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Contents

ix *Authors*

xiii *Conference Committee*

xix *Sponsors*

xxi *Introduction*

PDT IN FOOD SAFETY AND SOLID SURFACE STERILIZATIONS

11070 0O **Curcumin-based photosensitization: a novel and green technology to decontaminate food systems** [11070-6]

PDT IN MOLECULAR AND PERSONALIZED MEDICINE

11070 0V **Application of surgical curettage combined with photodynamic in refractory plantar wart** [11070-14]

NANOTECHNOLOGY FOR PHOTODIAGNOSIS

11070 12 **Exploiting cellular delivery of conjugated polymer nanoparticles for improved photodynamic therapy in a 3D glioblastoma model** [11070-90]

11070 13 **Targeting of epidermal growth factor receptor (EGFR)-positive pancreatic cancer cell lines with cetuximab-conjugated near-infrared silver sulphide quantum dots** [11070-91]

THOMAS J. DOUGHERTY REMEMBRANCE

11070 14 **Thomas J. Dougherty: present at the creation** [11070-714]

PDT IN THE BRAIN

11070 1H **Comparative analysis of 5-ALA-induced fluorescence intensity and 11C-Methionine PET uptake in glioma surgery** [11070-27]

NANOTECHNOLOGY FOR PHOTODYNAMIC THERAPY

11070 1N **Therapeutic response of experimental choroidal neovascularization in mice with photodynamic/photothermal therapy using ICG loaded gold nanorods as a photosensitizer** [11070-33]

11070 1P **Cyclodextrin-based photoactive liposomal nanoparticles for tumor targeting** [11070-35]

PHOTOSENSITIZING SYSTEMS

11070 1V **Investigation of nano immunotherapy drug delivery in lung cancer cells** [11070-42]

CAPABILITIES OF 5-ALA

11070 23 **5-Aminolevulinic acid photodynamic therapy: an effective treatment modality for female precancerous lesions: experience of a single center** [11070-49]

PDT IN UROLOGY AND GYNECOLOGY

11070 27 **Topical photodynamic therapy with 5-aminolevulinic acid in the treatment of cervical low grade squamous intraepithelial lesion** [11070-344]

INTRACELLULAR MECHANISMS OF PDT IN CANCER

11070 2B **The role of death pathways in the efficacy of photokilling (Invited Paper)** [11070-57]

11070 2H **Dormant cancer cells accumulate high protoporphyrin IX levels and are sensitive to 5-aminolevulinic acid-based photodynamic therapy** [11070-63]

PDT FOR THORACIC MALIGNANT TUMORS

11070 2L **Fluorodynamic diagnosis of thoracic malignancies** [11070-67]

11070 2M **Feasibility trial assessing intrapleural photodynamic therapy combined with pleurectomy/decortication then chemotherapy in malignant pleural mesothelioma patients** [11070-68]

PHOTODYNAMIC IMMUNE ACTIVATION AND IMMUNOTHERAPY

11070 2V **Development of anti-cadherin-17 antibody -IR700 conjugate for photodynamic therapy against gastrointestinal cancers** [11070-77]

CLINICAL AND IMMUNOLOGICAL ASPECTS OF PDT IN DERMATOLOGY

11070 2Y **Insights gained from regression analysis of PpIX fluorescence imaging undertaken during routine dermatological photodynamic therapy (Invited Paper)** [11070-80]

11070 30 **Photodynamic therapy for actinic keratosis: a trend towards a decrease in irradiance without loss of efficacy for a better tolerability** [11070-82]

VASCULAR TARGETED PDT

11070 37 **Safety and efficacy of photosensitizer Photolon (Fotolon) in photodynamic therapy** [11070-19]

PHOTOACTIVATED CHEMOTHERAPY: AN OXYGEN-INDEPENDENT FORM OF ANTICANCER PHOTOTHERAPY

11070 3J **Light emitting fabrics for photodynamic treatment of vulvar primary extramammary Paget's disease** [11070-101]

11070 3L **Novel mechanism of dendritic cell maturation by dying/death tumor cells via photodynamic modulation of type 1 interferon pathway** [11070-103]

