

<Tentative> Program of 5th GCB Summer School for Molecular Biomedical Science and Engineering

Japan Standard Time

As of 2022/5/2

Monday, August 22					
Chapter	Time		Title	Lecturer	Place
	9:45 AM	10:00 AM	Introduction	Prof. Yuji Kuge (Hokkaido Univ.)	ZOOM/ EN5-205
1	10:00 AM	10:45 AM	Overview of radiation therapy (Therapeutic Window in New Era)	Prof. Hidefumi Aoyama (Hokkaido Univ.)	
	15 min. break				
2	11:00 AM	11:45 AM	Physics and Disease	Prof. Burcin Unlu (Bogazici Univ.)	
	15 min. break				
	60 min. break				
3	1:00 PM	1:45 PM	Overview of Medical AI	Prof. Kohsuke Kudo (Hokkaido Univ.)	
	15 min. break				
4	2:00 PM	2:45 PM	AI/Stroke Imaging	Prof. Greg Zaharchuk (Stanford Univ.)	
	15 min. break				
5	3:00 PM	3:45 PM	Artificial intelligence and imaging for personalized cancer therapy	Dr. Xuejun Gu (Stanford Univ.)	
Tuesday, August 23					
Chapter	Time		Title	Lecturer	Place
6	10:00 AM	10:45 AM	Basics of radiation biology	Dr. Yasuhito Onodera (Hokkaido Univ.)	ZOOM/ 5-1 Common Seminar Room
	15 min. break				
7	11:00 AM	11:45 AM	Molecular radiation biology	Dr. Jin-Min Nam (Kyoto Univ.)	
	15 min. break				
	60 min. break				
8	1:00 PM	1:45 PM	Radiation-related experimental biology	Dr. Yasuhito Onodera (Hokkaido Univ.) & Dr. Jin-Min Nam (Kyoto Univ.)	
	15 min. break				
9	2:00 PM	2:45 PM	Molecular mechanism of viral carcinogenesis	Dr. Motoaki Yasuda (Hokkaido Univ.)	
	15 min. break				
10	3:00 PM	3:45 PM	Molecular imaging and molecular probes	Prof. Yuji Kuge (Hokkaido Univ.)	ZOOM/ EN5-205
Wednesday, August 24					
Chapter	Time		Title	Lecturer	Place
11	9:00 AM	9:45 AM	Recent advances in cancer radiotherapy using molecular imaging and radioisotopes	Dr. Hironobu Yasui (Hokkaido Univ.)	ZOOM/ 5-1 Common Seminar Room
	15 min. break				
12	10:00 AM	10:45 AM	Production of medical radioisotopes	Prof. Masayuki Aikawa (Hokkaido Univ.)	ZOOM/ EN5-205
	15 min. break				
13	11:00 AM	11:45 AM	Imaging analytics for in vivo assessment of tumor biology: deep learning and image classification	Dr. Ken Sutherland (Hokkaido Univ.)	
Thursday, August 25					
Chapter	Time		Title	Lecturer	Place
14	9:00 AM	9:45 AM	Clinical application of proton beam therapy	Dr. Takayuki Hashimoto (Hokkaido Univ.)	ZOOM/ EN5-205
	15 min. break				
15	10:00 AM	10:45 AM	Nuclear medicine therapy	Dr. Shiro Watanabe (Hokkaido Univ.)	
	15 min. break				
16	11:00 AM	11:45 AM	Clinical molecular imaging and image analysis	Prof. Chietsugu Katoh (Hokkaido Univ.)	ZOOM/ EN5-205
	15 min. break				
	60 min. break				
17	1:00 PM	1:45 PM	Noninvasive assessment of tumor: the role of radiomics and radiogenomics	Dr. Khin Khin Tha (Hokkaido Univ.)	ZOOM/ 5-1 Common Seminar Room
	15 min. break				
18	2:00 PM	2:45 PM	AI in diagnostic Imaging	Dr. Hiroyuki Sugimori (Hokkaido Univ.)	
	15 min. break				
19	3:00 PM	3:45 PM	Imaging analytics for in vivo assessment of tumor biology: pattern matching, tracking, and edge detection	Dr. Ken Sutherland (Hokkaido Univ.)	ZOOM/ 5-1 Common Seminar Room
20	3:45 PM	4:30 PM	Windows programming for image data processing	Dr. Ken Sutherland (Hokkaido Univ.)	
	15 min. break				
21	4:45 PM	5:30 PM	Practical demonstration: Diagnostic imaging & nuclear medicine1	Dr. Yuki Mizuno (Hokkaido Univ.)	ZOOM/TBD
22	5:30 PM	6:15 PM	Practical demonstration: Diagnostic imaging & nuclear medicine2		
Friday, August 26					
Chapter	Time		Title	Lecturer	Place
23, 24	9:00 AM	10:30 AM	Presentation by GCB summer school participants	Prof. Yuji Kuge (Hokkaido Univ.)	ZOOM/ 5-1 Common Seminar Room
	30 min. break				
25, 26	11:00 AM	12:30 PM	Radiation Biology: Fundamental Knowledge and Recent Advances	Dr. Everett Moding (Stanford Univ.)	ZOOM/ EN5-205
	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 (Hokkaido Univ.)	
	30 min. break				
29, 30	4:00 PM	5:30 PM	Self-evaluation Certificate	Prof. Yuji Kuge (Hokkaido Univ.)	

* Schedule is subject to change.

Joint lecture with Medical Physics

Venues: Zoom meeting/5-1 Common Seminar Room, Central Research Bldg/EN5-205, Northeast Research Bldg, Graduate School of Medicine