Orla Duffy-Roger<sup>1</sup>, Pierre Comby<sup>1</sup>, Bernard Ruty<sup>1</sup>, Delphine Kerob<sup>2</sup> (<sup>1</sup>Sophia Antipolis, <sup>2</sup>Paris, France)
- P067 Role of Photostress-Induced NO in Bystander Cell Responses in a Prostate Cancer PDT Model**  
Jerzy Józef Bazak<sup>1</sup>, Witold Korytowski<sup>1</sup>, Albert W Girotti<sup>2</sup> (<sup>1</sup>Cracow, Poland; <sup>2</sup>Milwaukee, WI, United States)
- P068 New combined treatments to improve photodynamic and chemotherapeutic therapies**  
Ana Lázaro-Carrillo<sup>1</sup>, Andrea Tabero<sup>1</sup>, Beatriz Rodríguez Amigo<sup>2</sup>, Santi Nonell<sup>2</sup>, Margarita Mora<sup>2</sup>, Maria Lluïsa Sagristà<sup>2</sup>, Juan Carlos Stockert<sup>1</sup>, Magdalena Cañete<sup>1</sup>, Ángeles Villanueva<sup>1</sup> (<sup>1</sup>Madrid, <sup>2</sup>Barcelona, Spain)

- P069 Anticancer activity of 1,4-bis[2-(morpholin-4)ethoxy]phthalocyaninato zinc(II)- an *in vitro* evaluation of cancer cell death**  
Malgorzata Kucinska<sup>1</sup>, Wojciech Szczolko<sup>1</sup>, Marcin Wierzchowski<sup>1</sup>, Theresia Thalhammer<sup>2</sup>, Tomasz Goslinski<sup>1</sup>, Marek Murias<sup>1</sup> (<sup>1</sup>Poznan, Poland; <sup>2</sup>Vienna, Austria)
- P070 Controlling the anti-tumour activity of novel Pt(IV) complexes with green light**  
Julie A Woods<sup>1</sup>, Evyenia Shaili<sup>2</sup>, Jitka Prachařová<sup>3</sup>, Peter J Sadler<sup>2</sup> (<sup>1</sup>Dundee, <sup>2</sup>Coventry, United Kingdom; <sup>3</sup>Olomouc, Czech Republic)
- P071 Phthalocyanine gold nanoparticle conjugates for photodynamic cancer therapy**  
Paula Garcia Calavia, María J. Marín, Isabelle Chambrier, Michael J. Cook, David A. Russell (Norwich, United Kingdom)
- P072 Photodynamic therapy by using Ruthenium porphyrin on the AY27 rat bladder cancer cell line**  
Vanya Petkova Bogoeva<sup>1</sup>, Mikael Lindgren<sup>2</sup>, Monica Siksjø<sup>2</sup>, Kristin G. Sæterbø<sup>2</sup>, Thor Bernt Melø<sup>2</sup>, Astrid Bjørkøy<sup>2</sup>, Odrun Arna Gederaas<sup>2</sup> (<sup>1</sup>Sofia, Bulgaria; <sup>2</sup>Trondheim, Norway)
- P073 Analysis of vascular damages after photodynamic therapy using M-mode-like speckle variability approach**  
Marina Sirotkina<sup>1</sup>, Natalya Buyanova<sup>1</sup>, Vadim Elagin<sup>1</sup>, Tatyana Kalganova<sup>1</sup>, Lev Matveev<sup>1</sup>, Vladimir Zaitsev<sup>1</sup>, Grigory Geliconov<sup>1</sup>, Ludmila Snopova<sup>1</sup>, Sergey Kuznetsov<sup>1</sup>, Marina Shirmanova<sup>1</sup>, Alex Vitkin<sup>2</sup>, Elena Zagaynova<sup>1</sup>, Natalya Gladkova<sup>1</sup> (<sup>1</sup>Nizhny Novgorod, Russian Federation; <sup>2</sup>Toronto, ON, Canada)
- P074 Tumor selective PDT with an activatable photosensitizer targeted to gamma-glutamyl transpeptidase**  
Mayumi Chiba<sup>1</sup>, Yuki Ichikawa<sup>1</sup>, Mako Kamiya<sup>1</sup>, Norbert Lange<sup>2</sup>, Yasuteru Urano<sup>1</sup> (<sup>1</sup>Tokyo, Japan; <sup>2</sup>Geneva, Switzerland)
- P075 PDT in combination with the antitumoral drug doxorubicin: a potential therapeutic advantage**  