PHOTOACTIVATION IN DRUG DELIVERY

11070 45 **Combination light-based therapies to treat pancreatic cancer: a proof of concept** [11070-124]

11070 46 **Mild hyperthermia enhances drug accumulation and photodynamic therapy efficacy** [11070-125]

APPLIED AND MECHANISTIC ISSUES OF ANTI-MICROBIAL PDT

11070 48 **Antimicrobial photodynamic therapy: from basis to clinical applications (Invited Paper)** [11070-127]

MACROMOLECULAR TARGETED PDT: IS IT WORTH THE TROUBLE OR IS IT TOO EARLY TO SAY?

11070 4J **Long-circulating prostate-specific membrane antigen-targeted NIR phototheranostic agent** [11070-137]

IMAGE-GUIDED OPTIMIZATION AND PREDICTION FOR EFFECTIVE PHOTODYNAMIC THERAPY

11070 4Q **The role of medical imaging in the context of photodynamic therapy** [11070-144]

11070 4R **5-aminolevulinic acid as a potential contrast agent for image-guided surgery in pancreatic cancer** [11070-145]

APPLICATIONS OF NOVEL PDT LIGHT SOURCES

11070 5L **Light emitting fabrics for PDT: technology and results of clinical studies (Invited Paper)** [11070-175]

11070 5P **Devices based on light emitting fabrics dedicated to PDT preclinical studies** [11070-179]

PHOTODYNAMIC DIAGNOSIS AND THERAPY FOR GASTROINTESTINAL NEOPLASTIC LESIONS

11070 5W **New concepts of photodynamic therapy in unresectable cholangiocarcinoma: 200 cases for 10 years, single center experiences (Invited Paper)** [11070-188]

11070 5Y **Endoscopic ultrasound and PDT for pancreatic cancer (Invited Paper)** [11070-190]

POSTER SESSION

11070 64 **DOSINDYGO: DOSe finding for INtraoperative photoDYnamic therapy of GliOblastoma** [11070-194]

11070 6B **Possible approaches to fluorescence diagnosis and photodynamic therapy for deep-seated tumors** [11070-201]

11070 6E **Determining an in vitro dose-response relationship of photodynamic therapy with first and second-generation photosensitisers for high grade tumours** [11070-204]

11070 6K **Effect of 5-aminolevulinic acid on the haem biosynthesis pathway in pancreatic cancer and pancreatic ductal epithelial cell lines** [11070-210]

11070 6Q **Investigation of protoporphyrin IX production induced by aminolevulinic acid combined with thermogenic and/or vasodilator substances** [11070-216]

11070 6R **Experimental findings utilising a new iron chelating ALA prodrug to enhance protoporphyrin IX-induced photodynamic therapy** [11070-217]

11070 73 **5-ALA induces the distribution of endogenous PpIX fluorescence in cervical lesions** [11070-230]

11070 7G **Assessment of the analgesic effect of compound lidocaine cream in patients with port-wine stain treated by hemoporfin photodynamic therapy** [11070-243]

11070 7T **A severe inflammatory acne was successfully cleared by topical photodynamic therapy mediated with 5-aminolevulinic acid in an refractory aplastic anemia female patient: a case report** [11070-256]

11070 7X **Hematoporphyrin mono-methylether photodynamic therapy (HMME-PDT) in treating port-wine stains (PWS) with Chinese patients** [11070-260]

11070 81 **Photodynamic therapy of basal cell carcinoma with Levulon local application** [11070-264]

11070 85 **PDT in dermatology: quantification, relevance and comparison of light sources within a few clicks** [11070-268]

11070 86 **Stimulation of apoptosis in systematically crossed cancer cell cultures by exudates from real tumors after PDT** [11070-269]

11070 88 **Optical techniques for the microbiological control of blood** [11070-271]

11070 8C **Self-sterilizing photoactivated catheters to prevent nosocomial infections** [11070-276]

