UPMC Hillman Cancer Center presents:

12th Annual Symposium on Recent Technological and Clinical Advances in Radiation Oncology: IMRT/VMAT – Past, Present, and Future

Date: Saturday, March 9, 2019

Time: Registration begins at 7:30 am
Conference: 7:50 am – 4:30 pm

Location: Herberman Conference Center, UPMC Cancer Pavilion, 2nd Floor
5150 Centre Ave, Pittsburgh, PA 15232

Course Directors:

M. Saiful Huq, PhD, FAAPM, FInstP
Professor of Radiation Oncology
Professor, Clinical & Translational Science
University of Pittsburgh School of Medicine
Director, Medical Physics Division
Department of Radiation Oncology
UPMC Hillman Cancer Center

Greg Bednarz, PhD
Associate Professor
Associate Director
Division of Medical Physics
Department of Radiation Oncology
UPMC Hillman Cancer Center

Scientific Committee:

Kathy Dickens
Medical Dosimetrist
UPMC Hillman Cancer Center

Venky Karuppusamy
Medical Dosimetrist
UPMC Hillman Cancer Center

Program Goal:
The goal of this program is to disseminate knowledge of recent technological advances in IMRT treatment planning and treatment delivery.

Target Audience:
Medical dosimetrists, radiation therapists, physicists, nurses, and other professionals working in the field of radiation oncology.

Participation by all individuals is encouraged. Advance notification of any special needs will help us provide better service. Please notify us of your needs at least two weeks in advance of the program by calling 412-623-3671.

Tuition:
- UPMC Employees: $30 (payment will be automatically deducted from UPMC cost center)
- Non-UPMC Employees: $60
Registration:
Register by visiting the Center for Continuing Education in Health Sciences website at: https://ccehs.upmc.com/home.jsf

Select “Upcoming Events”. Click on the appropriate event to begin registration.

Registration deadline: Friday, March 1, 2019

Parking:
Parking is available in the Medical Center Garage on Centre Avenue. Parking is at your own expense. Validation tickets available at the registration table will allow for a reduced rate of $8.

Course Objectives:
Upon completion of this conference the participant will be able to:

- Define IMRT
- Discuss the rationale for treating patients with IMRT
- Describe the differences between 3DCRT and IMRT
- Recall the differences between forward planning and inverse planning
- Discuss delivery techniques
- Identify the IMRT process
- Discuss IMRT treatment planning and treatment planning issues
- Define VMAT
- Describe the advantages and limitations of VMAT
- Review the current clinical applications of VMAT treatment and treatment sites inappropriate for use of VMAT
- Recognize technologies necessary to accurately deliver VMAT and how they are tested
- Identify optimization algorithms
- Review the Eclipse optimization parameters interface
- Discuss goal doses, constraint weights, contour considerations, and planning structures
- Identify prostate planning problems and solution techniques
- Recognize cost function changes and their effects on target coverage and structure sparing
- Review of prostate IMRT/VMAT planning example to include real time fluence optimization
- Define the Eclipse optimization parameters interface in reference to lung planning
- Discuss goal doses, constraint weights, contour considerations, and planning structures
- Identify lung planning problems and solution techniques such as heterogeneity corrections
- Review of lung IMRT/VMAT planning example to include real time fluence optimization
- Recognize cost function changes and their effects on target coverage and structure sparing
• Define the Eclipse optimization parameters interface in reference to head and neck planning
• Discuss goal doses, constraint weights, contour considerations, and planning structures
• Identify head and neck planning problems and solution techniques such as heterogeneity corrections
• Review of head and neck IMRT/VMAT planning example to include real time fluence optimization
• Recognize cost function changes and their effects on target coverage and structure sparing
• Define immunotherapy
• Describe the rationale for immunotherapy
• Discuss how immunotherapy can be combined with radiation therapy
• Define the basic principles of SRS/SBRT
• Recognize the difference in planning techniques between IMRT and SBR/SBRT
• Identify emerging new SRS/SBRT techniques
• Identify the available delivery techniques for brain SRS
• Discuss basic SRS treatment planning techniques in Eclipse for single and multiple targets in brain
• Discuss metrics for evaluating SRS brain plan quality
• Recall a new automated non-coplanar multiple-arc technique, HyperArc
• Recall planning workflow and timeline for Lung SBRT
• Discuss planning techniques e.g., VMAT or IMRT
• Identify practical aspects when delivering an SBRT plan using the different linear accelerators.
Agenda
7:30 am Registration & Breakfast