Andrea Tabero<sup>1</sup>, Ana Lázaro-Carrillo<sup>1</sup>, Ester Boix<sup>2</sup>, Santi Nonell<sup>2</sup>, Margarita Mora<sup>2</sup>, Maria Lluïsa Sagristà<sup>2</sup>, Juan Carlos Stockert<sup>1</sup>, Magdalena Cañete<sup>1</sup>, Ángeles Villanueva<sup>1</sup> (<sup>1</sup>Madrid, <sup>2</sup>Barcelona, Spain)
- P076 New spectral approach for monitoring of mTHPC redistribution in biological systems**  
Ilya Yakovets<sup>1</sup>, Igor Yankovsky<sup>1</sup>, Lina Bezdetnaya<sup>2</sup>, Vladimir Zorin<sup>1</sup> (<sup>1</sup>Minsk, Belarus; <sup>2</sup>Nancy, France)
- P077 *In vitro* assays of new proteolytically triggered drug delivery systems for selective photodynamic therapy**  
Jordan Bouilloux, Andrej Babic, Imene Ateb, Viktorija Herceg, Norbert Lange (Geneva, Switzerland)
- P078 Hyaluronic acid-ceramide nanoparticles for targeted photodynamic therapy in lung cancer**  
 Ji-Eun Chang (Seoul, Republic of Korea)
- P079 Protein damage caused by photodynamic treatment with new methylene blue as evaluated by two-dimensional electrophoresis and tandem mass spectrometry**  
 Guilherme Thomaz Pereira Brancini, Gabriela Braga Rodrigues, Clarice Izumi, Ana Patrícia Yatsuda, José César Rosa, Gilberto Úbida Leite Braga (Ribeirão Preto, São Paulo, Brazil)
- P080 Effect of Sunscreen on Protoporphyrin IX Photobleaching in *Ex Vivo* Human Skin**  
Bouvier Guy, Sevin Karine, Gaborit Alexandre, Comby Pierre, Ruty Bernard, Osman-Ponchet Hanan (Sophia Antipolis, France)
- P081 Biocompatible polymer brushes nanoparticles doped with tetra(4-fluorophenyl)tetracyanoporphyrazine as potential photosensitizer for fluorescence diagnostics and photodynamic therapy**  
Natalia Shilyagina<sup>1</sup>, Nina Peskova<sup>1</sup>, Svetlana Lermontova<sup>1</sup>, Alexander Yakimansky<sup>2</sup>, Sergey Gamayunov<sup>1</sup>, Larisa Klapshina<sup>1</sup>, Irina Balalaeva<sup>1</sup> (<sup>1</sup>Nizhny Novgorod, <sup>2</sup>St.Petersburg, Russian Federation)
- P082 Photodynamic killing of B16 melanoma cells by functionalized fullerenes**  
Anna Magdalena Kozińska, Andrzej Zadło, Wojciech Gawlik, Tadeusz J. Sarna (Krakow, Poland)

- P083 Riboflavin-Silica nanoparticles phototoxicity on human tumoral cells**  
 Marcelo Muñoz<sup>1</sup>, Natalia Lopez<sup>1</sup>, Emilio Alarcon<sup>2</sup>, Liane Rossi<sup>3</sup>, Ana Maria Edwards<sup>1</sup> (<sup>1</sup>Santiago, Chile; <sup>2</sup>Ottawa, ON, Canada; <sup>3</sup>São Paulo, SP, Brazil)
- P084 Targeting Energy Metabolism of Tumor to Enhance PDT**  
Joana Rua da Silva Campos, Hélder Tão Soares, Luís G. Arnaut (Coimbra, Portugal)
- P085 Immobilized chlorin derivatives and its reusability on Photodynamic inactivation of bioluminescent *E. coli***  
 Mariana Mesquita, Jose C. J. M. D. S. Menezes, M. Graça P.M.S. Neves, José A.S. Cavaleiro, Ângela Cunha, Adelaide Almeida, M. Amparo F. Faustino (Aveiro, Portugal)
- P086 Development of Prophylactic Antitumour Vaccines Generated by PDT**  
Ana Mata, Lígia Gomes-da-Silva, Hélder Tão Soares, Luís G. Arnaut (Coimbra, Portugal)
- P087 The role of lymphatic vessels in photodynamic therapy-elicited induction of antitumor immune response**  
Angelika Muchowicz<sup>1</sup>, Małgorzata Wachowska<sup>1</sup>, Joanna Stachura<sup>1</sup>, Witold Waldemar Kilarski<sup>2</sup>, Jakub Golab<sup>1</sup> (<sup>1</sup>Warsaw, Poland; <sup>2</sup>Chicago, IL, United States)
