CONFERENCE PROGRAM

Wednesday, February 14

1:00 p.m.–3:00 p.m.  EDUCATIONAL SESSION 1: EMERGING ADVANCES AND NEW IMAGING TECHNOLOGIES
Coronado Ballroom CDE
Session Chair: Mark “Marty” Pagel, The University of Texas MD Anderson Cancer Center, Houston, TX
1:00 p.m.–1:30 p.m.  Shedding light on tumor oxygenation with photoacoustic imaging
Sarah Bohndiek, University of Cambridge, Cambridge, United Kingdom
1:30 p.m.–2:00 p.m.  Cryo-imaging of metastatic cancer and stem cells
David L. Wilson, Case Western University and BioInvision, Cleveland, OH
2:00 p.m.–2:30 p.m.  Real-time molecular imaging of colorectal cancer with hyperpolarized silicon nano and microparticles
Pratip Bhattacharya, The University of Texas MD Anderson Cancer Center, Houston, TX
2:30 p.m.–3:00 p.m.  What’s new in nucl med instrumentation
Todd E. Peterson, Vanderbilt University Medical Center, Nashville, TN

3:00 p.m.–3:30 p.m.  BREAK
Coronado Foyer

3:30 p.m.–5:30 p.m.  EDUCATIONAL SESSION 2: NOVEL LIGANDS AND TARGET IDENTIFICATION
Coronado Ballroom CDE
Session Chair: Carolyn J. Anderson, University of Pittsburgh School of Medicine, Pittsburgh, PA
3:30 p.m.–4:00 p.m.  Directed evolution of PET radiotracers for oncology imaging
Steven W. Millward, The University of Texas MD Anderson Cancer Center, Houston, TX
4:00 p.m.–4:30 p.m.  Novel ligands and target identification: Using the correct in vivo models
Jason S. Lewis, Memorial Sloan Kettering Cancer Center, New York, NY
4:30 p.m.–5:00 p.m.  Cancer nanotheranostics
Xiaoyuan (Shawn) Chen, NIH/NIBIB, Bethesda, MD
5:00 p.m.–5:30 p.m.  Target identification using functional proteomics
Kimberly A. Kelly, University of Virginia, Charlottesville, VA

5:30 p.m.–7:00 p.m.  OPENING RECEPTION
Coronado Foyer

7:00 p.m.–8:00 p.m.  WELCOME REMARKS AND OPENING KEYNOTE SESSION
Coronado Ballroom CDE
Session Chair: David R. Piwnica-Worms, The University of Texas MD Anderson Cancer Center, Houston, TX
CONFERENCE PROGRAM

7:00 p.m.–7:05 p.m.  Welcome remarks

7:05 p.m.–7:45 p.m.  Keynote Lecture
Targeting the tumor metabolic microenvironment: Imaging challenges and opportunities
Chi Van Dang, Ludwig Institute for Cancer, New York, NY and The Wistar Institute, Philadelphia, PA

7:45 p.m.–8:00 p.m.  Discussion

Thursday, February 15

7:00 a.m.–8:00 a.m.  CONTINENTAL BREAKFAST
Coronado Foyer

8:00 a.m.–10:00 a.m.  PLENARY SESSION 1: EARLY DETECTION OF CANCER: LIQUID BIOPSIES AND IMAGING
Coronado Ballroom CDE
Session Chair: David R. Piwnica-Worms, The University of Texas MD Anderson Cancer Center, Houston, TX

8:00 a.m.–8:30 a.m.  Liquid biopsy for early detection of cancer: Opportunities, promise, challenges, and solutions
Kapil Dhingra, KAPital Consulting LLC, Sparta, NJ

8:30 a.m.–9:00 a.m.  Imaging genomics to support development of a blood test
Jörg Bredno, GRAIL, Inc., Menlo Park, CA

9:00 a.m.–9:30 a.m.  Title to be announced
Christopher H. Contag, Michigan State University, East Lansing, MI

9:30 a.m.–10:00 a.m.  Discussion Panel: What are the roles of imaging and liquid biopsies in cancer detection, therapeutic response, detecting recurrence?

