



Programme Titles Presenters Topics

Division 3 - Photosynthesis, Bio & Chemiluminescence

### Division 3 - Photosynthesis, Bio & Chemiluminescence

Properties of photosystem ii (psii) in arabidopsis thaliana "lpa1" and chlamydomonas reinhardtii "rep27" mutants under photoinhibitory and recovery conditions

*David Dewez\**, *Jose Gines Garcia-Cerdan*, *Sungsoon Park*, *Wolfgang P. Schroeder*, *Anastasios Melis*

Posters: Poster session

REP27, a tetratricopeptide repeat nuclear-encoded and chloroplast-localized protein functions in the D1/32 kD reaction center protein turnover and photosystem-II repair from photodamage.

*Sungsoon Park\**, *David Dewez*, *Anastasios Melis*

Tuesday, June 24: TAM6-Contributed Papers - D - 11:00AM - 1:00PM

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### Division 2 - Photosensory & Circadian Biology

Bacterial bilin- and flavin-binding photoreceptors

*Wolfgang Gaertner*, *Aba Losi\**

Posters: Poster session

Detection of blue light receptor genes from metagenomic DNA using a microarray approach

*Gopal Pathak*, *Armin Ehrenreich*, *Wolfgang Streit*, *Aba Losi*, *Wolfgang Gaertner\**

Posters: Poster session

Diversity and evolution of LOV-dependent blue-light signaling proteins

*Ulrich Krauss*, *Bui Quang Minh*, *Aba Losi*, *Wolfgang Gaertner\**, *Thorsten Eggert*, *Arndt v. Haeseler*, *Karl-Erich Jaeger*

Posters: Poster session

Enabling plants to tolerate the shade with bathochromic Phytochromes A

*Yun-Jeong Han*, *Yong-Min Kim\**, *Min-Gon Kim*, *Jeong-Il Kim*, *Pill-Soon Song*

Posters: Poster session

Photoreversibility of fruiting in oriental melon (Cucumis Melo L.)

*Seung Chang Hong\**, *Pyung Gyun Shin*, *An Cheol Chang*, *Ki Sang Lee*, *Chul Won Lee*

Posters: Poster session

Ultrafast dynamics and anionic active states of the flavin cofactor in cryptochrome and photolyase

*Dongping Zhong\**

Monday, June 23: MAM3-Contributed Papers - C - 8:30AM - 10:30AM

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### Division 1 - Photochem, Photophysics & Photo Tec

Binding characteristics of a photochromic calcium-chelating naphthopyran

*Satish Kumar*, *Julie Yang*, *Brenda Hoa*, *Alison McCurdy\**

Posters: Poster session

Fluorescence diagnostic imaging of lesions in the human oral cavity using hypericin

*Patricia Soo-Ping Thong\**, *William Wei-Lim Chin*, *Ramaswamy Bhuvaneshwari*, *Kiang-Wei Kho*, *Kent Mancer*, *Malini Olivo*, *Khee-Chee Soo*

Sunday, June 22: SNAM3-Contributed Papers - B - 8:30AM - 10:30AM

Identification of free radicals induced by UV irradiation in collagen water solutions

*Marine Dgebuadze\**, *Nunu Metreveli*, *Louisa Namicheishvili*, *Keteven Jariashvili*, *Eduard Chikvaidze*, *Alina Sionkowska*  
Posters: Poster session

Interaction between 7-mercapto-4-methylcoumarin and CdSe quantum dots

*María González-Béjar\**, *Mathieu Frenette*, *Juan Cesar Scaiano*  
Monday, June 23: MAM3-Contributed Papers - C - 8:30AM - 10:30AM

Investigating the role of adenine in the FAD of DNA photolyase

*Madhavan Narayanan\**, *Robert Stanley*  
Posters: Poster session

Making Quantum Dots more luminescent by Sulfur photocuring without compromising sensor response

*Laetitia Rene-Boisneuf\**, *J. C. Scaiano*  
Tuesday, June 24: TAM6-Contributed Papers - D - 11:00AM - 1:00PM

Photochemical cooperativity in photosystem II reaction center

*Venkataramanaiah Viruvuru*, *Mario Fragata\**  
Posters: Poster session

Phototriggered liposomal release

*Imene Chebbi\**, *Daniel Brault*, *Marc Lecouvey*, *Evelyne Migianu*, *Olivier Seksek*  
Posters: Poster session

Resonance Raman studies of mitoNEET: pH and pioglitazone binding effects

*Timothy Tirrell\**, *Mark Paddock*, *Andrea Conlan*, *Patricia Jennings*, *Judy Kim*  
Sunday, June 22: SNAM3-Contributed Papers - B - 8:30AM - 10:30AM

Study of interaction of Hypericin in U-87MG cell line using synchrotron based Fourier transform infrared microspectroscopy.

*Luboslava Buriankova*, *Matthieu Refregiers*, *Sirinart Srichan*, *Veronika Huntosova\**, *Paul Dumas*, *Pavol Miskovsky*  
Posters: Poster session

Synthesis and photophysical properties of functional macromolecules from short Single Walled Carbon Nanotubes (sSWNT), (4,4'-diphenylvinyl)-sSWNT and (alkyl-azaxanthone)-sSWNT.

*Roberto Martin*, *Liliana Jimenez\**, *Juan C. Scaiano*, *Hermenegildo Garcia*  
Posters: Poster session

The excited states of fluorescent adenine analogs: An Ab Initio and stark spectroscopic study of 2-Aminopurine and 8-Vinyladenine.

*Goutham Kodali\**, *Kurt Kistler*, *Spiridoula Matsika*, *Robert Stanley*  
Posters: Poster session

The role of naturally occurring sensitizers in the formation of free radicals in the photolysis of Xenobiotics

*Bernadette Marquez*, *Peter de Lijser\**  
Posters: Poster session

Ultrafast excited state Isomerization in phytochrome revealed by femtosecond stimulated Raman spectroscopy.

*Jyotishman Dasgupta\**, *Renee Frontiera*, *Keenan Taylor*, *J. Clark Lagarias*, *Richard Mathies*  
Saturday, June 21: SAM4-Contributed Papers - A - 11:00AM - 1:00PM

Ultrafast excited-state structural dynamics of GFP observed by femtosecond stimulated Raman spectroscopy.

*Chong Fang\**, *Rosalie Tran*, *Renee Frontiera*, *Richard A. Mathies*  
Wednesday, June 25: WAM4-Contributed Papers - E - 11:00AM - 1:00PM

Using principal component analysis to determine Photofrin content from reflectance spectra

*Daryl Reynolds\**, *Norris Preyer*, *Linda Jones*, *Jane Buchanan*, *Marquitta Scott*, *Herbert Wolfson*, *Kanwar Gill*, *Michael Wallace*

Posters: Poster session

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## Division 5 - Environmental Photobiology & UV Effects

Action spectrum conversion factors that change Erythemally weighted to previtamin D3 weighted UV Doses

*Stanley Pope*, *Michael Holick*, *Steven Mackin*, *Dianne Godar\**  
Sunday, June 22: SNAM3-Contributed Papers - B - 8:30AM - 10:30AM

Characterising the influence on human UV exposures due to reflective vertical surfaces

*Joanna Turner\**, *Alfio V Parisi*  
Tuesday, June 24: TAM6-Contributed Papers - D - 11:00AM - 1:00PM

Cv-pdg Facilitates repair of UVB-Induced DNA damage in skin

*Jodi Johnson\**, *Brian Lowell*, *R. Stephen Lloyd*, *Amanda McCullough*  
Posters: Poster session

Exposure of human reconstructed skin to low dose of daily ultraviolet radiation revealed a different oxidative stress response in keratinocytes and fibroblasts.

