

Optical Methods for Tumor Treatment and Detection: Mechanisms and Techniques in Photodynamic Therapy XXVIII

Saturday - Sunday 2 - 3 February 2019

Conference Sessions At A Glance

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2: Photodynamic Therapy II
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BIOS Hot Topics
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Posters-Monday

Important Dates

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Abstract Due:
25 July 2018

Author Notification:
1 October 2018

Manuscript Due Date:
11 January 2019

Conference Committee

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Conference Chairs

[David H. Kessel](#), Wayne State Univ. (United States)
[Tayyaba Hasan](#), Massachusetts General Hospital (United States)

Program Committee

[Imran Rizvi](#), Brigham and Women's Hospital (United States)
[Jonathan P. Celli](#), Univ. of Massachusetts Boston (United States)

Additional Conference Information

This meeting is dedicated to our friend, **Thomas Dougherty**, a pioneer in the field of photodynamic therapy.


SATURDAY 2 FEBRUARY

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Session 1: Photodynamic Therapy I

Saturday 2 February 2019
9:00 AM - 10:00 AMSession Chair: [David H. Kessel](#), Wayne State Univ. (United States)

Photodynamic therapy and paraptosis: an update

Paper 10860-1
Author(s): [David H. Kessel](#), Wayne State Univ. (United States)[Add To My Schedule](#) 

Does PDT have a special niche as an affordable technology?

Paper 10860-2
Author(s): [Tayyaba Hasan](#), Wellman Ctr. for Photomedicine (United States)[Add To My Schedule](#) 


Session 2: Photodynamic Therapy II

Saturday 2 February 2019
10:30 AM - 11:30 AM

Targeting drug-resistant glioblastoma stem cells using photodynamic therapy

Paper 10860-3


Author(s): Bryan Q. Spring, Northeastern Univ. (United States); Kohei Watanabe, Wellman Ctr. for Photomedicine (United States), Canon U.S.A., Inc. (United States); Megumi Ichikawa, Srivalleesha Mallidi, Tatsuyuki Matsudaira, Dmitriy Timerman, Wellman Ctr. for Photomedicine (United States); Hiroaki Wakimoto, Massachusetts General Hospital (United States), Harvard Medical School (United States); Tayyaba Hasan, Wellman Ctr. for Photomedicine (United States), Massachusetts General Hospital (United States), Harvard Medical School (United States)

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Chemically tuned NIR activatable nanoconstructs selectively destroy pancreatic tumor cells in a desmoplastic heterocellular 3D model

Paper 10860-4


Author(s): Girgis Obaid, Shazia Bano, Srivalleesha Mallidi, Wellman Ctr. for Photomedicine (United States); Diane Simeone, Perlmutter Cancer Ctr. (United States); Tayyaba Hasan, Wellman Ctr. for Photomedicine (United States)

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Overcoming chemoresistance using tumor mitochondria-targeted photodynamic therapy

Paper 10860-5

Author(s): Mingfeng Bai, Yang Liu, Vanderbilt Univ. Medical Ctr. (United States)

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Lunch/Exhibition Break 11:30 AM - 2:00 PM

Session 3: Photodynamic Therapy III

Saturday 2 February 2019


2:00 PM - 3:00 PM

Session Chair: [Theresa M. Busch](#), Univ. of Pennsylvania (United States)

Looking to the innate immune system for imageable biomarkers of PDT response

Paper 10860-6


Author(s): Theresa M. Busch, Univ. of Pennsylvania (United States)

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Comparison of finite element modeling and Monte Carlo simulations for interstitial photodynamic therapy

Paper 10860-7


Author(s): Emily Oakley, Roswell Park Comprehensive Cancer Ctr. (United States); Angelica Manalac, Princess Margaret Cancer Ctr. (Canada), Univ. of Toronto (Canada); Jeffrey Cassidy, Univ. of Toronto (Canada); Lothar D. Lilge, Princess Margaret Cancer Ctr. (Canada), Univ. of Toronto (Canada); Gal Shafirstein, Roswell Park Comprehensive Cancer Ctr. (United States)

