4th Annual

Intraoperative Imaging Technologies for Cancer Detection and Treatment

Includes didactic lectures and an interactive workshop featuring a unique pre-surgical planning solution

Friday · **December 6, 2019**

Zuckerman Research Center
New York, NY

Memorial Sloan Kettering
Cancer Center

4th Annual
Intraoperative Imaging Technologies for Cancer Detection and Treatment

The overall goal of the course is to update the learner on the progress made in the area of image-guided intraoperative treatment of cancer, to enhance the understanding of current tools and highlight the next generation imaging technologies for improving cancer detection, treatment, and patient outcomes.

The course will include didactic lectures and an interactive workshop featuring a unique pre-surgical planning solution.

Learning Objectives

- Develop familiarity with photodynamic therapy as a targeted treatment for patients who have not responded to standard therapies.
- Demonstrate new augmented reality and 3D technology applications to assist in surgical planning.
- Review and highlight new advances of image guided technologies in clinical applications.
- Facilitate integration of next-generation intraoperative imaging tools into clinical trial designs and routine practice.

Target Audience

This course is directed towards surgical oncologists, radiologists, pathologists, engineers, research scientists and technologists.

IN PARTNERSHIP WITH

MSK-Cornell Center for Translation of Cancer Nanomedicines

The goal of the MSK-Cornell Center for Translation of Cancer Nanomedicine (MC2TCN) is to advance, translate, and disseminate a suite of ultrasmall (<10 nm), multimodality (PET/optical), core-shell silica nanoparticles. In addition to fluorescent particles being highly versatile and exquisitely bright, their size, brightness, and geometry can be tuned for a variety of cancer-care applications. Earlier-generation particles, referred to as Cornell dots or C dots, have already received FDA investigational new drug approvals for phase 1 clinical trials in melanoma, breast cancer, uterine/cervical cancer, and brain tumor patients.

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MSK Course Directors

Nadeem R. Abu-Rustum, MD, FACOG, FACS
Chief, Gynecology Service
Vice Chair for Technology Development, Department of Surgery
Avon Chair in Gynecologic Oncology

Michelle S. Bradbury, MD, PhD
Co-Director, MSK-Cornell Center for Translation of Cancer Nanomedicines
Director, Intraoperative Imaging Program
Member, Molecular Pharmacology Program, Sloan Kettering Institute
Attending, Department of Radiology, MSKCC
Professor, GSK Graduate School & Weill Medical College of Cornell University

Invited Course Faculty

Christina Liu, PhD, PE
Program Director
Nanosystems Delivery and Devices Branch
Cancer Imaging Program
Division of Cancer Treatment and Diagnosis
National Cancer Institute/NIH

Gal Shafirstein D.Sc.
Professor of Oncology
Director of PDT Clinical Research
Photodynamic Therapy Center
Department of Cell Stress Biology
Roswell Park Comprehensive Cancer Center

Sunil Singhal, MD
Director, Thoracic Surgery Research Laboratory
William Maul Measey Associate Professor in Surgical Research
Perelman School of Medicine
University of Pennsylvania

MSK Course Faculty

F. Edward Boas, MD, PhD
Assistant Attending
Department of Radiology

Paul Booth
Section Head, Biomedical Systems
Biomedical Engineering
Department of Medical Physics

Joseph Dayan, MD
Co-Director, Lymphatic Surgery and Research
Assistant Attending
Department of Surgery

Paul Frisch, PhD
Chief, Biomedical Physics and Engineering Service
Associate Attending
Department of Medical Physics

Hans Gerdes, MD
Director, GI Endoscopy Unit at Memorial Hospital
Attending
Department of Medicine

Samuel Hellman, PhD
Section Head, Mechanical Engineering
Department of Medical Physics

Krishna Juluru, MD
Director, Radiology Informatics
Associate Attending
Department of Radiology

Jennifer Mueller, MD
Assistant Attending
Department of Surgery

Snehal Patel, MD
Attending
Department of Surgery

Smita Sihag, MD, MPH
Assistant Attending
Department of Surgery

Pat Zanzonico, PhD, DABR
Attending
Department of Medical Physics
Co-Director, Small-Animal Imaging Core Facility

Schedule

8:30 AM	Registration & Breakfast
9:00 AM	**Opening Remarks & Honors** Michelle Bradbury, MD, PhD Nadeem R. Abu-Rustum, MD, FACOG, FACS
9:30 AM	**KEYNOTE SPEAKER** **The Future of Surgical Oncology: Intraoperative Molecular Imaging** Sunil Singhal, MD

Cancer Imaging Program, Nanodelivery Systems & Devices Branch

MODERATOR: Michelle Bradbury, MD, PhD

9:50 AM	**Nanotechnology in Cancer Imaging:** **New Opportunities and Challenges** Christina Liu, PhD, PE

Photodynamic Therapy

MODERATOR: Michelle Bradbury, MD, PhD

10:10 AM	**Endoluminal Application of Vascular Targeted Photodynamic Therapy** Hans Gerdes, MD
10:30 AM	**Integrated Image Guided Dosimetry for Interstitial Photodynamic Therapy of Locally Advanced Cancer** Gal Shafirstein, D.Sc.
10:50 AM	Break