*Claire Marionnet\*, Cécile Pierrard, Juliette Sok, François Lejeune, Marie Thomas, Françoise Bernerd*

Posters: Poster session

G+C content of genomes is a key parameter for the distribution of UVB-induced bipyrimidine DNA photoproducts

*Thierry DOUKI\*, Sabine Matallana-Surget, Jarah A. Meador, Fabien Joux*

Wednesday, June 25: WAM4-Contributed Papers - E - 11:00AM - 1:00PM

Geometry conversion factors that change UV doses relative to the horizontal plane to doses Relevant to the human body

*Stanely Pope, John Streicher, Dianne Godar\**

Saturday, June 21: SAM4-Contributed Papers - A - 11:00AM - 1:00PM

Neonatal exposure to ultraviolet radiation leads to immune suppression, potentially mediated by T regulatory cells

*Heather McGee\*, H.K. Muller, Greg Woods*

Wednesday, June 25: WAM4-Contributed Papers - E - 11:00AM - 1:00PM

Photoimmunomodulation in cosmetics

*Priscila Menezes\*, Carlos Praes, Israel Feferman, Vanderlei Bagnato, Cladio Sibata*

Posters: Poster session

Phototoxicity of pristine (C60) and hydroxylated [C60(OH)24] fullerene towards keratinocytes

*Baozhong Zhao\*, Yu-Ying He, Piotr J. Bilski, Colin F. Chignell*

Posters: Poster session

Proteomic response of the Sea Urchin *Strongylocentrotus purpuratus* early cleavage embryo to ultraviolet radiation

*Joseph Campanale\*, Lars Tomanek, Nikki Adams*

Posters: Poster session

Prevention of genomic damage afforded by three sunscreen products having the same SPF: Beneficial effect of Mexoryl SX

*Laurent Marrot\*, Jean-Philippe Belaïdi, Isabelle Hansenne, Jean-Roch Meunier*

Posters: Poster session

Properties of UVA or UVB irradiated quercetin, a potential topical photoprotectant

*Brian Fahlman\*, Ed Krol*

Posters: Poster session

Quantitative assessment of genotoxicity induced by simulated solar UV on a reconstructed skin model EPISKIN

*Laurent Marrot\*, Emilie Planel, Nathalie Boyera, Jean-Philippe Belaïdi, Christophe Jones, Perez Philippe, Jean-Roch Meunier*

Posters: Poster session

Quantification of total and deleted mitochondrial DNA copies in Chinese hamster fibroblasts expressing mutations in the nuclear genes coding for succinate dehydrogenase (SDH)

*Helene Hill\*, Douglas Spitz, James Dermody, Robert Donnelly, Disha Dayal, Kjerstin Owens*

Monday, June 23: MAM3-Contributed Papers -C - 8:30AM - 10:30AM

The ideal sunscreen protects against sunburn, skin photo aging and skin cancer but still allows the synthesis of Vitamin D3 in the skin - an in vitro and in silico assessment of past, current and future sunscreens.

*Uli Osterwalder\*, Bernd Herzog*

Sunday, June 22: SNAM3-Contributed Papers - B - 8:30AM - 10:30AM

Ultraviolet-A radiation induces changes in cyclin G gene expression in mouse melanoma cells

*Riikka Pastila\*, Dariusz Leszczynski*

Saturday, June 21: SAM4-Contributed Papers - A - 11:00AM - 1:00PM

UV Radiation induces mutations in the PTEN gene in melanomas from xeroderma pigmentosum patients

*YUN WANG\*, John DiGiovanna, Jere Stern, Thomas Hornyak, Mark Raffeld, Sikandar Khan, Kyu Seon Oh, Kenneth Kraemer*

Posters: Poster session

UV-induced histone H2AX phosphorylation and recruitment of double strand break related proteins in XP-B cells

*Kyu-Seon Oh\*, Michael Bustin, Kenneth Kreamer*

Monday, June 23: MAM3-Contributed Papers -C - 8:30AM - 10:30AM

Validation of bio-behavioral measurement methods of sun exposure for skin cancer prevention research in Southern Arizona high school students

*Naja McKenzie\*, Elisabeth Thieden, Jakob Heidenreich*

Sunday, June 22: SNAM3-Contributed Papers - B - 8:30AM - 10:30AM

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## Division 4 - Photomedicine

Advanced glycation endproducts as Type I photosensitizers in the eye lens

*Denis Fuentealba\*, Bertrand Friguet, Eduardo Silva*

Posters: Poster session

Antimicrobial photodynamic therapy (APDT) in treatment of a tuberculosis. The first clinical results

*Nick Vasiliev\**

Saturday, June 21: SAM4-Contributed Papers - A - 11:00AM - 1:00PM

Application of Suzuki reaction for the regioselective synthesis of Meso-Substituted photosensitizers with and without tumor imaging ability

*Manivannan Ethirajan\*, Chao Liu, Mahabeer Dobhal, Joseph Missert, Ravindra Pandey*

Posters: Poster session

Cationic Fullerenes as photosensitizers for Photodynamic Therapy

*Tim Wharton Wharton\*, Michael R. Hamblin*

Posters: Poster session

Combination of photodynamic therapy and surgery for multiple primary lung cancer

*Taichiro Ishizumi\*, Jitsuo Usuda, Shuji Ichinose, Keishi Ohtani, sachio Maehara, Yoshihiko Tsunoda, Tetsuya Okunaka, Norihiko Ikeda*

Posters: Poster session

DNA damage induction and repair in human respiratory epithelium and human epidermis exposed to broadband ultraviolet radiation.

*David Mitchell\*, Edina Garaczi, Zsolt Bella, Lajos Kemeny, Andrea Koreck, Guillermo Sanchez*

Monday, June 23: MAM3-Contributed Papers - C - 8:30AM - 10:30AM

Dynamics of ultrastructural changes in the isolated neuron under photodynamic impact

*Anatoly Uzdensky\**

Posters: Poster session

Effects of chitosan nanoparticles on the uptake and phototoxicity of delta-aminolevulinic acid

*Maria Perde-Schrepler\*, Ioana Brie, Pirooska Virag, Ion Dan Postescu, Olga Soritau, Eva Fischer-Fodor, Gabriela Chereches, Corina Tatomir, Simina Dreve*

Posters: Poster session

Effects of topically-applied hydroxyacids on UV-Induced erythema assessed by Digital Image Analysis (DIA)

*RongRong WEI\*, Donnie Lowther, Andrija Kornhauser*

Posters: Poster session

Ferric Chloride mediated oxidation of bacteriochlorins. first synthesis of pyrrole "B" reduced Free-base and Metallated Photosensitizers for Tumor-Imaging and Photodynamic Therapy (PDT)

*Chao Liu\*, Mahabeer Dobhal, Tymish Ohulchanskyy, Janet Morgan, Yihui Chen, Joseph Missert, Munawwar Sajad, Hani Nabi, Ulas Sunar, William Potter, Earl Bergey, Paras Prasad, Allan Oseroff, Ravindra Pandey*

Monday, June 23: MAM1-Contributed Paper - F - 8:30AM - 10:30AM

Functional melanocortin 1 receptor (MC1R) is not necessary for an inflammatory response to UV radiation in adult mouse skin

*Agnieszka Wolnicka-Glubisz, Frances Noonan\*, Edward De Fabo*

Posters: Poster session

Indocyanine Green enhanced non-invasive laser thermal ablation of experimental breast carcinoma