- P088 Comparative study of photodynamic activity of hypericin using Primary Dermal Fibroblasts (PCS-201-012) and Human epidermal keratinocyte (HEK001)**  
Gislaine Patricia de Andrade, Giselle Cerchiaro, Anderson Orzari Ribeiro (Santo André, SP, Brazil)
- P089 Investigation of cell death mechanism in human lymphatic endothelial cells subjected to PDT**  
Małgorzata Wachowska<sup>1</sup>, Agata Osiak<sup>1</sup>, Magdalena Gabrysiak<sup>2</sup>, Angelika Muchowicz<sup>1</sup>, Jakub Golab<sup>1</sup> (<sup>1</sup>Warsaw, Poland; <sup>2</sup>London, United Kingdom)
- P090 Interactive effects of UV radiation and ammonium on the bio-optics, photosynthesis, antioxidants and the accumulation of UV screen photoprotectors in red macroalgae**  
Félix Alvarez, Nathalie Korbee, Felix L. Figueroa (Malaga, Spain)
- P091 Effect of UVB radiation on metabolic profile of *Moringa oleifera* Lam. leaves**  
Ana Filipa Fradinho<sup>1</sup>, Maria Costa<sup>2</sup>, Diana Pinto<sup>1</sup>, Artur Silva<sup>1</sup>, Conceição Santos<sup>3</sup>, Maria Celeste Pereira Dias<sup>1</sup> (<sup>1</sup>Aveiro, <sup>3</sup>Porto, Portugal; <sup>2</sup>Dili, Timor-Leste)
- P092 The photoreceptor of ultraviolet-B radiation (UVR8) in the liverwort *Marchantia polymorpha***  
Gonzalo Soriano Sancha<sup>1</sup>, Javier Martínez-Abaigar<sup>1</sup>, Encarnación Núñez-Olivera<sup>1</sup>, Gareth I Jenkins<sup>2</sup> (<sup>1</sup>Logroño, Spain; <sup>2</sup>Glasgow, United Kingdom)
- P093 How UVB radiation can affect light-dependent reactions of photosynthesis on *Olea europaea*?**  
Maria Celeste Pereira Dias<sup>1</sup>, Márcia Araujo<sup>1</sup>, Carlos Correia<sup>2</sup>, José Moutinho-Pereira<sup>2</sup>, Artur M.S. Silva<sup>1</sup>, Conceição Santos<sup>3</sup> (<sup>1</sup>Aveiro, <sup>2</sup>Vila Real, <sup>3</sup>Porto, Portugal)
- P094 Both UV photoreceptors UVR8 and CRY regulate transcript accumulation in *Arabidopsis thaliana* in sunlight**  
Neha Rai, Luis O. Morales, Pedro José Aphalo (Helsinki, Finland)
- P095 Roles of CRYs and UVR8 in sunlight-induced accumulation of phenolics in *Arabidopsis***  
Sari Marjatta Siipola, Neha Rai, Nina Sipari, Luis O. Morales, Pedro José Aphalo (Helsinki, Finland)
- P096 R packages for photobiology**  
 Pedro José Aphalo (Helsinki, Finland)
- P097 Effect of UV-B exposure on the growth and gene expression in basil**  
Minjie Qian, Irina Kalbina, Åke Strid (Örebro, Sweden)
- P098 Variation potential induced changes in photosynthesis, respiration and ATP content in pea**  
Lyubov Mikhailovna Surova, Oksana Sherstneva, Vladimir Vodeneev, Mariya Kudryavtseva, Vladimir Sukhov (Nizhny Novgorod, Russian Federation)

- P099 Detecting hydrogen-peroxide in tobacco leaves responding to light stress**  
Anikó Mátai, Gyula Czégény, Éva Hideg (Pécs, Hungary)
- P100 Investigating an unusual colour development in grape berry skins of 'Gohér'vine**  
Brigitta Éva Végh<sup>1</sup>, Péter Teszlák<sup>1</sup>, László Sass<sup>2</sup>, Éva Hideg<sup>1</sup>, Gábor Jakab<sup>1</sup> (<sup>1</sup>Pécs, <sup>2</sup>Szeged, Hungary)
- P101 Europium labeled luminescent bacteria *Bacillus tequilensis* in *Agave tequilana* tissue**  
