Radiological and Medical Physics Society of New York, Inc.
Memorial Sloan-Kettering Cancer Center, 1275 York Avenue, New York, NY 10065

2021 RAMPS Symposium

New Developments in QA and Therapy Outcome Analysis

Friday September 10\textsuperscript{th}, 2021,
9:30am – 4:25pm
Virtual Meeting via Zoom

Continuing Education:
This meeting has applied to CAMPEP for approval of 4.15 MPEC hours

Meeting Program:

9:30 - 9:45 Welcome
Linda Hong; President, RAMPS
Department of Medical Physics, MSKCC

Introduction
Jussi Sillanpaa; President-Elect, RAMPS
Department of Medical Physics, MSKCC

9:45 - 10:35 Commissioning and QA for innovative brachytherapy sources and applications
Mark Rivard, PhD
Rhode Island Hospital / Brown University

10:35 - 11:25 HyTec
Ellen Yorke, PhD and Andrew Jackson, PhD
Department of Medical Physics, MSKCC

11:25 - 12:25 Showcase with vendors

12:25 - 1:25 Lunch/Coffee – Visit the vendors virtually
Learning objectives

Through the lectures from specialists in the fields, this symposium will engage attendees in the review of important updates and new technologies in QA and Therapy Outcome Analysis:

- **Commissioning and QA for innovative brachytherapy sources and applications**
  - Be familiar with recent developments in brachytherapy sources
  - Understand the commissioning and QA process for these sources

- **HyTec**
  - Be familiar with earlier collaborative efforts that help modern radiation therapy to avoid excessive complications while delivering sufficient dose to the tumor with conventional fractionation.
  - Understand some of the reasons that planning SBRT dose distributions requires particular care.
  - Understand some of the difficulties HyTEC faces in arriving at their conclusions.

- **AI and QA?**
  - Understand the different types and hierarchy of AI methods
  - Understand the basics of Distributions, Regularization, Loss Functions
  - Understand/be able to recognize some of the basic Deep Learning models

- **AAPM TG-155 as a foundation for SRS patient safety**
  - Understand the clinical drivers for patient safety
  - Learn how to select detector for small field dosimetry
- Understand the need to incorporate an end-to-end test to support an SRS program

- Recent developments in Gammaknife QA
  - Be familiar with recent developments in dosimetric and mechanical QA of Gammaknife units
  - Understand remaining uncertainties in Gammaknife QA