*Robert Griffin\*, Cassie Jackson, Jeffrey Myhill, Petr Novak, Gal Shafirstein*

Tuesday, June 24: TAM6-Contributed Papers - D - 11:00AM - 1:00PM

Making schools safe for UV hypersensitive students

*Robert Sayre\*, John Dowdy*

Sunday, June 22: SNAM3-Contributed Papers - B - 8:30AM - 10:30AM

Mast cell-derived IL-10 limits skin pathology associated with chronic low-dose ultraviolet B-irradiation

*Michele Grimaldeston\*, Susumu Nakae, Janet Kalesnikoff, Mindy Tsai, Stephen Galli*

Saturday, June 21: SAM4-Contributed Papers - A - 11:00AM - 1:00PM

Optical model for Barrett's esophagus

*Jane Buchanan\*, Linda Jones, Norris Preyer, Jr., Herbert Wolfsen, Michael Wallace, Kanwar Gill*

Posters: Poster session

Organically Modified Silica (ORMOSIL) Nanoparticles as a drug delivery system for Photodynamic Therapy and tumor imaging

*Chao Liu, Anurag Gupta\*, Mahabeer P. Dobhal, Tymish Y. Ohulchanskyy, Indrajit Roy, Janet Morgan, Earl J. Bergey, Paras N. Prasad, Allan R. Oseroff, Ravindra K. Pandey*

Posters: Poster session

PDT-induced necrosis of neuronal and glial cells is controlled by cell signaling machinery

*Anatoly Uzdensky\**

Posters: Poster session

PET Imaging and PDT: Comparative tumor imaging and photosensitizing potential of Ring 'B' vs. Ring 'D' reduced chlorins with similar lipophilicity

*Chao Liu\*, Mahabeer P. Dobhal, Janet Morgan, Tymish Y. Ohulchanskyy, Yihui Chen, Ulas Sunar, William Potter, Joseph R.*

*Missert, Earl J. Bergey, Paras N. Prasad, Allan R. Oseroff, Ravindra K. Pandey*

Posters: Poster session

Photophysical properties of Pheophorbide-a and Pheophorbide-a - Carboquone complex and its interactions with DNA Nucleosides and DNA oligonucleotides

*Yisaira Diaz-Espinosa\*, Rafael Arce, Antonio E. Alegria*

Posters: Poster session

Photooxidative stress in melanocytes: from specific damage to specific responses

*Laurent Marrot\*, Jean-Philippe Belaidi, Elodie Burty, Christophe Jones, Philippe Perez, Jérémie Soeur, Jean-Roch Meunier*

Monday, June 23: MAM3-Contributed Papers -C - 8:30AM - 10:30AM

Platelet Activating Factor (PAF) induces mast cell migration from the skin to draining lymph nodes

*Scott Byrne\*, Clare Beaugie*

Saturday, June 21: SAM4-Contributed Papers - A - 11:00AM - 1:00PM

Signaling control of apoptosis in photosensitized glial cells

*Uzdensky Anatoly\**

Posters: Poster session

Signaling events in nitric oxide-induced cell resistance to photodynamic eradication

*Reshma Bhowmick, Albert Girotti\**

Posters: Poster session

Synergies of VEGF Inhibition and Photodynamic Therapy in the treatment of age-related macular degeneration

*Maria-Fernanda Zuluaga, Meihua Ju, Carolina Mailhos, Gregory Robinson, David T. Shima, Robert Gurny, Norbert Lange\**

Monday, June 23: MAM3-Contributed Papers -C - 8:30AM - 10:30AM

The performance of a sunscreen depends on the UVR spectrum with which it is tested

*Antony Young\**

Tuesday, June 24: TAM6-Contributed Papers - D - 11:00AM - 1:00PM

The Photosensitizing potential of compact fluorescent vs. incandescent light bulbs

*Colin Chignell\*, Robert Sik, Piotr Bilski*

Posters: Poster session

Topical Vitamin D increases the ability of regulatory T Cells to suppress asthma-like responses in a mouse model of allergic airways Disease

*Shelley Gorman\*, Melinda Judge, Prue Hart*

Sunday, June 22: SNAM3-Contributed Papers - B - 8:30AM - 10:30AM

Ultrafast structural dynamics in BLUF domains: transient infrared spectroscopy of AppA and its mutants.

*Allison Stelling\*, K. Ronayne, J. Nappa, P. Tonge, S. Meech*

Wednesday, June 25: WAM4-Contributed Papers - E - 11:00AM - 1:00PM

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## Invited Speaker - Drug photostability - PPS (Baertschi, Indig)

In vitro phototoxicity testing: a task involving multiple endpoints

*Laurent Marrot\*, Jean-Philippe Belaidi, Christophe Jones, Anita Labarussiat, Philippe Perez, Jean-Roch Meunier*

Tuesday, June 24: TAM1-ASP/PPS-Pharmaceutical Photochemistry - A - 8:30AM - 10:30AM

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## Invited Speaker - Nutraceuticals in Photomedicine (Moodycliffe)

Drinking green tea prevents UVB-induced immunosuppression through rapid repair of damaged DNA and enhancement of nucleotide excision repair gene expression in mice

*Santosh Katiyar\*, Syed Meeran, Harry van Steeg, Thejass Punathil*

Wednesday, June 25: WAM1-Nutraceuticals in Photobiology - 8:30AM - 10:30AM

Mice drinking goji berry juice are protected against photoimmune suppression via haem oxygenase induction

*Vivienne E. Reeve\*, Munif Allanson, Diane Domanski*

Wednesday, June 25: WAM1-Nutraceuticals in Photobiology - 8:30AM - 10:30AM

Nicotinamide (vitamin B3) is protective against ultraviolet radiation-induced immunosuppression in humans

*Diona Damian\*, Eleni Yiasemides, Geetha Sivapirabu, Joohong Park, Gary Halliday*

Wednesday, June 25: WAM1-Nutraceuticals in Photobiology - 8:30AM - 10:30AM

Probiotics : A new approach in oral photoprotection

*Patricia Manissier\**

Wednesday, June 25: WAM1-Nutriceuticals in Photobiology - 8:30AM - 10:30AM

UV protective effects of flavonoids: From the human skin cell model to a human trial

*Rex Tyrrell\*, Sharmila Basu-Modak, Catherine Rice-Evans, Jean Krutmann, Len Roza*

Wednesday, June 25: WAM1-Nutriceuticals in Photobiology - 8:30AM - 10:30AM

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## Invited Speaker - Bacterial Blue Light Photoreceptors (Losi)

A Photosensory two-component system regulates bacterial cell attachment

*Erin Purcell, Dan Siegal-Gaskins, Dave Rawling, Aretha Fiebig, Sean Crosson\**

Monday, June 23: MAM2-Blue Light Photoreceptors - 8:30AM - 10:30AM

Blue light at 450nm wavelength modulates proliferation and differentiation of human skin cells

*Joerg Liebmann\*, Matthias Born, Victoria Kolb-Bachofen*

Monday, June 23: MAM2-Blue Light Photoreceptors - 8:30AM - 10:30AM

Light sensing in the fungi

*Alexander Idnurm\**

Monday, June 23: MAM2-Blue Light Photoreceptors - 8:30AM - 10:30AM

Mutations affecting the GTP/ATP binding properties of the blue-light sensor YtvA

*Aba Losi\*, Wolfgang Gaertner, Elsa Livoti, Yifen Tang, Zhen Cao, Ulrich Krauss*