11070 8F **Antimicrobial photodynamic therapy action over pathogens linked with healthcare-associated infections in patients with chronical periodontal disease** [11070-279]

11070 8K **Photodynamic inactivation of Candida albicans using a synthesized bacteriochlorin as a photosensitizer** [11070-284]

11070 8L **Antimicrobial PDT in South America** [11070-285]

11070 8S **Sonophotodynamic Therapy for the inactivation of Staphylococcus aureus biofilm** [11070-293]

11070 8W **Antimicrobial effects of Photodynamic Therapy to gram negative bacteria envelope revealed by Cryo-electron tomography** [11070-297]

11070 95 **Fluorescence colon tumor imaging by i.v. administered indocyanine green in a rat model of colon carcinogenesis** [11070-306]

11070 96 **Superiority of diagnosis and treatment with multidisciplinary team in vascular anomalies** [11070-307]

11070 9A **Photodynamic therapy activity of new porphyrin-xylan-coated silica nanoparticles in a human colorectal cancer in vivo model** [11070-312]

11070 9H **Photochromic antifolate for light-activated chemotherapy** [11070-320]

11070 9I **A lead BODIPY-phenylanthracene dyad for application in photodynamic therapy** [11070-321]

11070 9J **Singlet oxygen formation in photodynamic therapy using guaiazulene and red laser: an in vitro study** [11070-322]

11070 9L **Effects of irradiation modes in photodynamic therapy with azulene on singlet oxygen formation** [11070-324]

11070 9M **Influence of cationic, anionic or non-charged substituents on photodynamic activity of water-soluble zinc (aza)phthalocyanines** [11070-325]

11070 A0 **Methylene blue as a photosensitizer in the photodynamic therapy of breast cancer cell lines** [11070-341]

11070 A1 **Rose bengal as a photosensitizer in the photodynamic therapy of breast cancer cell lines** [11070-342]

11070 AP **Photodyamic therapy in combination with radio frequency electromagnetic field-mediated hyperthermia on cancer cells** [11070-368]

11070 AV **Topical hydrogen peroxide as a neoadjuvant treatment in the surgical excision of non-melanoma skin cancers** [11070-375]

11070 B6 **Study of destruction effect of blood vessels after photodynamic therapy in a model of chorioallantoic membrane** [11070-388]

11070 BI **Determination of in-vivo tissue optical properties for anal photodynamic therapy** [11070-400]

11070 BY **Targets of photodyamic inactivation in fungal cells** [11070-414]

11070 BZ **Photoprotective effect of catechin during ALA-PDT** [11070-500]

Authors

Numbers in the index correspond to the last two digits of the seven-digit citation identifier (CID) article numbering system used in Proceedings of SPIE. The first five digits reflect the volume number. Base 36 numbering is employed for the last two digits and indicates the order of articles within the volume. Numbers start with 00, 01, 02, 03, 04, 05, 06, 07, 08, 09, 0A, 0B...0Z, followed by 10-1Z, 20-2Z, etc.