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Nuclear targeted x-ray activated photodynamic therapy: a solution to treat pancreatic cancer

Paper 10860-8

Author(s): Sandhya Clement, Ayad Anwer, Wei Deng, The Univ. of New South Wales (Australia); Brian C. Wilson, Christine Allen, Univ. of Toronto (Canada); Ewa M. Goldys, The Univ. of New South Wales (Australia)

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Session 4: Photodynamic Therapy IV

Saturday 2 February 2019

3:30 PM - 5:10 PM

Session Chair: [Timothy C. Zhu](#), Perelman Ctr. for Advanced Medicine (United States)

Combining Raman spectroscopy and photodynamic therapy for optical cancer theranostics

Paper 10860-9


Author(s): Conor C. Horgan, Mads S. Bergholt, Anika Nagelkerke, Isaac J. Pence, Ulrike Kauscher, Molly M. Stevens, Imperial College London (United Kingdom)

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Tolerating uncertainty: photodynamic therapy planning with optical property variation

Paper 10860-10


Author(s): Abdul-Amir Yassine, Univ. of Toronto (Canada); Lothar D. Lilge, Univ. of Toronto (Canada), Princess Margaret Cancer Research Ctr. (Canada); Vaughn Betz, Univ. of Toronto (Canada)

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Fluorescence imaging of photosensitizers in biological tissues for photodynamic diagnosis during interstitial photodynamic therapy

Paper 10860-11

Author(s): Takahiro Nishimura, Kunio Awazu, Osaka Univ. (Japan)

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Validation of tissue optical properties measurement using diffuse reflectance spectroscopy (DRS)

Paper 10860-12

Author(s): Yi Hong Ong, Yihua Zhu, Timothy C. Zhu, Perelman Ctr. for Advanced Medicine (United States)

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Analysis of cumulative surface dose based on Cherenkov imaging of total skin electron therapy (TSET)

Paper 10860-13

Author(s): Heather Petroccia, Amit Maity, Yi Hong Ong, Michele M. Kim, Yihua Zhu, Perelman Ctr. for Advanced Medicine (United States); Petr Bruza, Tianshun Miao, Brian W. Pogue, Thayer School of Engineering at Dartmouth (United States); John Plastaras, Timothy C. Zhu, Perelman Ctr. for Advanced Medicine (United States)

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BIOS Hot Topics

Saturday 2 February 2019

7:00 PM - 9:00 PM

SUNDAY 3 FEBRUARY

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Session 5: Photodynamic Therapy V

Sunday 3 February 2019


9:10 AM - 10:00 AM

Session Chair: [Kenneth K. Wang](#), Mayo Clinic (United States)

Photodynamic therapy produces more durable response than radiofrequency ablation for the treatment of Barrett's esophagus

Paper 10860-14


Author(s): Kenneth K. Wang, Juan Genere, Lori Lutzke, Bryan Linn, Kristyn Maixner, Cadman Leggett, Mayo Clinic (United States)

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Potential role of vitamin D as a biological enhancer for photodynamic therapy (PDT) of skin cancer and precancer: preliminary results from two clinical trials

Paper 10860-15

Author(s): Edward V. Maytin, Lerner Research Institute - Cleveland Clinic (United States); Christine B. Warren, Urvasi Kaw, Judith Mack, The Cleveland Clinic (United States); Taylor Bullock, Lerner Research Institute - Cleveland Clinic (United States)

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Session 6: Photodynamic Therapy VI

Sunday 3 February 2019


10:30 AM - 11:40 AM

Session Chair: [Edward V. Maytin](#), Lerner Research Institute - Cleveland Clinic (United States)

Photodynamic therapy for the treatment of locally advanced pancreatic cancer

Paper 10860-16

Author(s): Kenneth K. Wang, Cadman Leggett, Bryan Linn, Juan Genere, Roy Bhaskar, Mayo Clinic (United States)