Monday, June 23: MAM2-Blue Light Photoreceptors - 8:30AM - 10:30AM

Structure and binding analyses of Arabidopsis thaliana cryptochrome 3 in complex with CPD-comprising probes

*Richard Pokorny\*, Tobias Klar, Lars-Oliver Essen, Alfred Batschauer*

Monday, June 23: MAM2-Blue Light Photoreceptors - 8:30AM - 10:30AM

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## Invited Speaker - Biomedical Applications & Environmental Effects. (Watanabe)

Application of Chlamydomonas rhodopsins to artificial stimulation of neurons using blue LED

*Hironu Yawo\*, Toru Ishizuka, Hiroshi Tomita, Eriko Sugano, Hongxia Wang, Yuka Sugiyama, Hitomi Isago, Makoto Tamai*

Wednesday, June 25: WAM3-Environmental Aspects and Biological Applications of Blue Light Receptors - 8:30AM - 10:30AM

Aureochrome, the blue light-activated transcription factor, is conserved in Stramenopile algae

*Hironao Kataoka\*, Fumio Takahashi, Mié Ishikawa*

Wednesday, June 25: WAM3-Environmental Aspects and Biological Applications of Blue Light Receptors - 8:30AM - 10:30AM

Functional analysis of photoactivated Adenylyl Cyclase alpha (PAC $\alpha$ ) from euglena gracilis

*Jens Looser\*, Saskia Schroeder-Lang, Masakatsu Watanabe, Peter Hegemann, Georg Nagel*

Wednesday, June 25: WAM3-Environmental Aspects and Biological Applications of Blue Light Receptors - 8:30AM - 10:30AM

Functional transplant of photoactivated adenylyl cyclase (PAC) into Aplysia sensory neurons

*Tatsumi Nagahama, Takeshi Suzuki, Shinya Yoshikawa, Mineo Iseki\**

Wednesday, June 25: WAM3-Environmental Aspects and Biological Applications of Blue Light Receptors - 8:30AM - 10:30AM

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## Invited Speaker - Raman Spectroscopy & Photobiology (Loppnow)

Discrimination of malignant melanoma from malignant melanoma suspicious nevi by non invasive in-vivo NIR-FT Raman spectroscopy

*Peter Philippsen\*, Robert Gniadecki, Hans Christian Wulf*

Monday, June 23: MAM1-Contributed Paper - F - 8:30AM - 10:30AM

Excited-state structural dynamics and photochemistry of pyrimidine nucleobases

*Glen R. Loppnow\**

Monday, June 23: MPM2-Raman Spectroscopy and Photobiology - 3:00PM - 5:00PM

Femtosecond stimulated Raman spectroscopy

*Richard Mathies\**

Monday, June 23: MPM2-Raman Spectroscopy and Photobiology - 3:00PM - 5:00PM

Protein- and peptide-membrane interactions investigated with UV resonance Raman spectroscopy.  
*Judy Kim\**, *Hannah Shafaat*, *Katheryn Sanchez*, *Diana Schlamadinger*, *Tiffany Neary*  
Monday, June 23: MPM2-Raman Spectroscopy and Photobiology - 3:00PM - 5:00PM

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## Invited Speaker - Free-Radical Process in Proteins (Davies, Wondra)

Can the night-time atmospheric oxidant NO<sub>3</sub>(dot) damage aromatic amino acids?

*Uta Wille\**, *Duanne Sigmund*

Sunday, June 22: SNAM1-Photooxidation in Proteins - 8:30AM - 10:30AM

Closing the vicious cycle of skin cell photo-oxidative stress: The lipid peroxidation-derived protein epitope DHP is a potent UVA-sensitizer

*Georg T. Wondrak\**, *Christopher M. Cabello*, *Bobbi L. Anglin*, *Sara M. Azimian*, *Sarah D. Lamore*

Sunday, June 22: SNAM1-Photooxidation in Proteins - 8:30AM - 10:30AM

Cytochrome c Oxidation by the phthalocyanine Pc 4 and light: Detection of a unique singlet oxygen derivate product

*Myriam Rodriguez\**, *Junhwan Kim*, *Ming Guo*, *Malcolm Kenney*, *Nancy Oleinick*, *Vernon Anderson*

Sunday, June 22: SNAM1-Photooxidation in Proteins - 8:30AM - 10:30AM

Formation and accumulation of damaged proteins within cells: evidence for a key role for protein peroxides in cellular damage.

*Michael Davies\**, *Michelle Gracanin*, *Aldwin Suryo Rahmanto*

Sunday, June 22: SNAM1-Photooxidation in Proteins - 8:30AM - 10:30AM

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## Invited Speaker - Vitamin D (Sayer)

Economic benefit of increased vitamin D

*William Grant\**

Saturday, June 21: SAM3-Vitamin D/UVB - 11:00AM - 1:00PM

Exposure to sun and sun beds - advantages versus risk for health

*Alina Carmen Porojnicu\**, *Zoya Lagunova*, *Johan Moan*

Saturday, June 21: SAM3-Vitamin D/UVB - 11:00AM - 1:00PM

How does UVR exposure dose and behavior in spring and summer influence on vitamin D level in autumn and winter?

*Elisabeth Thieden\**, *Peter Alshede Philipsen*, *Hans Christian Wulf*

Monday, June 23: MAM1-Contributed Paper - F - 8:30AM - 10:30AM

Novel secosteroidogenic pathway and the skin

*Andrzej Slominski\**, *Robert Tuckey*, *Jordan Zjawiony*

Saturday, June 21: SAM3-Vitamin D/UVB - 11:00AM - 1:00PM

Practical assessment of recommended UV exposures for vitamin D synthesis

*Ann R. Webb\**, *Richard Kift*, *Marie Durkin*, *Lucy Bunhill*, *Jacqueline Berry*, *Lesley E. Rhodes*

Saturday, June 21: SAM3-Vitamin D/UVB - 11:00AM - 1:00PM

Review of the Vitamin D endocrine system: From ultraviolet light and 7-dehydrocholesterol, thru key metabolism, to production of a steroid hormone with a complex receptor system and a multitude of biological responses

*Anthony Norman\**

Saturday, June 21: SAM3-Vitamin D/UVB - 11:00AM - 1:00PM

The effects of UVB light on serum 25-hydroxyvitamin D levels in humans with 3% dihydroxyacetone treatment of skin

*Laura Armas*, *Ramon Fusaro\**, *Christopher Huerter*, *Robert Sayre*, *Robert Heaney*

Saturday, June 21: SAM3-Vitamin D/UVB - 11:00AM - 1:00PM

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## Invited Speaker - Bacterial Phytochromes (Gartner)

An unorthodox bacteriophytochrome controlling an important bacterial second messenger, c-di-GMP

*Mark Gomelsky\**

Saturday, June 21: SAM2-Bacterial Phytochromes - 11:00AM - 1:00PM

Biotechnology of crop plants based on Transgenic Phytochrome Genes

*Pill-Soon Song Song\*, Yunjeong Han Kim, Kyungmoon Kim, Jeong-Il Kim*

Saturday, June 21: SAM2-Bacterial Phyochromes - 11:00AM - 1:00PM

Cyanobacterial photoreceptors: Crystal structure and spectral properties of AnPixJ\_GAF2

*Rei Narikawa, Shigeru Itoh, Genji Kurisu, Masahiko Ikeuchi\**

Saturday, June 21: SAM2-Bacterial Phyochromes - 11:00AM - 1:00PM

MAS NMR analysis of the photochemical machinery of the photoreceptor phytochrome

*Thierry Rohmer\*, Jon Hughes, Wolfgang Gärtner, Jörg Matysik*

Saturday, June 21: SAM2-Bacterial Phyochromes - 11:00AM - 1:00PM

The structure of a complete phytochrome sensory module in the Pr ground state

*Jon Hughes\*, Jo Maillet, Essen Lars-Oliver*

Saturday, June 21: SAM2-Bacterial Phyochromes - 11:00AM - 1:00PM

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## Invited Speaker - Aquatic Photobiology (Neale)

A novel gene in the regulation of the photosynthetic chlorophyll antenna size.