 Katia Roberta Prieto<sup>1</sup>, Fernanda Manso Prado<sup>1</sup>, Ivan Guide Nunes Silva<sup>1</sup>, Hermi Felinto Brito<sup>1</sup>, Maria Claudia França Cunha Felinto<sup>1</sup>, Marisa Helena Gennari Medeiros<sup>1</sup>, Miguel Juan Beltrán-García<sup>2</sup>, Paolo Di Mascio<sup>1</sup> (<sup>1</sup>São Paulo, SP, Brazil; <sup>2</sup>Guadalajara, Jalisco, Mexico)
- P102 Interactions of *Arabidopsis* blue light receptor phototropin1 with SUMO (Small Ubiquitin-related MODifier) protein**  
Dominika Jagiełło-Flasińska, Olga Sztatelman, Weronika Krzeszowiec-Jeleń, Halina Gabryś (Krakow, Poland)
- P103 Light-controlled recombinant protein production in Yeast**  
Peter Martin Kusen, Sonja Meyer zu Berstenhorst, Jörg Pietruszka (Düsseldorf, Germany)
- P104 Opsin Availability Prevents the Formation of Lipofuscin Precursors from 11-cis Retinal in Human Rod Photoreceptor Outer Segments**  
Leopold Adler IV<sup>1</sup>, Chen Chunhe<sup>1</sup>, Federico Gonzalez-Fernandez<sup>2</sup>, Yiannis Koutalos<sup>1</sup> (<sup>1</sup>Charleston, SC, <sup>2</sup>Jackson, MS, United States)
- P105 Caged Compounds for Biotechnological and Synthetic Biological Applications**  
 Claus Bier (Juelich, Germany)
- P106 FluBpH: a novel FbFP- based biosensor platform for intracellular pH imaging**  
Christian Rupprecht, Thomas Gensch, Karl-Erich Jaeger, Thomas Drepper (Jülich, Germany)
- P107 The role of MCP1P1 in UVA-induced oxidative damage in HaCaT cells**  
Marta Smejda, Anna Adamczyk, Jolanta Jura, Agnieszka Wolnicka-Głubisz (Krakow, Poland)
- P108 Aberrant epigenetic alterations in UV-induced human skin cancer**  
I-Peng Chen, Stefan Henning, Sarah Degenhardt, Rüdiger Greinert, Beate Volkmer (Buxtehude, Germany)
- P109 Photodegradation of 6-monoacetylmorphine and morphine in solution and in the solid state under controlled UVB/UVA light**  
Giorgia Miolo<sup>1</sup>, Gianfranco Canti<sup>2</sup>, Marianna Tucci<sup>1</sup>, Donata Favretto<sup>1</sup> (<sup>1</sup>Padova, <sup>2</sup>Milano, Italy)
- P110 Effects of skin UV light exposure on the immune response against a pathogen and a vaccine**  
 Eliana Cela, Valeria Campo, Cintia González, Adrian Friedrich, Camila Ledo, Mariela Paz, Marisa Gomez, Juliana Leoni, Daniel González Maglió (Buenos Aires, Argentina)
- P111 Photodamage to isolated and cellular DNA promoted by N-dealkylated biotransformation products of chlorpromazine**  
Fabrizio Palumbo, Maria Dolores Coloma, Jose Vicente Castell, Inmaculada Andreu, Miguel Angel Miranda (Valencia, Spain, Spain)
- P112 UVA fluence rate effects on melanoma cells**  
Marina Juraleviciute, Asta Juzeniene (Oslo, Norway)
- P113 Photogeneration of the 5,6-dihydrothymine-5-yl radical**  
M. Isabel Aparici-Espert, Virginie Lhiaubet-Vallet, Miguel Angel Miranda (Valencia, Spain)
- P114 Detection of hydroperoxides in photooxidized psoralen solutions**  
 Eugeny V. Nevezhin, Vladislav V. Skarga, Anton A. Matrosov, Ochir K. Migyaev, Mikhail V. Malakhov (Moscow, Russian Federation)
- P115 CIE, Vitamin D and DNA damage: A synergetic study in Thessaloniki, Greece**



Melina Maria Zempila<sup>1</sup>, Ilias Fountoulakis<sup>1</sup>, Alkiviadis Bais<sup>1</sup>, Michael Taylor<sup>2</sup>, Maria Elissavet Koukoulis<sup>1</sup>, Charikleia Meleti<sup>1</sup>, Natalia Kouremeti<sup>3</sup>, Stelios Kazadzis<sup>3</sup>, Dimitrios Balis<sup>1</sup>, Andreas Kazantzidis<sup>4</sup> (<sup>1</sup>Thessaloniki, <sup>2</sup>Athens, <sup>4</sup>Patras, Greece; <sup>3</sup>Davos, Switzerland)