A. Canevari, Renata, AF
Abirached, H., 3J
Abi-Rached, Henry, 5L
Abrahamse, H., 1V
Acar, Havva Y., 13
Acedo, P., 45, 97
Akkad, Rias, 2M
Al-Akkad, Walid, 6K
Alves, Fernanda, 8S
Amaro, F., 8C
Anand-Apte, Bela, 1N
Anayo, Lizette, 6R
Andersen, R., 8J
Arthuzo, G., B6
Atenco-Cuautle, JC, A0, A1
Baert, Gregory, 2M, 30, 5P, 64, 85
Bagnato, Vanderlei Salvador, 6Q, 6Z, 88, 8K, 8S, B6
Banerjee, S. M., 97
Baptista, Alessandra, 8F, BY
Baptista, Maurício S., 8L
Baptista-Hon, Daniel, 6E
Barnes, Klressa D., 46
Batoki, Julia C., 1N
Baydoun, M., 5P
Beaugé, L., 12
Bezdetnaya, Lina, 1P
Blanco, Kate Cristina, 88
Bouramtane, S., 9A
Boyle, Ross W., 9I
Brader, Nadine, AP
Bregier, F., 9A
Bretin, L., 9A
Busch, Theresa M., B0, BI
Buzzá, Hilde Harb, 6Z, B6
Callaghan, Susan, 9I
Camarero, Núria, 9H
Cang, Wei, 27
Cengel, Keith, B0
Chaleix, V., 9A
Chaves Silva Carvalho, Isabel, AF
Chen, Guiqin, 23, 73
Chen, Juan, 4J
Chen, Mingliang, 0V
Chen, Xiang, 0V
Chen, Zhou, 7T
Cheng, LeNan, 23, 73
Cheng, Mengxing, 27
Chesta, C. A., 12
Cho, Won, 2B
Cieślar, Grzegorz, A2, A3, B1, B2
Corrêa, Thaila Quatrini, 88, 8K
Curnow, Alison, 2Y, 6R
Czuba, Zenon, A3
Dailton G. O. Moraes, Carlos, AF
Damen, Martha P. F., 4J
Damrongrungruang, Teerasak, 9J, 9L
Damyeh, Maral Seidi, 0O
Davidson, Brian R., 13, 4R, 6K
de Castro, Cynthia Aparecida, 6Z
de Faria Souza, Roberta Kelly, AF
de Freitas, Laura M., 8L
de Oliveira, Kleber Thiago, 8K
de Souza, Clovis Wesley Oliveira, 8K
Deleporte, Pascal, 2M, 5L, 5P, 64
Delgado-López, MG, A0, A1
Delhem, N., 5P
Descalzo, A. B., 8C
DeWitt, John, 5Y
Di, Wen, 27
Dimofte, Andreea, B0, BI
Dupont, C., 4Q, 64
El Sheikh, S., 97
Fang, Tian-wen, 7X
Ferreira Strixino, Juliana, AF
Filatov, Mikhail A., 9I
Filonenko, E. V., 81
Fong, Wing-Ping, 2V
Fukuhara, Hideo, 2H
Garcez, Aguinaldo S., 8W
Garcia-Sampedro, A., 45
Gerrard, G., 97
Godoi, Bruno Henrique, AF
Gómez-Mendoza, M., 8C
Gomila, Alexandre M. J., 9H
Gorostiza, Pau, 9H
Goryajnov, Sergey, 6B
Grachev, Pavel, 6B
Griffin, Robert J., 46
Grigorievykh, N. I., 81
Gu, Li-Ying, 27
Gyenge, Emina Besic, AP
Halašková, Marie, 9M
Hales, Tim, 6E
Hamoudi, R., 97
Hanazaki, Kazuhiro, 2H
Harmatys, Kara M., 4J
Hashemkhani, Mahshid, 13

