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”New master’s degree and training course programs in the field of medical engineering in Uzbekistan”
UzMedEn

Training course

Medical Engineering and Physics

2023, 18-28 September

Location: Riga, Latvia, Riga Technical University (RTU), Kipsalas st 6B

The organisers do not cover any expenditures for travel noted below.

Schedule

Time	Activity	Venue
18 September (Monday)		
09:00-09:30	Registration, coffee	Kipsalas str 6B, room 318
09:30 -10:15	Welcome addresses RTU Vice-rector for Education Prof. Elina Gaile-Sarkane Ambassador of the Republic of Uzbekistan to the Republic of Latvia Mr Kadambay Sultanov Dean of the Faculty of Mechanical Engineering, Transport and Aeronautics (FMETA) of RTU, Doc Ivo Vaicis	
10:15-10:45	Joint photo	

Time	Activity					Venue
	Facilities at Riga Technical University					
10:45-12:00	10:45-11:15	Generality on RTU and FMETA facilities. Prof. Aldis Balodis, RTU				Kipsalas str 6B, room 318
	11:15-12:00	Walking tour at Kipsala campus. Guided by Prof. Aldis Balodis and Prof. Alexei Katashev, RTU				
12:00-13:00	Lunch					
13:00-14:00	Teaching and research facilities at the Institute of Biomedical Engineering and Nanotechnologies (IBEN)					
	13:00-13:15	Generality on IBEN. Prof Yuri Dekhtyar, RTU				
	13:15-13:25	Diagnostic radiology technologies. Prof Aldis Balodis, RTU				
	13:25-13:35	Physiology measurements. Prof. Alexei Katashev, RTU				
	13:35-13:45	Generality on powder materials lab. Prof Victor Mironov, RTU				
	13:45-14:00	Generality on biochip lab. PhD Uldis Berzins, RTU (remotely, Click here to join the meeting)				
14:00-16:00	Teaching and research facilities at the Institute of Biomedical Engineering and Nanotechnologies. Visits to labs.					
	14:00-14:30	14:30-15:00	15:00-15:30	15:30-16:00		
	Grp 1	Grp 2	Grp 4	Grp 3	Surface research lab. Guided by Prof. Yuri Dekhtyar, RTU	Paula Valdena str, 1, room 210.
	Grp 2	Grp 1	Grp 3	Grp 4	Diagnostic radiology technologies lab. Guided by Prof Aldis Balodis, RTU	Paula Valdena str, 1, room 307.
	Grp 3	Grp 4	Grp 1	Grp 2	US diagnostics and powder materials lab. Guided by Mr Vyacheslav Zemchenkov, RTU	Kipsalas str 6B, room 319
	Grp 4	Grp 3	Grp 2	Grp 1	Physiology measurements. Guided by Prof. Alexei Katashev, RTU	Kipsalas str 6B, room 318
16:00-17:00	Discussion of the day's issues. Moderator Prof. Yuri Dekhtyar, RTU					Kipsalas str 6B, room 318
19 September (Tuesday)						
9:00-10:00	Unit 1. Radiation and Environmental Safety in Medicine					Kipsalas str 6B, room 400
	Generality: The goal, objectives, outcomes, and assessment.					
10:00-11:00	Topic 1. Problems, approaches, solutions. Lecture/discussion. Prof. Yuri. Dekhtyar, RTU					
11:00-11:30	Coffee break					
11:30-13:00	Grp A Topic 2. Measurements and dosimetry. Laboratory activity. Prof. Aldis Balodis. RTU			Grp B Topic 3. Assessment of measurement uncertainty. Detector Calibration. Laboratory activity. Prof. Alexei Katashev. RTU		Grp A. Paula Valdena str, room 307 Grp B. Kipsalas str 6B, room 312.
	Lunch					Kipsalas str 6B, room 400