- P116 Synthesis and photoreduction of an azetidine model to mimic (6-4) photoproduct repair**  
Ana Belén Fraga Timiraos, Virginie Lhiaubet-Vallet, Miguel Angel Miranda (Valencia, Spain)
- P117 UVR3: expression pattern, localisation and activity of a 6,4-photoproducts specific photolyase**  
Piotr Zgłobicki<sup>1</sup>, Justyna Łabuz<sup>1</sup>, Chhavi Aggarwal<sup>2</sup>, Agnieszka Katarzyna Banaś<sup>1</sup> (<sup>1</sup>Krakow, <sup>2</sup>Poznań, Poland)
- P118 Effects of silymarin and its flavonolignans on UVA-induced damage to normal human fibroblasts**  
Jitka Vostálová<sup>1</sup>, Alena Rajnochová Svobodová<sup>1</sup>, Jitka Ulrichová<sup>1</sup>, Bohumil Zálešák<sup>1</sup>, David Biedermann<sup>2</sup> (<sup>1</sup>Olomouc, <sup>2</sup>Prague, Czech Republic)
- P119 Evaluation of the Photoprotective Efficacy of UV Filters/Sunscreens on Human Dermal Fibroblasts Exposed to UVA Radiation**  
Elisabetta Damiani, Francesca Brugè, Paola Astolfi, Fabio Marcheggiani, Luca Tiano (Ancona, Italy)
- P120 Human Hair as a Natural Sun Protection Agent: A Quantitative Study**  
Maria Victoria De Gálvez Aranda, Jose Aguilera Arjona, Jean Luc Bernabó, Cristina Sánchez Roldán, Enrique Herrera-Ceballos (Málaga, Spain)
- P121 Brimonidine treatment delays skin tumor development and decreases epidermal hyperplasia and keratinocyte proliferation in UV-exposed hairless mice**  
Guy Bouvier<sup>1</sup>, Christelle Nonne<sup>1</sup>, Gérard Feraille<sup>1</sup>, Douglas Learn<sup>2</sup>, Emmanuel Vial<sup>1</sup>, Bernard Ruty<sup>1</sup> (<sup>1</sup>Sophia Antipolis, France; <sup>2</sup>Horsham, PA, United States)
- P122 Synergic effect of UV light and MAL-PDT in primary fibroblasts isolated from Xeroderma Pigmentosum and Gorlin Syndrome patients**  
Alicia Zamarrón, Silvia Rocío Lucena, Marta Mascaraque, Marcela del Río, Ángeles Juarranz, Fernando Larcher (Madrid, Spain)
- P123 Singlet Oxygen Triggered Cross-linking of DNA**  
Nathalie De Laet, Annemieke Madder (Ghent, Belgium)
- P124 Furan-modified nucleic acid probes and singlet oxygen: a crosslinking story**  
Eva M. Llamas<sup>1</sup>, Barbara Korsak<sup>2</sup>, João P.C. Tomé<sup>2</sup>, Tomás Torres<sup>3</sup>, Annemieke Madder<sup>1</sup> (<sup>1</sup>Ghent, Belgium; <sup>2</sup>Aveiro, Portugal; <sup>3</sup>Madrid, Spain)
- P125 Photoacoustic waves applied to gene transfection *in vitro***  
Alexandre Duarte Silva, Carlos Serpa, Luís G. Arnaut (Coimbra, Portugal)
- P126 Singlet Oxygen: applications in the field of immunochemistry diagnostics and oligonucleotides based diagnostics**  
Patrick Barhoum<sup>1</sup>, Jürgen Schliepe<sup>1</sup>, Annemieke Madder<sup>2</sup> (<sup>1</sup>Berlin, Germany; <sup>2</sup>Ghent, Belgium)
- P127 Photodynamic inactivation of the phytopathogenic fungus *Colletotrichum graminicola* promoted by cationic porphyrins**  
Camila Chevonica Vandresen, Alan Guilherme Gonçalves, Diogo Bazan Ducatti, Miguel Daniel Nosedá, Maria Eugênia Rabelo Duarte, Sandra Mara Woranovicz Barreira (Curitiba, PR, Brazil)