Hewitt, Molly, 6E
Hirai, Noriko, 2L
Hommel, Theresa, 5L
Hong, Zu-Bei, 27
Höpfner, Michael, AG
Hossain-Ibrahim, Kismet, 6E
Huang, Jingyi, 7T
Huang, Kai, 0V
Ibarra, L. E., 12
Inada, Natalia Mayumi, 6Z, 88, 8S
Inaji, Motoki, 1H
Inoue, Keiji, 2H
Ishibashi, Kei, 2L
Ishii, Kenji, 1H
Jenkins, Samir V., 46
Jensen, Grant J., 8W
Jiang, Xian, 7G, 96
Joniová, Jaroslava, BZ
Jordan, Kevin J., AV
Kaleta-Richter, Marta, A2
Kaplan, Mohammed, 8W
Kaprin, A. D., 81
Kawczyk-Krupka, Aleksandra, A2, A3, B1, B2
Kazebayashi, Yoshihiro, 2L
Keshtgar, M. R. S., 97
Kessel, David, 14, 2B
Kim, H.-R. C., 2B
Kim, Michele M., B0
Kitada, Masahiro, 2L
Kojima, Miho, 95
Kollár, Jan, 9M
Kouli, Omar, 6E
Kruger, C. A., 1V
Kumar, A., 5P
Kurachi, Cristina, 6Q, 88, 8S
Kuster, Niels, AP
Kustov, Daniil, 6B
Labib, Peter L., 13, 4R, 6K
Lai, Hung Wei, 6I, A4
Lamberti, María Julia, 3L
Lassalle, Henri-Pierre, 1P
Latos, Wojciech, A2, A3, B1, B2
Lecomte, Fabienne, 30, 3J, 5L, 64, 85
Leger, D.-Y., 9A
Leroux, B., 5P
Li, Andrew C., BI
Li, Dan-chen, 7X
Li, Fangfang, 0V
Li, Jinmao, 0V
Liagre, B., 9A
Libergoli, Michela, 9H
Linkov, Kirill, 6B
Liu, Guangzhi, 23, 73
Liu, Lian, 7G, 96
Loebel, N., 8J
Loizidou, Marilena, 13
Lombardi, Wellington, 6Z
Loschenov, Victor, 6B
Lu, XiaoLi, 23, 73
Luk, John M., 2V
Lum, Yick-Liang, 2V
Maake, Caroline, AP
Maccioni, Mariana, 3L
Macháček, Miloslav, 9M
MacRobert, Alexander J., 13, 45, 4R, 6K, 97
Maehara, Taketoshi, 1H
Magnussen, Anette, 6R
Mahamed, I., 45
Maire, Cyril, 3J, 5L
Makhseed, Saad, 9M
Maklygina, Yuliya, 6B
Mangkhalathon, Ampika, 9J
Mao, Bing, 23, 73
Marques, Ricardo H., 8F
Martin, A. A., BY
Martins, Laura Cristina Angioletto, 8K
Matera, Carlo, 9H
Meecham, A., 97
Meller, D., 8J
Mentucci, Fátima María, 3L
Mereddy, Ram, 0O
Mertas, Anna, A3
Miedzybrodzka, Anna, A2
Minami, Yoshinori, 2L
Mizutani-Morita, Reiko, 95
Mokwena, M. G., 1V
Moore, Corey, AV
Morales, Noppawan Phumala, 9J
Morales, O., 5P
Mordon, Serge R., 2M, 30, 3J, 4Q, 5L, 5P, 64, 85
Moriyama, Lilian Tan, 6Q
Morkmued, Supawich, 9J
Mortier, Laurent, 30, 3J, 5L, 85
Munck, Camille, 2M
Mundi, Neil, AV
Murbach, Manuel, AP
Nakajima, Motowo, 2H, 6I, A4
Nakayama, Taku, 2H
Nariai, Tadashi, 1H
Navarro, Ricardo S., 8F
Netzel, Michael E., 0O
Ney, A., 45
Ng, Dennis K. P., 2V
Nitzsche, Bianca, AG
Nong, Xiang, 7X
Núñez, Silvia Cristina, 48, 8F, 8W, BY
Ogbodu, Racheal O., AG
Ogura, Shun-ichiro, 2H, 6I, A4
Ohsaki, Yoshinobu, 2L
Okumura, Shunsuke, 2L
Onda, Nobuhiko, 95
Ong, Yi Hong, B0, BI
Orellana, G., 8C
Otsuka, Shimpei, 2H
Overchuk, Marta, 4J
Pacheco-Soares, Cristina, AF
Palacios, R. E., 12
Park, Eun Taek, 5W
Paterson, Cheryl, 2Y
Peng, Fen, 7T