*Mautusi Mitra\*, Anastasios Melis*

Tuesday, June 24: TAM5-Aquatic Photobiology - 11:00AM - 1:00PM

A photosynthetic strategy for coping in a high light, low nutrient environment

*Katherine Mackey\*, Adina Paytan, Arthur Grossman, Shaun Bailey*

Tuesday, June 24: TAM5-Aquatic Photobiology - 11:00AM - 1:00PM

Interactive effects of elevated CO2 and UV exposure on microalgal photosynthesis

*Patrick Neale\*, Cristina Sobrino, Robert Moeller*

Tuesday, June 24: TAM5-Aquatic Photobiology - 11:00AM - 1:00PM

Isolation and characterization of photosynthetic chlorophyll antenna mutants by DNA insertional mutagenesis.

*Henning Kirst\*, Anastasios Melis*

Tuesday, June 24: TAM5-Aquatic Photobiology - 11:00AM - 1:00PM

Measurement of solar UVB exposures in sea water with a high - exposure dosimeter

*Peter Schouten\*, Alfio Parisi, David Turnbull*

Tuesday, June 24: TAM5-Aquatic Photobiology - 11:00AM - 1:00PM

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## Invited Speaker - Mechanism of DNA damage and Repair - ASP/ESP (Douki, Mitchel)

Evolving paradigms for processing DNA photoproducts in bacteria and in human cells

*Philip C. Hanawalt\**

Monday, June 23: MPM1-ASP/ESP-Mechanisms of DNA Damage & Repair - 3:00PM - 5:00PM

Hierarchy of repair of the different cyclobutane pyrimidine dimers in human skin and cultured cells

*Thierry Douki\*, Stephane Mouret, Marie Cherveron, Jean Cadet, Alain Favier*

Monday, June 23: MPM1-ASP/ESP-Mechanisms of DNA Damage & Repair - 3:00PM - 5:00PM

Life and death pathways for the UV DNA damage response in the S phase of human cells

*James Cleaver\*, Imenne Boubaker, Luzviminda Feeney, Sebastien de Feraudy*

Monday, June 23: MPM1-ASP/ESP-Mechanisms of DNA Damage & Repair - 3:00PM - 5:00PM

Oxidative stress inhibits the repair of oxidative DNA base modifications generated by solar light

*Bernd Epe\*, Wolfgang Eiberger, Beate Volkmer, Pablo Radicella, Rachel Amouroux, Claudine Dhérin*

Monday, June 23: MPM1-ASP/ESP-Mechanisms of DNA Damage & Repair - 3:00PM - 5:00PM

The effects of melanin on the amount and distribution of DNA damage induced by UVA and UVB radiation.

*David Mitchell\*, Lakshmi Paniker, Vishnukama Golla, Douki Thierry*

Monday, June 23: MPM1-ASP/ESP-Mechanisms of DNA Damage & Repair - 3:00PM - 5:00PM

UV photodimer processing in mammalian cells

*Leon Mullenders\**

Monday, June 23: MPM1-ASP/ESP-Mechanisms of DNA Damage & Repair - 3:00PM - 5:00PM

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## Invited Speaker - Photoimmunology (Ullrich, Anathaswamy)

### DNA repair and photoaging

*Daniel Yarosh\**

Wednesday, June 25: WPM1-Photoimmunology and Photocarcinogenesis-M.Kripke Celebration - 3:00PM - 5:00PM

### Mechanisms of UV-induced melanoma

*Frances Noonan\*, Jesse Bahn, Agnieszka Wolnicka-Glubisz, Heather Poetschke-Klug, Miriam Anver, Glenn Merlino, Edward De Fabo*

Wednesday, June 25: WPM1-Photoimmunology and Photocarcinogenesis-M.Kripke Celebration - 3:00PM - 5:00PM

### Sub-erythral UV radiation effects on human skin

*Anny Fourtanier\**

Wednesday, June 25: WPM1-Photoimmunology and Photocarcinogenesis-M.Kripke Celebration - 3:00PM - 5:00PM

### TGF-beta1 transgenic mice: a suitable model for the therapeutic action of PUVA in psoriasis

*Tej Pratap Singh, Michael P. Schön, Kai Michaelis, Xiao-Jing Wang, Helmut Kerl, Peter Wolf\**

Wednesday, June 25: WPM1-Photoimmunology and Photocarcinogenesis-M.Kripke Celebration - 3:00PM - 5:00PM

### UVB, UVA and interactive effects are immunosuppressive in humans

*Gary Halliday\*, Yasmin Renwick, Diona Damian*

Wednesday, June 25: WPM1-Photoimmunology and Photocarcinogenesis-M.Kripke Celebration - 3:00PM - 5:00PM

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## Invited Speaker - Imaging Techniques in Proteins (Fang, Jones)

### Imaging of DNA nanoparticles with tunable fluorescent nanocrystals for gene delivery monitoring

*Anna Cristina Samia\*, Xuguang Chen, Wenchao Sun, Clemens Burda, Pamela Davis*

Monday, June 23: MAM4-Imaging Techniques and Probes - 11:00AM - 1:00PM

### Multimode optical imaging system for In Vivo chemotherapy assessment in small animals

*Jae Youn Hwang\*, Julia Ljubimova, Lali K. Medina-Kauwe, Daniel L. Farkas*

Monday, June 23: MAM4-Imaging Techniques and Probes - 11:00AM - 1:00PM

### Patient specific integrating sphere for improvement of dosimetry in PDT

*Diana Glennie\*, Thomas J. Farrell, Michael S. Patterson, Joseph E. Hayward, Greg Sawesky, Pam Woodworth*

Monday, June 23: MAM4-Imaging Techniques and Probes - 11:00AM - 1:00PM

### Photobiology and Photochemistry in industry: water disinfection and contamination treatment

*Gordon Knight\**

Monday, June 23: MAM4-Imaging Techniques and Probes - 11:00AM - 1:00PM

### SERS-based sensors and assays

*Sebastian Wachsmann-Hogiu\*, Cynthia Pagba, Stephen Lane*

Monday, June 23: MAM4-Imaging Techniques and Probes - 11:00AM - 1:00PM

### Towards in vivo PDT dosimetry using fluorescence lifetime imaging

*Qiyin Fang\*, Jennifer Russell, Kevin Diamond, Joseph Hayward, Tom Farrell, Michael Patterson, Tony Collins*

Monday, June 23: MAM4-Imaging Techniques and Probes - 11:00AM - 1:00PM

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## Invited Speaker - Low-Level Light Therapy (Eells)

### Activation of TGF beta-1 following low power laser irradiation - a potential mechanism for photobiomodulation

*Praveen Arany\*, David Mooney, Michael Hamblin*

Tuesday, June 24: TAM2-Low-Level Light Therapy - 8:30AM - 10:30AM

### Low Level Light Therapy for wound healing: Basic mechanisms and animal models

*Michael Hamblin\**

Tuesday, June 24: TAM2-Low-Level Light Therapy - 8:30AM - 10:30AM

### Mitochondrial distribution in photoreceptors make them a candidate for oxidative damage, and for photobiological repair

