



Radiological and Medical Physics Society of New York

Memorial Sloan Kettering Cancer Center, Department of Medical Physics, 1275 York Ave,
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2020 RAMPS Fall Symposium

Innovations in Radiation Therapy

Friday October 9th, 2020

9:30 am - 4:45 pm

Virtual Meeting via Zoom

Agenda

Time	
9:30 - 9:45	Welcome Seng (Gary) Lim, PhD; President, RAMPS Introduction Linda Hong, PhD; President-Elect, RAMPS
9:45 - 10:45	Preclinical FLASH radiotherapy for mouse and canine sarcomas and GI malignancies- The Penn Experience Costas Koumenis, Ph.D. Department of Radiation Oncology Univ. of Pennsylvania Perelman School of Medicine
10:45 - 11:45	Proton Radiotherapy: Rationale, Data, and Early Experiences at New York Proton Center Charles B. Simone, II, MD, FACRO and Haibo Lin, PhD New York Proton Center, New York, NY
11:45 - 12:35	Show Case from Vendors: CDR Systems, Mevion, QFix, RaySearch, RIT, and Sun Nuclear
12:35 – 1:30	Lunch Break (Meet the Vendors Virtually)
1:30 - 2:30	ViewRay MR-Linac and the on-board 0.35T MRI Yingli Yang, PhD Department of Radiation Oncology, University of California, Los Angeles
2:30 - 3:30	Initial experience with the clinical implementation of Elekta Unity MR-Linac Ergys Subashi, PhD Department of Medical Physics, Memorial Sloan Kettering Cancer Center
3:30 – 4:30	Panel Discussion: Moderator: Jenghwa Chang, Ph.D. Northwell Health and Donald and Barbara Zucker School of Medicine at Hofstra/Northwell
4:30 – 4:45	Closing Remarks: Seng (Gary) Lim, PhD; President, RAMPS

Continuing Education:

This meeting has applied to CAMPEP for approval of 5.0 MPCEC hours.

Learning Objectives:

The attendee at the conclusion of 2020 RAMPS Fall Symposium will have gained the understandings of:

- Preclinical FLASH Proton RT in mouse and canine sarcomas and GI tumors: The Penn experience:
 - What is FLASH Radiation Therapy (FRT) and why is it important?
 - What is the emerging evidence of FRT superiority compared to Standard RT (SRT)?
 - Principles of Proton FLASH RT (P-FRT) and the experimental set-up at UPenn
 - Published and unpublished biological studies from the UPenn group:
 - P-FRT is less toxic to normal intestinal mucosa, reduces fibrosis and improves overall survival in mice compared to S-PRT, while being equipotent with S-PRT against PanCa growth; Preliminary cellular and molecular studies to understand Proton FLASH sparing effect.
 - P-FRT is less toxic to normal skin and lymphatics in mice compared to S-PRT, while being equipotent with S-PRT in controlling Sarcoma growth in syngeneic mice;
 - Results from a Phase I pilot trial in canine patients with osteosarcoma treated with F-PRT and S-PRT
 - Addressing some open questions regarding the mechanism and translating FRT to the clinic.
 - “Induced hypoxia” vs. other mechanisms; Irradiating with “pass through” beams vs. Bragg Peak? Treating with PBS? What tumors to target first in the clinic?
- Proton Radiotherapy: Rationale, Data, and Early Experiences at New York Proton Center
 - Understand the rationale for and potential benefits of proton therapy for solid malignancies.
 - Introduce the ProBeam proton system for proton SBRT treatment: planning, QA and treatment evaluation
 - Discuss the challenges and solutions: motion mitigation, uncertainties, adaptive planning
- ViewRay MR-Linac and the on-board 0.35T MRI
 - What does MR guided RT (MRgRT) enable?
 - Clinical value of MRgRT
 - On-line adaptive RT with MRgRT
 - Soft tissue based gated RT
 - Other clinical advantages with MRgRT
 - MRI developments with MRgRT at UCLA
 - Motion artifact free MRI
 - 4DMRI
 - Functional MRI
 - Cardiac toxicity study with on-board MRI
- Initial experience with the clinical implementation of Elekta Unity MR-Linac
 - Commissioning of high field MR-Linac
 - Safety, Mechanicals, MRI commissioning, Dosimetry
 - Machine performance checks
 - Daily QA, Weekly QA, Monthly QA, Annual QA
 - QA of MR quantitative biomarkers

Registration

Registration is by PayPal: http://chapter.aapm.org/ramps/RAMPS/Symposium_2020.html

RAMPS Members: \$30, **Non-Members:** \$40

For Students/Residents

\$5.00 fee + letter from advisor attesting status or student ID is required at registration

Accreditation Statement

This activity has been planned and implemented in accordance with the accreditation requirements and policies of the Accreditation Council for Continuing Medical Education (ACCME) through the joint provider ship of Memorial Sloan Kettering Cancer Center and Radiological and Medical Physics Society of NY. Memorial Sloan Kettering Cancer Center is accredited by the ACCME to provide continuing medical education for physicians.