Pereira, Stephen P., 13, 45, 4R, 6K
Perry, Alexis, 6R
Pinon, A., 9A
Pinto, Adenir Ferreira, 8F
Pomper, Martin G., 4J
Porte, Henri, 2M
Potapov, Alexander, 6B
Pratavieira, Sebastião, 8K
Prates, Renato A., 8F
Purtskhvanidze, Violeta, 86
Qiu, Li-Hua, 27
Ramirez-Ramirez, J., A0, A1
Ramírez-San-Juan, JC, A0, A1
Ramos-García, R., A0, A1
Rattanayatikul, Sutthichon, 9L
Reburn, Charlotte, 6R
Reyns, N., 64
Ribeiro, Martha S., 48, BY
Ricci, Ritchelli, AF
Rivarola, Viviana Alicia, 12, 3L
Rivas, L., 8C
Romanishkin, Igor, 6B
Romo, C., 8J
Rostomyan, Dzhivan, 86
Rumie Vittar, Natalia Belén, 3L
Ryabova, Anastasia, 6B
Sabino, Caetano P., 48
Sakiyama, Kylze Ikegami, 8F
Saleh, Mohamed Abdul Karim, 8F
Sancho, P., 45
Sasaki, Ryuta, 6I
Sasaki, Takaaki, 2L
Savelieva, Tatiana, 6B
Savoie, Huguette, 9I
Scherpereel, Arnaud, 2M
Selbo, P. K., 45
Senge, Mathias O., 9I
Shafirstein, Gal, 46
Shi, Wei, 0V
Shibutani, Makoto, 95
Shimizu, Kazuhide, 1H
Shuin, Taro, 2H
Sieroń, Aleksander, A2, A3, B1, B2
Simakov, Yury, 86
Šimůnek, Tomáš, 9M
Singh, Kirit, 6E
Singh, Rupesh, 1N
Singhal, Sunil, B0
Sol, V., 9A
Soler, Concepció, 9H
Sontikarn, Nattapon, 9L
Spezzia-Mazzocco, T., A0, A1
Staumont, D., 3J
Steklá, Monika, 9M
Stringasci, Mirian Denise, 6Q
Su, Juan, 0V
Sugawara, Takashi, 1H
Sultanbawa, Yasmina, 0O
Suprihadi, Arif, A4
Surmei-Pintilie, Ecaterina, 2M
Szeimies, R. Markus, 5L
Takahashi, Kiwamu, A4
Tamura, Kaoru, 1H
Tan, Hui Sun, A4
Tanaka, Tohru, 2H, 6I, A4
Tanaka, Yoji, 1H
Teerakapong, Aroon, 9J, 9L
Thecua, Elise, 30, 3J, 5L, 5P, 85
Tippayawat, Patcharaporn, 9L
Trukhachova, Tatsiana, 37
Tyrrell, Jess, 2Y
Uliana, Marciana P., 8K
Urlova, A. N., 81
Usuki, Shiro, 6I
Vermandel, M., 4Q, 64
Vicentini, Claire, 30, 3J, 5L, 85
Vignion-Dewalle, Anne-Sophie, 30, 3J, 5L, 85
Vollet Filho, José Dirceu, 6Q
Wagnières, Georges, BZ
Walt, Heinrich, AP
Wasielewski, Eric, 2M
Williams, N. R., 97
Wood, Mark, 6R
Wu, An-Yue, 27
Wuttiruk, Boonsita, 9L
Yaghini, Elnaz, 13, 4R
Yakavets, Ilya, 1P
Yamamoto, Yasushi, 2L
Yamashita, Susumu, 95
Yang, Liyun, 23, 73
Yang, QiuYun, 23, 73
Yang, Xiaojing, 7T
Yodh, Arjun G., B0
Yoshida, Nana, 2L
Yoshida, Ryohei, 2L
Yoshida, Toshinori, 95
Zhang, Zihui, 7G
Zhao, Shuang, 0V
Zhao, Ting-ting, 7X
Zhao, ZiYi, 23, 73
Zheng, Gang, 4J
Zhu, Timothy C., B0, BI
Ziane, L., 3J, 5P
Zimčík, Petr, 9M
Zorin, Vladimir, 1P

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Session Chairs

1 PDT in Food Safety and Solid Surface Sterilizations
Alessandra Nara de Souza Rastelli, Universidade de São Paulo (Brazil)
Živilė Lukšienė, Vilnius University (Lithuania)

2 PDT in Molecular and Personalized Medicine
Harubumi Kato, Tokyo Medical University Hospital (Japan)
Bin Chen, University of the Sciences in Philadelphia (United States)

3 Nanotechnology for Photodiagnosis
Kanyi Pu, Nanyang Technological University (Singapore)
Gang Zheng, University Health Network (Canada)