*Jonathan Stone\**

Tuesday, June 24: TAM2-Low-Level Light Therapy - 8:30AM - 10:30AM

### Photobiomodulation as a novel non-invasive therapy for the treatment of neurodegeneration and autoimmunity.

*Jeri-Anne Lyons\*, Kamaldeen Muilli, Kristina DeSmet, Huan Ling Liang, Margaret Wong-Riley, Harry Whelan, Janis Eells*

## Invited Speaker - Photobiology of the eye (Roberts)

Biophysical properties of photobleached porcine and cow RPE melanosomes - an in vitro model of aged human RPE melanosomes

*Janice Burke, Tadeusz Sarna, Grzegorz Szewczyk, Andrzej Zadlo, Mariusz Zareba\**

Monday, June 23: MAM5-Ocular Photobiology - 11:00AM - 1:00PM

Photobiomodulation for retinal injury and retinal degenerative disease

*Janis Eells\*, Kristina DeSmet, Michele Henry, James VerHoeve, Michael Nork, Margaret Wong-Riley, Harry Whelan, Diana Kirk, Jonathan Stone, Krisztina Valter*

Monday, June 23: MAM5-Ocular Photobiology - 11:00AM - 1:00PM

Photophysics of the eye—Dosimetry for exposure of the retina and other ocular structures

*David Sliney\**

Monday, June 23: MAM5-Ocular Photobiology - 11:00AM - 1:00PM

Phototoxic damage to human lens epithelial cells

*Joan E. Roberts\*, Albert Wielgus, Usha Andley, Colin F. Chignell*

Monday, June 23: MAM5-Ocular Photobiology - 11:00AM - 1:00PM

Surface elastic properties and Age-Dependent photoionization thresholds of human RPE melanosomes and lipofuscin

*John Simon\**

Monday, June 23: MAM5-Ocular Photobiology - 11:00AM - 1:00PM

The cone photoreceptors for color vision depend on presence of the transport protein IRBP for normal function

*Ryan Parker, Rosalie Crouch\**

Monday, June 23: MAM5-Ocular Photobiology - 11:00AM - 1:00PM

## Invited Speaker - Photodynamic Therapy (Gollnick)

Cancer stem cells in murine breast cancer side population are resistant to PDT with photosensitizer substrates of the multiple drug resistance transporter ABCG2

*Janet Morgan\*, Ravindra Pandey, Jennifer Jackson, Allan Oseroff*

Wednesday, June 25: WAM5-Photodynamic Therapy - 2 - 11:00AM - 1:00PM

Effect of fluence rate on tumor metabolism during PDT of tumors in rats evaluated by Positron Emission Tomography (PET) and Magnetic Resonance Imaging (MRI)

*Kim Mongrain\*, Jacques A. Rousseau, Christian Thibaudeau, Luc Tremblay, Martin Lepage, Roger Lecomte, Johan E. van Lier*

Monday, June 23: MAM1-Contributed Paper - F - 8:30AM - 10:30AM

Elucidating the mechanisms of photodynamic therapy induced endothelial cell morphological and functional change.

*Priyanka Agharkar\*, Bin Chen*

Saturday, June 21: SAM4-Contributed Papers - A - 11:00AM - 1:00PM

Evaluation of angiogenic markers in vascular and cellular mediated photodynamic therapy using hypericin

*Ramaswamy Bhuvanewari\*, Yik Yuen Gan, Sasidharan Swarnalatha Lucky, William Wei Lim Chin, Mohamed Ali-Seyed, Khee Chee Soo, Malini Olivo*

Posters: Poster session

Fluorescence kinetics and drug transport of chlorin e6 - polyvinylpyrrolidone for photodynamic applications of urological cancer

*William Wei Lim Chin\*, Paul Wan Sia Heng, Weber Kam On Lau, Pei Li Lim, Ramaswamy Bhuvanewari, Patricia Soo Ping Thong, Malini Olivo*

Wednesday, June 25: WAM5-Photodynamic Therapy - 2 - 11:00AM - 1:00PM

Interplay of lysosomes and mitochondria in photodynamic therapy-induced death of cancer cells

*Anna-Liisa Nieminen\*, Jennifer Frye, Geraldine Quiogue, Kashif Azizuddin, Ping Zhang, Malcolm Kenney, Peter Peditakis, John Lemasters, Nancy Oleinick*

Tuesday, June 24: TAM3-Photodynamic Therapy - 1 - 8:30AM - 10:30AM

Intravital microscopic analysis of vascular perfusion and macromolecule extravasation after photodynamic vascular targeting therapy

*Chong He\*, Priyanka Agharkar, Bin Chen*

Tuesday, June 24: TAM6-Contributed Papers - D - 11:00AM - 1:00PM

Mechanisms of bystander signaling following photodynamic stress

*Noemi Rubio\**, *Robert W. Redmond*

Tuesday, June 24: TAM3-Photodynamic Therapy - 1 - 8:30AM - 10:30AM

Mechanisms of enhancement of Anti-Tumor immunity by PDT: Role of inflammatory mediators

*Sandra O. Gollnick\**, *Craig Brackett*

Wednesday, June 25: WAM5-Photodynamic Therapy - 2 - 11:00AM - 1:00PM

Motexafin Lutetium mediated PDT for recurrent prostate cancer.

*Keith Cengel\**, *Kevin Du*, *Hiram Patel*, *Rosie Mick*, *Timothy Zhu*, *Jarod Finlay*, *Theresa Busch*, *Stephen Hahn*, *S. Bruce Malkowicz*

Wednesday, June 25: WAM5-Photodynamic Therapy - 2 - 11:00AM - 1:00PM

New amphiphilic halogenated bacteriochlorins: spectroscopic, photophysical and photobiological studies.

*Janusz Dabrowski\**, *Luis Arnaut*, *Mariette Pereira*, *Krystyna Urbanska*, *Grazyna Stochel*

Wednesday, June 25: WAM4-Contributed Papers - E - 11:00AM - 1:00PM

New photosensitizers for antimicrobial photodynamic therapy.

*Michael Hamblin\**

Wednesday, June 25: WAM5-Photodynamic Therapy - 2 - 11:00AM - 1:00PM

Photodynamic therapy and the tumor microenvironment

*Charles Gomer\**

Tuesday, June 24: TAM3-Photodynamic Therapy - 1 - 8:30AM - 10:30AM

Photodynamic Therapy-Induced activation and nuclear relocalization of epidermal growth factor receptor and STAT3 mediates survival of ovarian and lung cancer cells

*Keith Cengel\**, *Sarah Hagan*, *Mousumi Chadhury*, *Stephen Hahn*

Tuesday, June 24: TAM3-Photodynamic Therapy - 1 - 8:30AM - 10:30AM

The role of tumor-antigens and T regulatory cells in PDT-induced anti-tumor immunity.