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PDT photo activation irradiance monitoring during a Phase I clinical study of TLD1433 in bladder cancer

Paper 10860-17


Author(s): Lothar D. Lilge, Jenny Wu, Angelica Manalac, Univ. Health Network (Canada); Jeffrey Cassidy, Univ. of Toronto (Canada); Wayne Embree, Theralase Inc. (Canada); Roger White, Arkady Mandel, Theralase, Inc. (Canada); Vaughn Betz, Univ. of Toronto (Canada); Michael Jewett, Girish Kulkarni, Univ. Health Network (Canada)

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Methylene blue photodynamic therapy for treatment of deep tissue abscess cavities

Paper 10860-18

Author(s): Timothy M. Baran, Univ. of Rochester Medical Ctr. (United States); Mattison J. Flakus, Hyun W. Choi, Univ. of Rochester (United States)

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Lunch/Exhibition Break 11:40 AM - 1:40 PM

Session 7: Photodynamic Therapy VII

Sunday 3 February 2019


1:40 PM - 3:00 PM

Session Chair: Bryan Q. Spring, Northeastern Univ. (United States)

Painless versus conventional photodynamic therapy for treatment of actinic keratosis: comparison of cell death and immune response in a murine model

Paper 10860-19


Author(s): Sanjay Anand, Anton Yasinchak, Mukul Govande, The Cleveland Clinic (United States); Sajina Shakya, Cleveland Clinic (United States); Edward V. Maytin, The Cleveland Clinic (United States)

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Personalized strategies for delivering photo therapies to solid tumors with theranostic nanoparticles

Paper 10860-20


Author(s): Amit Joshi, Medical College of Wisconsin (United States)

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Controlled drug release from a X-ray triggered liposomal delivery platform for colorectal cancer treatment

Paper 10860-21


Author(s): Wei Deng, The Univ. of New South Wales (Australia); Wenjie Chen, Macquarie Univ. (Australia); Sandhya Clement, Anna Guller, The Univ. of New South Wales (Australia); Zhenjun Zhao, Macquarie Univ. (Australia); Alexander Engel, The Univ. of Sydney (Australia); Ewa M. Goldys, The Univ. of New South Wales (Australia)

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Validation of DosieSOFT a combined Monte Carlo and photokinetic simulations for the analysis of HPPH-mediated photodynamic therapy on mice

Paper 10860-22

Author(s): Karl Beeson, Evgueni Parilov, Mary J. Potasek, Simphotek Inc. (United States)

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Session 8: Photodynamic Therapy VIII

Sunday 3 February 2019


3:30 PM - 5:10 PM

Session Chair: [Srivalleesha Mallidi](#), Wellman Ctr. for Photomedicine (United States)

A 2-D imaging dosimeter for photodynamic therapy

Paper 10860-23


Author(s): Steven J. Davis, Physical Sciences Inc. (United States); Brian W. Pogue, Jason R. Gunn, Dartmouth College (United States)

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Modifying pancreatic tumor stroma stiffness to improve vascular perfusion and verteporfin delivery with angiotensin II receptor blockers

Paper 10860-24


Author(s): Phuong Vincent, Jason R. Gunn, Kayla Marra, Kimberley Samkoe, P. Jack Hoopes, Thayer School of Engineering at Dartmouth (United States); Tayyaba Hasan, Wellman Ctr. for Photomedicine (United States); Brian W. Pogue, Thayer School of Engineering at Dartmouth (United States)

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Modeling PpIX-effective fluence rate in tissue for multiple light sources used in photodynamic therapy of skin

Paper 10860-25


Author(s): Ethan Philip M. LaRochelle, Kayla Marra, Thayer School of Engineering at Dartmouth (United States); Robert E. LeBlanc, Michael S. Chapman, Geisel School of Medicine, Dartmouth College (United States); Edward V. Maytin, Cleveland Clinic (United States); Tayyaba Hasan, Wellman Ctr. for Photomedicine (United States), Massachusetts General Hospital (United States), Harvard Medical School (United States); Brian W. Pogue, Thayer School of Engineering at Dartmouth (United States)