10:00 a.m.–10:30 a.m.  BREAK
Coronado Foyer
10:30 a.m.–12:30 p.m.  PLENARY SESSION 2: IMAGING CANCER IMMUNOTHERAPY I: CHECKPOINT BLOCKADE, RESISTANCE, AND TARGETED THERAPIES  Coronado Ballroom CDE  
Session Chair: H. Charles Manning, Vanderbilt-Ingram Cancer Center, Nashville, TN  
10:30 a.m.–11:00 a.m.  DNA damage to immune checkpoint signaling: A new era in image-guided therapy  
David Clump, University of Pittsburgh, Pittsburgh, PA  
11:00 a.m.–11:30 a.m.  Image-guided targeted radionuclide therapy with immunotherapy  
Carolyn J. Anderson, University of Pittsburgh School of Medicine, Pittsburgh, PA  
11:30 a.m.–12:00 p.m.  Real-time PK/PD imaging of immunotherapy in vivo  
Mikael J. Pittet, Massachusetts General Hospital, Boston, MA  
12:00 p.m.–12:15 p.m.  Systems-level visualization of activated T-cell dynamics enables early classification of response to local cancer immunotherapy*  
Aaron T. Mayer, Stanford University, Stanford, CA  
12:15 p.m.–12:30 p.m.  Development of a minibody that binds PD-L1 in high affinity for immunoPET*  
Shubahnchi Nigam, University of Pittsburgh, Pittsburgh, PA

12:30 p.m.–2:30 p.m.  POSTER SESSION WITH LUNCH  Coronado Ballroom AB

2:30 p.m.–4:30 p.m.  PLENARY SESSION 3: IMAGING CANCER IMMUNOTHERAPY II: CELL-BASED THERAPIES  Coronado Ballroom CDE  
Session Chair: Jason S. Lewis, Memorial Sloan Kettering Cancer Center, New York, NY  
2:30 p.m.–3:00 p.m.  Imaging strategies for CAR T-cell immunotherapy of solid tumors  
John Maher, King’s College, London, United Kingdom  
3:00 p.m.–3:30 p.m.  ImmunoPET for monitoring immune cell subsets and immune responses  
Anna M. Wu, David Geffen School of Medicine at UCLA, Los Angeles, CA  
3:30 p.m.–4:00 p.m.  Imaging tumor-associated macrophages with MRI  
Heike Daldrup-Link, Stanford University, Stanford, CA  
4:00 p.m.–4:15 p.m.  Comparison of positron-emission tomography reporter gene imaging systems in adoptive T-cell therapy of cancer*  
Noriko Sato, National Cancer Institute, Bethesda, MD  
4:15 p.m.–4:30 p.m.  MRI quantification of SPIO-labeled immune cell recruitment to tumors in murine cervical and breast cancer models*  
Marie-Laurence Tremblay, IWK Health Center, BIOTIC, Halifax, NS, Canada

*Short talk from proffered abstract
CONFERENCE PROGRAM

Friday, February 16

7:00 a.m.–8:00 a.m.  CONTINENTAL BREAKFAST
Coronado Foyer

7:00 a.m.–7:45 a.m.  SUNRISE WITH THE EXPerts
Coronado Ballroom CDE
How to set up a lab and compete for grant funding
Jason S. Lewis, Memorial Sloan Kettering Cancer Center, New York, NY

8:00 a.m.–10:00 a.m.  PLENARY SESSION 4: PATHWAYS FOR CLINICAL TRANSLATION:
NOVEL AGENTS AND STRATEGIES
Coronado Ballroom CDE
Session Chair: Kimberly A. Kelly, University of Virginia, Charlottesville, VA

8:00 a.m.–8:30 a.m.  Radiometal APC chelates for targeted imaging, therapy, and immunomodulation of cancer
Jamey Weichert, University of Wisconsin-Madison, Madison, WI