*Pawel Mroz\**, *Michael Hamblin*

Wednesday, June 25: WAM5-Photodynamic Therapy - 2 - 11:00AM - 1:00PM

Tumor microenvironment as an effector of PDT response

*Theresa Busch\**, *E. Paul Wileyto*, *Arjun Yodh*, *Guoqiang Yu*, *Xiaoman Xing*, *Shirron Carter*, *Elizabeth Rickter*, *Min Yuan*, *Kevin Jenkins*

Tuesday, June 24: TAM3-Photodynamic Therapy - 1 - 8:30AM - 10:30AM

Topical delivery of silicon phthalocyanine photosensitizer Pc 4 for photodynamic therapy of skin pathologies

*Minh Lam\**, *Diana SantoDomingo*, *Yun Liu*, *Andrew Hsia*, *Denise Hatala*, *Malcolm Kenney*, *Nancy Oleinick*, *Kevin Cooper*, *Elma Baron*

Monday, June 23: MAM1-Contributed Paper - F - 8:30AM - 10:30AM

Treatment of tumors using PDT or chemoablation using PV-10 produces antitumor immunity effective on remote tumors

*Craig Dees\**, *T.C. Scott*, *E.A. Wachter*

Monday, June 23: MAM1-Contributed Paper - F - 8:30AM - 10:30AM

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## Invited Speaker - Photobiology in Asia (Song)

Approach toward comprehensive understanding of photosystem II reactions based on the diversity of cyanobacteria.

*Mamoru Mimuro\**

Monday, June 23: MPM3-Photobiology in Asia - 2 - 3:00PM- 5:00PM

Characterization of phytochromes as autophosphorylating kinases

*Yun-Jeong Han*, *A-Young Shin*, *Pill-Soon Song*, *Jeong-Il Kim\**

Monday, June 23: MAM6-Photobiology in Asia - 1 - 11:00AM - 1:00PM

Cyanobacterial Rhodopsins: Light-Driven proton pump GR (Gloeorhodopsin) and ASR (Anabaena Sensory Rhodopsin) for regulating gene expression of photosynthetic pigments

*Ah Reum Choi*, *So Young Kim*, *Kwang-Hwan Jung\**

Monday, June 23: MPM3-Photobiology in Asia - 2 - 3:00PM- 5:00PM

Dynamic molecular responses of plants to photon

*Jeongsik Kim*, *Sung Hyun Hong*, *Yumi Kim*, *Hyunmo Choi*, *Miji Yeom*, *Suyeong Jeong*, *Jong Sang Ryu*, *Dong Su Kim*, *Hong Gil Nam\**

Monday, June 23: MAM6-Photobiology in Asia - 1 - 11:00AM - 1:00PM

Fluorescence lifetime of hypericin has an important role for determination of its biological activity inside the cells.

*Veronika Huntosova\**, *Franck Sureau*, *Zuzana Nadova*, *Pavol Miskovsky*

Monday, June 23: MAM1-Contributed Paper - F - 8:30AM - 10:30AM

How actin works in chloroplast photorelocation movement?

*Masamitsu Wada\**

Monday, June 23: MPM3-Photobiology in Asia - 2 - 3:00PM- 5:00PM

How blue light regulates kinase activity of phototropin

*Satoru Tokutomi\*, Daisuke Matsuoka, Kazunori zikihara, Koji Okajima, Hitomi Katsura, Shizue Yoshihara, Masayoshi Nakasako*

Monday, June 23: MPM3-Photobiology in Asia - 2 - 3:00PM- 5:00PM

LZF1, a light and HY5-regulated transcriptional factor, functions in Arabidopsis de-etiolation

*Shu-Hsing Wu\*, Chiung-swey Chang, Li-Teh Chen*

Monday, June 23: MAM6-Photobiology in Asia - 1 - 11:00AM - 1:00PM

PIF5: Photoactivated protein degradation and negative regulation of PhyB Abundance in prolonged red light illumination

*Yu Shen\*, Rajnish Khanna, Peter Quail*

Monday, June 23: MAM6-Photobiology in Asia - 1 - 11:00AM - 1:00PM

Roles of different functional moieties of phototropins

*Akira Nagatani\*, Akihiko Onodera, Sam-Geun Kong, Yusuke Aihara, Toshiaki Kozuka, Tomomi Suzuki*

Monday, June 23: MPM3-Photobiology in Asia - 2 - 3:00PM- 5:00PM

RopGEF11, novel phytochrome interacting protein, is involved in light signaling in Arabidopsis

*Dong Ho Shin, Bong-Kwan Phee, Tae-Lim Kim, Jihye Yoo, Jeong-Il Kim, Kyoung-Jin Park, Pill-Soon Song, Yong-Kook Kwon, Man-Ho Cho, Jong-Seong Jeon, Seong Hee Bhoo\*, Tae-Ryong Hahn*

Monday, June 23: MAM6-Photobiology in Asia - 1 - 11:00AM - 1:00PM

Time-resolved detection of conformation changes of photosensor proteins

*Masahide Terazima\**

Monday, June 23: MPM3-Photobiology in Asia - 2 - 3:00PM- 5:00PM

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## Invited Speaker - Extracorporeal Photophoresis (Knobler)

Extracorporeal photophoresis in atopic dermatitis

*Peter Wolf\**

Sunday, June 22: SNAM2-Extracorporeal Photoimmunotherapy- Photophoresis - 8:30AM - 10:30AM

Extracorporeal photophoresis reverses experimental graft-versus-host disease through regulatory T cells

*Erin Gatz\*, James Ferrara*

Sunday, June 22: SNAM2-Extracorporeal Photoimmunotherapy- Photophoresis - 8:30AM - 10:30AM

Mode of action in ECP: An update on the role of regulatory T cells

*Thomas Schwarz\**

Sunday, June 22: SNAM2-Extracorporeal Photoimmunotherapy- Photophoresis - 8:30AM - 10:30AM

Photophoresis in CTCL and systemic sclerosis

*Robert Knobler\**

Sunday, June 22: SNAM2-Extracorporeal Photoimmunotherapy- Photophoresis - 8:30AM - 10:30AM

Photophoresis in solid organ transplantation

*John Zic\**

Sunday, June 22: SNAM2-Extracorporeal Photoimmunotherapy- Photophoresis - 8:30AM - 10:30AM

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## Invited Speaker - Photocarcinogenesis & Chemoprevention (Mukthar)

A 9 Base Pair Intron deletion in the human XPC DNA repair gene impairs lariat loop formation and causes Exon skipping and multiple skin cancers in XP-C patients

*Sikandar Khan\*, Kyu-Seon Oh, Hiroki Inui, Steffen Emmert, Deborah Tamura, John DiGiovanna, Tala Shahlavi, Carl Baker, Juliet Aiken, Thomas Schneider, Kenneth Kraemer*

Tuesday, June 24: TAM6-Contributed Papers - D - 11:00AM - 1:00PM

Crucial role of phospholipase C  $\epsilon$  in ultraviolet B irradiation-induced skin inflammation and skin tumor development

*Masahiro Oka\*, Tsuneyoshi Kamo, Hironori Edamatsu, Masanobu Sakaguchi, Makoto Kunisada, Riko Kitazawa, Tohru Kataoka, Chikako Nishigori*

Tuesday, June 24: TPM3-Photocarcinogenesis - 4:00PM - 6:00PM

Molecular and cellular mechanisms of photocarcinogenesis

*Stefan Beissert\**

Wednesday, June 25: WPM1-Photoimmunology and Photocarcinogenesis-M.Kripke Celebration - 3:00PM - 5:00PM

Non-denatured soy extracts reduce UVB-induced skin damage via multiple mechanisms

*Nannan Chen, Richard Scarpa, Li Zhang, Miri Seiberg\*, Connie Lin*

Tuesday, June 24: TPM3-Photocarcinogenesis - 4:00PM - 6:00PM

Photocarcinogenesis data demonstrate the validity of the SCUP-m actionsSpectrum for UVR-Induced skin cancer

*Paul Donald Forbes\*, Douglas B. Learn, Christopher P. Sambuco, Marvin Arocena, Alan M. Hoberman*

Tuesday, June 24: TPM3-Photocarcinogenesis - 4:00PM - 6:00PM

The control of skin carcinogenesis in mice via metabolic regulation of cyclic guanosine monophosphate

*Munif Allanson, Sondur J. Arun, Vivienne E. Reeve\**

Tuesday, June 24: TPM3-Photocarcinogenesis - 4:00PM - 6:00PM

The immunosuppressant Rapamycin alters the p53 mutation spectrum in UV-induced skin tumors and inhibits tumor outgrowth.