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Smartphone-based imaging system for individualization of PDT treatment planning for protoporphyrin IX based skin cancer treatment

Paper 10860-26


Author(s): Alberto J. Ruiz, Brian W. Pogue, Ethan Philip M. LaRochelle, Thayer School of Engineering at Dartmouth (United States)

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A platform for intraoral PDT light delivery using modular 3D printed components

Paper 10860-27

Author(s): Hui Liu, Univ. of Massachusetts Boston (United States); Amjad Khan, Srivalleesha Mallidi, Massachusetts General Hospital (United States); Paola Leon, Grant Rudd, Liam Daly, Yiran Liu, Univ. of Massachusetts Boston (United States); Shakir Khan, Jawaharlal Nehru Medical College (India), Aligarh Muslim Univ. (India); Bilal Hussain, Aligarh Muslim Univ. (India), Jawaharlal Nehru Medical College (India); Shahid Siddiqui, Jawaharlal Nehru Medical College (India), Aligarh Muslim Univ. (India); Meredith August, Maria Troulis, Massachusetts General Hospital (United States); Colin Hopper, Stephen Bown, Univ. College London (United Kingdom); Filip Cuckov, Univ. of Massachusetts Boston (United States); Tayyaba Hasan, Massachusetts General Hospital (United States); Jonathan P. Celli, Univ. of Massachusetts Boston (United States)

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MONDAY 4 FEBRUARY

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Session PMon: Posters-Monday


Monday 4 February 2019
5:30 PM - 7:00 PM

Conference attendees are invited to attend the BiOS poster session on Monday evening. Come view the posters, enjoy light refreshments, ask questions, and network with colleagues in your field. Authors of poster papers will be present to answer questions concerning their papers. Attendees are required to wear their conference registration badges to the poster sessions. Poster authors, view poster presentation guidelines and set-up instructions at <http://spie.org/PWPosterGuidelines>.

Assembly of a PDT device with an near-infrared fluorescence monitoring of PpIX during treatment

Paper 10860-28


Author(s): Marlon R. Garcia, Sebastião Pratavieira, Lilian T. Moriyama, Cristina Kurachi, Daniel V. Magalhães, Univ. de São Paulo (Brazil)

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Membrane fusogenic liposomes loaded with PpIX for photodynamic therapy

Paper 10860-29


Author(s): Ilaiáli Souza Leite, Instituto de Física de São Carlos (Brazil); Gabriela Mayr Reyes, Instituto de Química de São Carlos (Brazil); Juliana Cancino-Bernardi, Natalia M. Inada, Instituto de Física de São Carlos (Brazil)

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Singlet oxygen explicit dosimetry to predict local tumor control for Photofrin-mediated photodynamic therapy

Paper 10860-30


Author(s): Tianqi Sheng, Yi Hong Ong, Timothy C. Zhu, Univ. of Pennsylvania (United States)

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Multi-session PDT in 3D cell culture of breast cancer

Paper 10860-31

Author(s): Carolina P. Campos, Ievgeniia Iermak, Natalia M. Inada, Cristina Kurachi, Univ. de São Paulo (Brazil)

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AAPM TG 274 recommendations for in-vivo light dosimetry for PDT

Paper 10860-32

Author(s): Timothy C. Zhu, Univ. of Pennsylvania Health System (United States); Andrea Dimofte, Jarod C. Finlay, Univ. of Pennsylvania Health System (United States); Lothar D. Lilge, Univ. Health Network (Canada); Brian W. Pogue, Dartmouth College (United States); Robert van Veen, Univ. Medical Ctr. Utrecht (Netherlands); Marla Dowell, National Institute of Standards and Technology (United States); Valdir Colussi, UH Case Seidman Cancer Ctr. (United States); Ulas Sunar, Wright State Univ. (United States); Charles Simone, Univ. of Maryland School of Medicine (United States)

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