4 PDT in the Brain
Georg Widhalm, Medizinische Universität Wien (Austria)
Bryan Q. Spring, Northeastern University (United States)

5 Nanotechnology for Photodynamic Therapy
Gang Zheng, University Health Network (Canada)
Kanyi Pu, Nanyang Technological University (Singapore)

6 Photosensitizing Systems
Luis G. Arnaut, Universidade de Coimbra (Portugal)
Sherri A. McFarland, The University of North Carolina at Greensboro (United States)

7 Capabilities of 5-ALA
Anne Moor, photonamic GmbH & Company KG (Germany)
Walter Stummer, Universitätsklinikum Münster (Germany)

8 PDT in Urology and Gynecology
Lothar D. Lilge, Princess Margaret Cancer Center (Canada)
Henri Azaïs, Pitié-Salpêtrière Hospital (France)

9 Intracellular Mechanisms of PDT in Cancer
Anette Weyergang, Oslo University Hospital (Norway)
Imran Rizvi, The University of North Carolina at Chapel Hill (United States)

11 Photodynamic Immune Activation and Immunotherapy
Ferry Ossendorp, Leiden University Medical Center (Netherlands)
Arjan Griffioen, Amsterdam University Medical Center (Netherlands)

12 Clinical and Immunological Aspects of PDT in Dermatology
Edward V. Maytin, Lerner Research Institute - Cleveland Clinic (United States)
Xiuli Wang, Shanghai Skin Disease Hospital (China)

13 Vascular Targeted PDT
Avigdor Scherz, Weizmann Institute of Science (Israel)
Jonathan A. Coleman, Memorial Sloan-Kettering Cancer Center (United States)

14 PCI and Other Drug Delivery Methods
Per Walday, PCI Biotech AS (Norway)
Mans Broekgaarden, Institut pour l'Avancée des Biosciences (France)

15 Photoactivated Chemotherapy: an Oxygen-Independent Form of Anticancer Phototherapy
Sylvestre Bonnet, Leiden University (Netherlands)
Si Wu, Max-Planck-Institut für Polymerforschung (China)

16 Does PDT have a Role in Vaccine Development?
Sandra O. Gollnick, Roswell Park Comprehensive Cancer Center (United States)
Kristian Berg, Oslo University Hospital (Norway)

18 PDT in Head and Neck Cancer
Merrill A. Biel, University of Minnesota, Twin Cities (United States)
Kimberley S. Samkoe, Dartmouth-Hitchcock Medical Center (United States)

19 Photoactivation in Drug Delivery
Jonathan Lovell, University at Buffalo (United States)
Huang-Chiao Huang, University of Maryland, College Park (United States)

20 Applied and Mechanistic Issues of Anti-Microbial PDT
Maurício da Silva Baptista, Universidade de São Paulo (Brazil)
Tianhong Dai, Harvard Medical School (United States)

21 Macromolecular Targeted PDT: Is it Worth the Trouble or is it Too Early to Say?
Girgis Obaid, Wellman Center for Photomedicine (United States)
Sabrina Oliveira, Utrecht University (Netherlands)

22 Image-Guided Optimization and Prediction for Effective Photodynamic Therapy
Srivalleesha Mallidi, Wellman Center for Photomedicine (United States)
Ulas Sunar, Wright State University (United States)

23 Dosimetry and Interstitial PDT
Gal Shafirstein, Roswell Park Comprehensive Cancer Center (United States)
Herbert Stepp, Laser-Forschungslabor (Germany)

24 PDT in Global Health: Global Access to Healthcare Challenges and Opportunities
Colin Hopper, Eastman Dental Institute (United Kingdom)
Cristina Kurachi, Instituto de Física de São Carlos (Brazil)

25 Low-Cost Systems and Techniques in PDT Light Delivery, Dosimetry, and Treatment Guidance
Jonathan P. Celli, University of Massachusetts Boston (United States)
Dominic J. Robinson, Erasmus MC (Netherlands)

