

Program of 8th GI-CoRE GCB Summer School in 2022 Winter for Medical Physics

As of 2021/10/28

Monday, February 28					
Chapter	Time		Title	Lecturer	Place
1	10:00 AM	10:45 AM	Introduction	Prof. Hiroki Shirato (Hokkaido Univ.)	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	Prof. Yuji Kuge (Hokkaido Univ.)	
			60 min. break		
3	1:00 PM	1:45 PM	Real-time motion monitoring and dose reconstruction during radiotherapy delivery	Prof. Per Rugaard Poulsen (Danish Center for Particle Therapy)	
4	2:00 PM	2:45 PM	Production of medical radioisotopes	Prof. Masayuki Aikawa (Hokkaido Univ.)	
5	3:00 PM	3:45 PM	Artificial intelligence and imaging for personalized cancer therapy	Dr. Ruijiang Li (Stanford Univ.)	

Tuesday, March 1					
Chapter	Time		Title	Lecturer	Place
6	10:00 AM	10:45 AM	Interaction of therapeutic radiations with matter	Dr. Sodai Tanaka (QST)	Zoom
7	11:00 AM	11:45 AM	Dose calculation algorithms for spot scanning proton therapy	Dr. Taeko Matsuura (Hokkaido Univ.)	
			60 min. break		
8	1:00 PM	1:45 PM	SBRT and IGRT	Prof. Masayori Ishikawa (Hokkaido Univ.)	
9	2:00 PM	2:45 PM	Imaging analytics for in vivo assessment of tumor biology: deep learning and image classification	Dr. Ken Sutherland (Hokkaido Univ.)	
10	3:00 PM	3:45 PM	Recent advances in cancer radiotherapy using molecular imaging and radioisotopes	Dr. Hironobu Yasui (Hokkaido Univ.)	

Wednesday, March 2					
Chapter	Time		Title	Lecturer	Place
11	9:00 AM	9:45 AM	Application of Monte Carlo to particle therapy	Dr. Ken Sutherland (Hokkaido Univ.)	Zoom
12	10:00 AM	10:45 AM	Clinical application of proton beam therapy	Dr. Takayuki Hashimoto (Hokkaido Univ.)	
13	11:00 AM	11:45 AM	Clinical molecular imaging and image analysis	Prof. Chietsugu Katoh (Hokkaido Univ.)	
			60 min. break		
14	1:00 PM	1:45 PM	Quality assurance of four-dimensional radiation therapy system	Dr. Naoki Miyamoto (Hokkaido Univ.)	
			15		
				15 min. break	
16	2:45 PM	3:30 PM	Practical demonstration: treatment planning 1	Dr. Seishin Takao (HU) Dr. Takahiro Kanehira (HU) Dr. Taeko Matsuura (HU) Dr. Koichi Miyazaki (HU)	
			17		3:30 PM
18	4:30 PM	5:15 PM	Practical demonstration: QA 1		
			19	5:15 PM	6:00 PM

Thursday, March 3					
Chapter	Time		Title	Lecturer	Place
20, 21	9:00 AM	10:30 AM	Radiation Biology: Fundamental Knowledge and Recent Advances	Dr. Erinn Rankin and Dr. Edward Graves (Stanford Univ.)	Zoom
			30 min. break		
22, 23	11:00 AM	12:30 PM	Frontiers in Medical Physics	Prof. Lei Xing (Stanford Univ.)	Zoom

Friday, March 4					
Chapter	Time		Title	Lecturer	Place
24, 25	9:00 AM	10:30 AM	Fractionation based on dose distribution and classical radiation biology	Prof. Masahiro Mizuta (Hokkaido Univ.)	Zoom
			30 min. break		
26, 27	11:00 AM	12:30 PM	Deep learning in biomedical science and engineering	Dr. Yusuke Nomura (Stanford Univ.)	Zoom
			90 min. break		
28, 29	2:00 PM	3:30 PM	Clinical and biological evaluation metrics and biomarker in silico in radiation oncology	Dr. Keiji Kobashi (Hokkaido Univ.)	Zoom
			30 min. break		
30, 31	4:00 PM	5:30 PM	Self-evaluation and presentation from the attendees Certificate	Prof. Hiroki Shirato (Hokkaido Univ.)	Zoom

* Schedule is subject to change. QST: National Institutes for Quantum Science and Technology

Joint lectures with Molecular Biomedical Science and Engineering School
Venues: Zoom meeting