8:30 a.m.–9:00 a.m.  Magnetic Resonance Fingerprinting: Development to clinical translation
Vikas Gulani, Case Western University, Cleveland, OH

9:00 a.m.–9:30 a.m.  Imaging tumor acidosis with acidoCEST MRI
Mark “Marty” Pagel, The University of Texas MD Anderson Cancer Center, Houston, TX

9:30 a.m.–9:45 a.m.  Dose optimization of \(^{177}\)Lu-labeled phosphoramidate-based PSMA inhibitor with an albumin-binding motif (CTT1403) and therapeutic efficacy comparison to \(^{177}\)Lu-PSMA-617*
Xiaoxi Ling, University of Pittsburgh, Pittsburgh, PA

9:45 a.m.–10:00 a.m.  Improved MC1R-targeted molecular imaging for metastatic melanoma by upregulation of MC1R expression with MAPK pathway inhibitors and epigenetic modulators*
Mengshi Li, University of Iowa, Iowa City, IA

10:00 a.m.–10:30 a.m.  BREAK
Coronado Foyer

*Short talk from proffered abstract
CONFERENCE PROGRAM  Friday, February 16 (cont’d)

10:30 a.m.–12:30 p.m.  PLENARY SESSION 5: MODELING CANCER—IN SILICO, IN VITRO, IN VIVO
Coronado Ballroom CDE
Session Chair: Todd E. Peterson, Vanderbilt University Medical Center, Nashville, TN
10:30 a.m.–11:00 a.m.  Quantitative imaging to enable practical computational modeling of cancer
Thomas Yankeelov, The University of Texas at Austin, Austin, TX
11:00 a.m.–11:30 a.m.  Tumor organoids for drug discovery and personalized medicine
Daniel LaBarbera, University of Colorado Denver, Aurora, CO
11:30 a.m.–12:00 p.m.  Modeling drug resistance in lung cancer
Katerina A. Politi, Yale Cancer Center, New Haven, CT
12:00 p.m.–12:15 p.m.  “F-fluoroestradiol imaging of estrogen receptor alpha gene mutation Y537S in breast cancer”*
Manoj Kumar, University of Wisconsin-Madison, Madison, WI
12:15 p.m.–12:30 p.m.  Nucleoside diphosphate kinase-3 (NME3) enhances TLR5-induced NF-κB activation in tumor cells*
Caleb Gonzalez, The University of Texas MD Anderson Cancer Center, Houston, TX

12:30 p.m.–1:30 p.m.  LUNCH ON OWN / FREE TIME

1:30 p.m.–2:30 p.m.  QUANTITATIVE IMAGING NETWORK (QIN) SESSION
(Not accredited for CME)
Coronado Ballroom CDE
1:30 p.m.–1:40 p.m.  Introduction of the NIH/NCI Quantitative Imaging Network
Ella Jones, University of California San Francisco, San Francisco, CA
1:40 p.m.–1:55 p.m.  Repeatability and reproducibility of emerging MRI and PET measures: Practical quantitative imaging of cancer
Thomas Yankeelov, The University of Texas at Austin, Austin, TX
1:55 p.m.–2:10 p.m.  Reproducibility of FDG-PET/CT SUV measurements in oncology
Brenda Kurland, University of Pittsburgh, Pittsburgh, PA
2:10 p.m.–2:25 p.m.  Artificial intelligence toolbox for response assessment in clinical oncology—applications in brain tumors
Jayashree Kalpathy-Cramer, Massachusetts General Hospital/Harvard Medical School, Boston, MA
2:25 p.m.–2:30 p.m.  Questions and discussion

*Short talk from proffered abstract
CONFERENCE PROGRAM

2:30 p.m.–4:30 p.m.  PLENARY SESSION 6: OPTICS IN THE ONCOLOGY SURGICAL SUITE
Coronado Ballroom CDE
Session Chair: Christopher H. Contag, Michigan State University, East Lansing, MI