7:50 am Welcome & Overview
Saiful Huq, PhD

8:00 am An overview of Intensity Modulated Radiation Therapy (IMRT)
Saiful Huq, PhD

8:50 am Recent advances in IMRT: clinical implementation of Volumetric Modulated Arc radiotherapy (VMAT)
Ron Lalonde, PhD

9:40 am Break

9:55 am Prostate IMRT/VMAT planning example: Real Time Fluence Optimization
Enrique D. Chevallier, CMD

10:45 am Lung IMRT/VMAT Planning
Deborah A. McGhen, CMD

11:15 am Head and Neck IMRT/VMAT Planning
Thomas M. Vey, BA, CMD

11:45 am Lunch

12:35 pm Combined Modality Immunotherapy and Radiation Therapy
David A. Clump, MD, PhD

1:25 pm Principles and Techniques of SRS/SBRT
Si Young Jang, PhD

2:15 pm IMRT/VMAT for SRS/SBRT Treatments: Planning for Single and Multiple Targets in Brain
Julie Shen, PhD, DABR

2:45 pm Break

3:00 pm IMRT/VMAT for SRS/SBRT Treatments: Planning for Single and Multiple Targets in Lung
Min-sig Hwang, PhD, DABR

3:30 pm Keynote Speaker
Steve Gilliland

4:30 pm Review and Evaluations
Greg Bednarz, PhD

4:40 pm Adjournment
Faculty:

Greg Bednarz, PhD  
Associate Professor  
Associate Director  
Division of Medical Physics  
Department of Radiation Oncology  
UPMC Hillman Cancer Center

Si Young Jang, PhD  
Medical Physicist  
Clinical Medical Physicist  
Clinical Assistant Professor  
UPMC Shadyside

Enrique D. Chevallier, CMD  
Senior Medical Dosimetrist  
D3 Oncology Solutions

Ronald Lalonde, PhD  
Chief Medical Physicist  
Clinical Assistant Professor  
Division of Medical Physics  
Department of Radiation Oncology  
UPMC Hillman Cancer Center

David A. Clump, MD, PhD  
Assistant Professor  
Department of Radiation Oncology  
UPMC Hillman Cancer Center

Deborah A. McGhen, CMD  
Senior Medical Dosimetrist  
D3 Oncology Solutions

Steve Gilliland, CSP, CPAE  
Keynote Speaker  
Member of Speaker Hall of Fame

Zhilei (Julie) Shen, PhD, DABR  
Medical Physicist  
Clinical Assistant Professor  
Department of Radiation Oncology  
UPMC Hillman Cancer Center

M. Saiful Huq, PhD, FAAPM, FinstP  
Professor of Radiation Oncology  
Professor, Clinical & Translational Science  
University of Pittsburgh School of Medicine  
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Medical Physicist  
Clinical Assistant Professor  
Department of Radiation Oncology  
UPMC Hillman Cancer Center

All individuals in a position to control the content of this education activity are required to disclose all relevant financial relationships with any proprietary entity producing, marketing, re-selling, or distributing health care goods or services, used on, or consumed by, patients.

Presentation Slides:

A copy of presentation slides can be accessed via OneDrive (UPMC employees) or Box (non-UPMC employees). Instructions on how to access program slides will be sent to the email address that was provided during registration.
Registration
Registration is available at the following link: https://ccehs.upmc.com/liveFormalCourses.jsf

Continuing Education

MDCB:
Application has been approved by the Medical Dosimetrist Certification Board (MDCB) for a maximum of 7.5 MDCB credit. Participants should claim only the credit commensurate with the extent of their participation in the activity.

ASRT:
This activity has been approved by the American Society of Radiologic Technologists for a maximum of 8.0 category A credits. Participants should claim only the credit commensurate with the extent of their participation in the activity.

Cancellations

All cancellations must be made in writing and emailed to Brittni Prosdocimo at bittnerb@upmc.edu. Cancellations made on or before March 1, 2019 will be refunded. No refunds will be given for cancellations made after March 1, 2019.

The University of Pittsburgh is an affirmative action, equal opportunity institution.