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 nuc 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

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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

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.	**[18]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.   **[^{18}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 ^{13}C 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**

*Short talk from proffered abstract