2:30 p.m.–3:00 p.m.  EGFR-directed fluorescent affibody ABY-029 for phase 0 trial studies
Brian W. Pogue, Dartmouth College, Hanover, NH

3:00 p.m.–3:30 p.m.  New avenues of optical molecular imaging in image-guided treatment and drug development
Gooitzen M. van Dam, University Medical Center Groningen, Groningen, The Netherlands

3:30 p.m.–4:00 p.m.  Light up my tumor: Giving surgeons hope
Eben L. Rosenthal, Stanford University, Stanford, CA

4:00 p.m.–4:15 p.m.  Rapid, molecularly targeted ex vivo tumor delineation on preclinical and clinical oral and esophageal cancer samples using a fluorescent PARP inhibitor*
Susanne Kossatz, Memorial Sloan Kettering Cancer Center, New York, NY

4:15 p.m.–4:30 p.m.  Characterization of a dual-labeled somatostatin analog for fluorescence-guided surgery*
Ali Azhdarinia, Institute of Molecular Medicine, McGovern Medical School, Houston, TX

Saturday, February 17

7:00 a.m.–8:00 a.m.  CONTINENTAL BREAKFAST
Coronado Foyer

8:00 a.m.–10:00 a.m.  PLENARY SESSION 7: HIGH-RESOLUTION IMAGING OF CANCER BIOLOGY AND METASTASIS
Coronado Ballroom CDE
Session Chair: Yibin Kang, Princeton University, Princeton, NJ

8:00 a.m.–8:30 a.m.  AI in pathology: Leveraging image analysis to predict clinical outcome in cancer populations
Andries Zijlstra, Vanderbilt University, Nashville, TN

8:30 a.m.–9:00 a.m.  Tumor-stromal interaction dynamics in osteolytic bone metastasis
Yibin Kang

9:00 a.m.–9:30 a.m.  Mapping bone marrow niches of disseminated tumor cells
Xiang Zhang, Baylor College of Medicine, Houston, TX

9:30 a.m.–9:45 a.m.  Various applications of CUBIC 3D imaging for cancer research*
Kei Takahashi, The University of Tokyo, Tokyo, Japan

9:45 a.m.–10:00 a.m.  Transferrin-based PET measures MYC activity in prostate cancer: From bench to bedside*
Michael J. Evans, University of California San Francisco, San Francisco, CA

*Short talk from proffered abstract
10:00 a.m.–10:15 a.m.  
**BREAK**  
Coronado Foyer

10:15 a.m.–12:15 p.m.  
PLENARY SESSION 8: IMAGING CANCER METABOLISM  
Coronado Ballroom CDE  
**Session Chair:** Anna M. Wu, David Geffen School of Medicine at UCLA, Los Angeles, CA

10:15 a.m.–10:45 a.m.  
[*F*]FAZA PET/CT for monitoring modulation of mitochondrial oxidative phosphorylation in vivo  
David R. Piwnica-Worms, The University of Texas MD Anderson Cancer Center, Houston, TX

10:45 a.m.–11:15 a.m.  
Inhibitors and tracers of glutamine metabolism  
H. Charles Manning, Vanderbilt-Ingram Cancer Center, Nashville, TN

11:15 a.m.–11:45 a.m.  
Hyperpolarized magnetic resonance for imaging cancer metabolism  
Kayvan R. Keshari, Memorial Sloan Kettering Cancer Center, New York, NY

11:45 a.m.–12:00 p.m.  
Imaging hypoxia-driven regulation of GLUT1, GLUT2, and GLUT5 in breast cancer*  
Melinda Wuest, University of Alberta, Edmonton, AB, Canada

12:00 p.m.–12:15 p.m.  
Metabolic evolution of patient-derived glioblastoma xenografts through in vivo hyperpolarized 13C magnetic resonance spectroscopic imaging and ex vivo nuclear magnetic resonance spectroscopy*  
Travis Salzillo, The University of Texas MD Anderson Cancer Center, Houston, TX

12:15 p.m.–12:30 p.m.  
**CLOSING REMARKS**

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*Short talk from proffered abstract*