26 Photodynamics and Ionizing Radiation: Friends or Foes?
Anne-Laure Bulin, ESRF - The European Synchrotron (France)
Brian C. Wilson, University of Toronto (Canada)

27 Applications of Novel PDT Light Sources
Steven J. Davis, Physical Sciences Inc. (United States)
Serge R. Mordon, INSERM (France)

28 From Small Animals to Spheroids: Modelling Mechanisms of PDT Effect on Tissue
Theresa M. Busch, University of Pennsylvania (United States)
Patrycja M. Nowak-Sliwinska, Université de Genève (Switzerland)

29 Photodynamic Diagnosis and Therapy for Gastrointestinal Neoplastic Lesions
Kenneth K. Wang, Mayo Clinic (United States)
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Introduction

These Proceedings are the outcome, in part, of the papers presented at the 17th Biennial International Photodynamic Association (IPA) World Congress held at the Boston Marriot Cambridge Hotel, in Cambridge, MA from June 28 – July 4, 2019. The Congress was forward-looking, projecting areas with high potential for making an impact on healthcare and science using Photodynamic therapy (PDT) & Photodiagnosis (PD), as well as capturing the current state of the field. Both basic science and applied topics were covered and provided a good platform for exchange of ideas between laboratory scientists, clinicians, and engineers. It was specifically aimed to help implement "bench to bedside" translation, and targeted clinical applications for which the optical approach of PDT & PD could provide unique benefits. The Congress was attended by nearly 500 engineers, physicians and scientists and was sponsored by a number of industry partners. Particular emphasis was placed on encouraging attendance by junior scientists, women, and underrepresented minorities in the United States amongst other specialties, so that diverse viewpoints may be presented. Industry was strongly encouraged to participate in order to provide perspective on challenges associated with manufacturing and marketing of related medical drugs and devices.

The publications in this issue incorporate diverse topics from PD of thoracic malignancies (Ohsaki et al.) to the use of natural substance photosensitizers such as curcumin (Damyeh et al.). A 200 subjects case study over 10 years on PDT in unresectable cholangiocarcinoma by Park et al. is a valuable write-up on a topic that has been elusive for the PDT community in completing controlled trials. In addition, there was a focus on Low Cost Technologies in PDT and PD for implementation in low to middle income countries in sessions devoted to global health. Paper by Khan et al reflects the use of a smart phone for lesion localization and basis dosimetry. The special roles that photodynamic activation plays in immunology and disinfection of surfaces were important features at the conference, the latter being somewhat new and upcoming. Novel light delivery, sources and dosimetry were an important theme such as 'Light emitting fabrics for PDT: technology and results of clinical studies' Mordon et al. The use of biocompatible quantum dots is an emerging area and the paper by Labib et al. discusses the use of these in targeting of epidermal growth factor receptor positive pancreatic cancer cell lines. There are several basic cellular mechanism papers with an overview of death pathways (Kessel) and the discovery of a new iron-chelating prodrug (Reburn et al). Overviews of antimicrobial therapy in general (Ribiero et al.) and in South America in particular (de Frietas et al.) are also important contributions in this edition.

Finally, we observed the passing of Thomas J Dougherty by celebrating with a special symposium on the impact he made to the field. The article Thomas J. Dougherty: present at the creation by David Kessel provides an important and an interesting read into the development of PDT.

Typically, the conference opened with Plenary Lectures which encompass broad overviews of science and applications of disease. Of note was special lectures by Jack W. Szostak (Harvard Medical School, Massachusetts General Hospital, United States) Nobel laureate in Physiology and Medicine in 2009. Industry leaders from Novartis and Merrimack Pharmaceuticals were also part of the plenary lecture series to provide an overview of challenges in the development of therapeutics and diagnostics. Professor Rakesh Jain from the Massachusetts General Hospital and Harvard Medical School provided the basis of exploiting tumor physiology for developing approaches to novel therapeutics in his plenary lecture.

I thank the attendees and our industry partners for their participation in making this a successful Congress and hope that you will enjoy reading the Proceedings.

Tayyaba Hasan