

Program of Molecular Biomedical Science and Engineering School 2020

As of 2021/1/20

Monday, February 15					
Chapter	Time		Title	Lecturer	Place
1	10:00 AM	10:45 AM	Introduction	Dr. Hiroki Shirato	zoom
			Overview of radiation therapy (Therapeutic Window in New Era) 15 min. break		
2	11:00 AM	11:45 AM	Molecular imaging and molecular probes	Dr. Yuji Kuge	
			15 min. break 60 min. break		
3	1:00 PM	1:45 PM	Basic of radiation biology	Dr. Yasuhito Onodera	
			15 min. break		
4	2:00 PM	2:45 PM	Production of medical radioisotopes	Dr. Masayuki Aikawa	
			15 min. break		
5	3:00 PM	3:45 PM	Intellectual property and international standard for translational research in medicine/ Risk Management for Artificial Intelligence for radiotherapy	Dr. Yuichi Hirata	
			15 min. break		
6	4:00 PM	4:45 PM	Integrating medical imaging with multi-omics data	Dr. Mireia Crispin-Ortuzar (University of Cambridge)	
Tuesday, February 16					
Chapter	Time		Title	Lecturer	Place
7	10:00 AM	10:45 AM	MRI techniques for in vivo assessment of tumor environment: diffusion imaging and beyond	Dr. Khin Khin Tha	zoom
			15 min. break		
8	11:00 AM	11:45 AM	Imaging analytics for in vivo assessment of tumor biology: radiomics and radiogenomics	Dr. Khin Khin Tha	
			15 min. break 60 min. break		
9	1:00 PM	1:45 PM	Imaging analytics for in vivo assessment of tumor biology: pattern matching, tracking, and edge detection	Dr. Ken Sutherland	
			15 min. break		
10	2:00 PM	2:45 PM	Imaging analytics for in vivo assessment of tumor biology: deep learning and image classification	Dr. Ken Sutherland	
			15 min. break		
11	3:00 PM	3:45 PM	Recent advances in cancer radiotherapy using molecular imaging and radioisotopes	Dr. Hironobu Yasui	
			15 min. break		
12	4:00 PM	4:45 PM	Neural reconstruction of volumetric computed tomography from a body surface depth motion surrogate	Dr. Jeff Wang	
Wednesday, February 17					
Chapter	Time		Title	Lecturer	Place
13	9:00 AM	9:45 AM	Basic and Radiation Related biology	Dr. Yasuhito Onodera	zoom
			15 min. break		
14	10:00 AM	10:45 AM	Molecular radiation biology	Dr. Yasuhito Onodera	
			15 min. break		
15	11:00 AM	11:45 AM	Clinical molecular imaging and image analysis	Dr. Chietsugu Katoh	
			15 min. break 60 min. break		
17	1:45 PM	2:30 PM	Clinical outcome of Proton beam therapy	Dr. Takayuki Hashimoto Dr. Kentaro Nishioka	
			15 min. break		
18	2:45 PM	3:30 PM	Practical Demonstration: Treatment Planning 1	Dr. Seishin Takao Dr. Sodai Tanaka Dr. Taeko Matsuura Dr. Koichi Miyazaki	
			3:30 PM		
Thursday, February 18					
Chapter	Time		Title	Lecturer	Place
30 min. break					
21,22	11:00 AM	12:30 AM	Artificial Intelligence in Radiation Oncology	Dr. Lei Xing (Stanford Univ)	zoom
Friday, February 19					
Chapter	Time		Title	Lecturer	Place
23,24	9:00 AM	10:30 AM	Real-time Adaptive Radiotherapy Daniel Chang: PET + Linac	Prof. Shimizu (organizer) Dr. Daniel Chang (Stanford Univ)	zoom
			30 min. break		
25,26	11:00 AM	12:30 AM	Deep Learning in Biomedical Science and Engineering	Dr. Yusuke Nomura (Stanford Univ)	zoom
			90 min. break		
27,28	2:00 PM	3:30 PM	Clinical and Biological Evaluation Metrics and Biomarker in silico in Radiation Oncology	Dr. Keiji Kobashi	zoom

* Schedule is subject to change.

Joint lectures with Medical Physics School

Venues: Zoom meeting