*Pieter Voskamp, Gudrun Koehl, Heggert Rebel, Jan-Nico Bouwes Bavinck, Hans Schlitt, Frank de Gruijl\*, Edward Geissler*

Tuesday, June 24: TPM3-Photocarcinogenesis - 4:00PM - 6:00PM

Transgenic mice with a knock in point mutation at p53 codon 172 exhibit increased sensitivity to UV-induced skin damage, immunosuppression, and skin cancer.

*Cara Benjamin\*, Chengming Zhu, Alberto Limón-Flores, David Mitchell, Stephen Ullrich, Honnavara Anathaswamy*

Tuesday, June 24: TPM3-Photocarcinogenesis - 4:00PM - 6:00PM

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## Invited Speaker - Pharmaceutical Photochemistry (Indig)

A review of pharmaceutical photostability testing

*Robert Reed\**

Tuesday, June 24: TAM4-Pharmaceutical Photochemistry - B - 11:00AM - 1:00PM

Applying the proposed FDA sunscreens rule - an in vitro and in silico assessment of the UVA protection of eight US sunscreens

*Uli Osterwalder\*, Bernd Herzog, Joseph Stanfield*

Tuesday, June 24: TAM4-Pharmaceutical Photochemistry - B - 11:00AM - 1:00PM

Drug Photodegradation in the Solid State: Unexpected Photochemistry Observed in a Lyophilized Product

*Steven Baertschi\**

Tuesday, June 24: TAM1-ASP/PPS-Pharmaceutical Photochemistry - A - 8:30AM - 10:30AM

Effect of H-type colorant aggregation on the photostability of liquid formulations.

*Guilherme Indig\**

Tuesday, June 24: TAM1-ASP/PPS-Pharmaceutical Photochemistry - A - 8:30AM - 10:30AM

New insight and prediction of photostability of sunscreens

*Bernd Herzog\*, Myriam Sohn, Uli Osterwalder*

Tuesday, June 24: TAM1-ASP/PPS-Pharmaceutical Photochemistry - A - 8:30AM - 10:30AM

Optical experiments with singlet oxygen: From single cells to gold nanodiscs

*Peter R. Ogilby\**

Tuesday, June 24: TAM1-ASP/PPS-Pharmaceutical Photochemistry - A - 8:30AM - 10:30AM

Primary photo processes in some Fluoroquinolone antibiotics

*Suppiah Navaratnam\*, Fernando Lorenzo, Ruth Edge, Norman Allen*

Tuesday, June 24: TAM4-Pharmaceutical Photochemistry - B - 11:00AM - 1:00PM

Safety assessments of endoscopic light exposures of internal tissues

*David Sliney\**

Tuesday, June 24: TAM4-Pharmaceutical Photochemistry - B - 11:00AM - 1:00PM

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## Invited Speaker - Environmental Photobiology (de Lijser, McCurdy)

A homogeneous recoverable sensitizer for singlet oxygen production in aqueous solution

*Wenbing Li, Naveen Gandra, Shavelle N. Courtney, Ruomei Gao\**

Tuesday, June 24: TPM2-Environmental Photobiology - 4:00PM - 6:00PM

A non-photochemical quenching mutant of chlamydomonas reveals a role for LI818/LHCSR proteins.

*Graham Peers\*, Thuy Truong, Dafna Elrad, Arthur Grossman, Krishna Niyogi*

Tuesday, June 24: TPM2-Environmental Photobiology - 4:00PM - 6:00PM

Deconstructionist Organic Chemistry: Cleaning Water with Light.

*William Jenks\**

Tuesday, June 24: TPM2-Environmental Photobiology - 4:00PM - 6:00PM

Stand-Off detection of vapor-phase materials using back-scattered Coherent spectroscopy.

*Bradley Arnold\**

Tuesday, June 24: TPM2-Environmental Photobiology - 4:00PM - 6:00PM

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## Lectures (Award, President, KCS)

Biomedical imaging and therapy applications of nanoparticles

*Clemens Burda\**

Saturday, June 21: SPM1-KCS - Innovations in Photobiology - 3:00PM - 4:00PM

Cholesterol: A multifaceted photooxidizable lipid

*Albert Girotti\**

Saturday, June 21: SAM -KCS Interdisciplinary Symposium - 8:30AM - 10:30AM

Light dosimetry for esophageal photodynamic therapy.

*Linda Jones\**

Saturday, June 21: SPM2-Presidents Lectures - 4:00PM - 5:30PM

Long-range molecular alignment across the surface of Sepia melanosomes

*John Simon\*, Dana Peles*

Sunday, June 22: SNAM4-Award Lectures - 11:00AM - 1:00PM

Photocarcinogenesis: What can we learn from the immune system?

*Stephen Ullrich\**

Saturday, June 21: SPM2-Presidents Lectures - 4:00PM - 5:30PM

Role of retinoids in visual photoreceptor function and survival

*Rosalie Crouch\**

Sunday, June 22: SNAM4-Award Lectures - 11:00AM - 1:00PM

Solar radiations and the induction of DNA damages, Mutations and Skin cancers, especially Malignant Melanomas

*Richard Setlow\**

Saturday, June 21: SAM1- -Photobiology Perspectives Lecture - 10:30AM - 11:00AM

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## Other

Advances in understanding photosynthetic efficiency: responding to the challenges of global climate change

*Barry Osmond\**

Tuesday, June 24: TPM1-ISPR Special Lecture - Advances in Understanding Photosynthesis Efficiency - 3:00PM - 4:00PM

Hairless mouse with UV-induced skin tumors as a model for chemo- and photo- therapy of cancer.

*Max Myakishev\**

Posters: Poster session

Levels of retinyl palmitate and retinol in the skin and liver of SKH-1 mice topically treated with retinyl palmitate and concomitant exposure to simulated solar light for thirteen weeks

*Qingsu Xia\*, Jian Yan, Mary Boudreau, Alan Warbritton, Paul Howard, Peter Fu*

Posters: Poster session

Mitochondrial redox activation of cytochrome c by cardiolipin: An apoptotic gateway.

*Valerian Kagan\**

Wednesday, June 25: WAM2-ASP/RRS-Mitochondrial ROS - 8:30AM - 10:30AM

Quantification of reactive oxygen species damage to Mitochondrial DNA after radiation and H2O2

*Helene Hill\**

Wednesday, June 25: WAM2-ASP/RRS-Mitochondrial ROS - 8:30AM - 10:30AM

Singlet Oxygen: A critical ROS in Photodynamic Therapy.

*Brian Wilson\**

Wednesday, June 25: WAM2-ASP/RRS-Mitochondrial ROS - 8:30AM - 10:30AM

Tubulin polymerization with porphyrins

*Rolando Valdez\*, Eric Johnson, Lorenzo Brancaleon*

## School - Action Spectrums (DeFabo)

Action Spectra: Why are they important and how are they constructed and interpreted?

*Edward De Fabo\**

Monday, June 23: MPM4-Photobiology School - Action Spectra - 5:30PM - 6:30PM