Clinical Applications
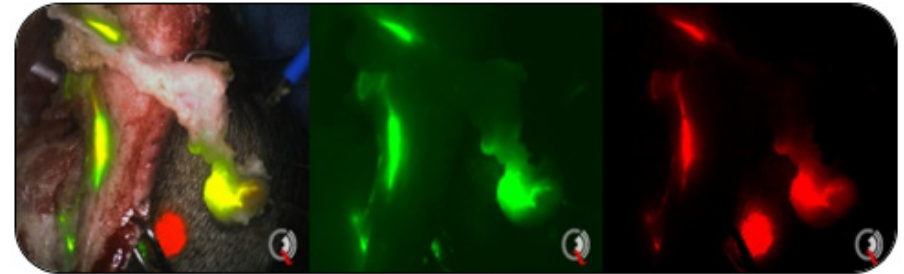
MODERATOR: Nadeem R. Abu-Rustum, MD, FACOG, FACS

11:10 AM	**Image-Guided Surgical Applications in the Head and Neck: Opportunities and Challenges** Snehal Patel, MD
11:30 AM	**FDG Lymphography: Can we Move Beyond the Removal of Negative Sentinel Lymph Nodes?** Jennifer Mueller, MD
11:50 AM	**Intraoperative Image Guidance in Thoracic Surgery** Smita Sihag, MD, MPH
12:10 PM	**Lymphatic Imaging and Prophylactic Surgery for Breast Cancer-related Lymphedema** Joseph Dayan, MD

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Educational Workshop Lunch (Room 136)*

12:30 PM	**Augmented Reality for Surgical Applications** MODERATOR: Krishna Juluru, MD Participants will be introduced to a unique pre-surgical planning solution using augmented reality and will learn how to create 2D, 3D, and even 4D images of patient anatomy, overlaying them directly onto the patient's body to enable accurate registration for surgical planning.	**Digital Anatomy Printing** MODERATOR: Samuel Hellman, PhD Participants will experience the possibilities of a digital anatomy 3D printer and learn how to print prototypes or medical models to mimic bone and tissue with the most intricate details.

Interventional Radiology Core, IT integration and 3D Rendering

MODERATORS: Michelle Bradbury, MD, PhD and Nadeem R. Abu-Rustum, MD, FACOG, FACS

1:30 PM	**Image-guided Local Drug Delivery Using Tumor-targeting Intra-arterial Drug Carriers** F. Edward Boas, MD, PhD
1:50 PM	**Intraoperative 3D Rendering, 3D Printing, and Beyond** Krishna Juluru, MD
2:10 PM	**3D Technologies for Patient-Specific Intraoperative Applications: Reconstruction, Planning, Modelling/Analysis, Education and Tooling** Paul Frisch, PhD Paul Booth Samuel Hellman, PhD

Panel Discussion

MODERATOR: Pat Zanzonico, PhD, DABR

2:30 PM	PANELISTS: F. Edward Boas, MD, PhD Paul Frisch, PhD Hans Gerdes, MD Krishna Juluru, MD Snehal Patel, MD Sunil Singhal, MD
3:30 PM	Adjourn

*Please note that *AMA PRA Category 1 Credits™* will not be offered for the Educational Workshop Lunch from 12:30-1:30 PM.

Registration

Registration Fees	Early*	General
Physicians (MDs, PhDs, PharmDs and DOs)	**$300**	**$350**
Residents, Fellows, Advanced Practice Providers, Nurses, and Other Healthcare Providers	**$100**	**$150**
Industry Professionals**	**$750**	**$800**

*Early registration rates available through November 1, 2019

**Industry professionals may attend MSK CME activities for their own education. Marketing, sales, and promotion of products and services is strictly prohibited at MSK CME activities.

Register online:
mskcc.org/intraoperativecourse

Course registration includes continental breakfast, lunch, and refreshment breaks. Please contact **cme@mskcc.org** at least one week prior to the course if you have any special dietary requests or require any specific accommodations.

- MSK CME offers a **discounted rate for MSK Alumni, MSK Cancer Alliance and Cancer Care Partners.** If you are a member of one of these groups, please contact cme@mskcc.org for more information.
- **MSK employee registration is complimentary.** However, you must complete course registration in order to attend this course.

Location & Accommodations

Memorial Sloan Kettering Cancer Center
Zuckerman Research Center
417 East 68th Street
New York, NY

MSK has negotiated special rates and amenities at select hotels in Manhattan. For information on hotels in the vicinity of MSK with discounted rates, visit: **mskcc.org/cme**

Contact

Memorial Sloan Kettering Cancer Center
Continuing Medical Education
646-227-2025
cme@mskcc.org

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Accreditation

Memorial Sloan Kettering Cancer Center is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians.

ACCME ACCREDITED WITH COMMENDATION

AMA Credit Designation Statement*
MSK designates this live activity for a maximum of **5.25** *AMA PRA Category 1 Credits™*. Physicians should claim only credit commensurate with the extent of their participation in the activity.

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Faculty Disclosure
It is the policy of MSK to make every effort to insure balance, independence, objectivity, and scientific rigor in all continuing medical education activities which it provides as an ACCME accredited provider. In accordance with ACCME guidelines and standards, all faculty participating in an activity provided by MSK are expected to disclose any significant financial interest or other relationship with the manufacturer(s) of any commercial product(s) and/or provider(s) of commercial services which are discussed by the faculty members in an educational presentation. As required by the ACCME, when an unlabeled use of a commercial product or an investigational use not yet approved for any purpose is discussed during an educational activity, MSK requires the speaker to disclose that the product is not labeled for the use under discussion or that the product is still investigational.

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