Time	Activity		Venue
14:00-15:30	Grp B Topic 2. Measurements and dosimetry. Laboratory activity. Prof. Aldis Balodis. RTU	Grp A Topic 3. Assessment of measurement uncertainty. Detector Calibration. Laboratory activity. Prof. Alexei Katashev. RTU	Grp B. Paula Valdena str, room 307 Grp A. Kipsalas str 6B, room 312
15:30-16:30	Discussion of the day's issues. Moderator Prof. Alexei Katashev, RTU		Kipsalas str 6B, room 400
20 September (Wednesday)			
9:00-11:00	Topic 4. Principles of environmental protection against radiation for medicine, policy, information system, monitoring, technologies, legislation, and responsibilities. Lecture/discussion. MSc Agnese Aizpuriete, Radiation Safety Centre		Kipsalas str 6B, room 313
11:00-12:00	Topic 5. Detectors for radiation. PhD Vladimir Gostilo, Baltic Scientific Instruments		
12:00-13:00	Lunch		
13:00-17:00	Unit 4. Management of medical technology project		
	Topic 1. Medical technology research-directed project. Practical activity. Prof Yuri Dekhtyar, RTU		
17:00-18:00	Discussion of the day's issues. Moderator Prof. Yuri Dekhtyar, RTU		
21 September (Thursday)			
9:00-10:00	Unit 2. Medical Instrumentation		Kipsalas str 6B, room 318
	Generality: The goal, objectives, outcomes, and assessment		
10:00-11:00	Topic 1. Patient monitors. Telemetry. Cardiac pacemakers and defibrillators. Neurostimulation. Lecture/discussion. Prof. Alexei Katashev, RTU.		
11:00-11:30	Topic 2. Patient monitors. Telemetry. Cardiac pacemakers and defibrillators. Neurostimulation. Demonstration/practical session: smart textile and remote signal analyses. Prof. Alexei Katashev, RTU		
11:30-13:30	Coffee break		
13:30-14:30	Topic 2. Classification of medical equipment. Important features and design aspects. Conformity assessment of medical devices. Lecture/discussion, MSc Juris Lauznis, RTU		
14:30-15:30	Lunch		
15:30-16:00	Assessment (Unit 1). Managed by Mr Alexander Zarin, RTU		
15:30-16:00	Discussion of the day's issues. Moderator, Prof. Katashev, RTU		
22 September (Friday)			
9:00-10:00	Topic 3. Clinical laboratory equipment. Separation and analytical techniques. Blood analysis. Lecture. PhD Janis Stashulans. Gulbis laboratory		Gulbis laboratory, Brivibas str 366
10:00-13:30	Topic 3. Clinical laboratory equipment. Separation and analytical techniques. Blood analysis. Demonstration/practical session. Dr Janis Stashulans, Gulbis laboratory		Gulbis laboratory, Brivibas str 366
13:30-15:00	Time for a lunch break and travelling to RTU		
15:00-15:30	Coffee break		
15:30-16:30	Assessment (Unit 2). Managed by Mr Alexander Zarin, RTU		Kipsalas str 6B, room 318
16:30-17:30	Discussion of the day's issues. Moderator, Prof. Yuri Dekhtyar, RTU		
25 September (Monday)			
9:00-11:00	Unit 3. Modern engineering technologies in medicine		Kipsalas str 6B, room 318

Time	Activity	Venue
	Generality: The goal, objectives, outcomes, and assessment. Prof. Yuri Dekhtyar, RTU. Topic 1. Trends in physical engineering technologies in medicine. Heavy particle therapy. Lecture/discussion. MSc Kristaps Palskis, RTU-CERN. (remotely Click here to join the meeting)	
11:00-13:00	Topic 2. "E" and "U" health. Telemedicine and telemonitoring. Lecture/discussion. MSc Juris Lauznis, RTU	
13:00-14:00	Lunch	
14:00-15:30	Travel to Latvian Oncology Centre	
15:30-17:00	Demonstration/practical session on Modern engineering technologies in medicine: radiation therapy technologies at Latvian Oncology Centre (IMRT, etc). MSc Galina Boka, Latvian Oncology Centre	Hipokrata str 4
17:00-17:30	Discussion of the day's issues. Moderator, Prof. Alexei Katashev, RTU	
26 September (Tuesday)		
9:00-11:00	Topic 3. Advanced technologies of radiation therapy: cyberknife and flash therapy. MSc Indra Surkova, Latvian Oncology Centre	Kipsalas str 6B, 400
11:00-16:30	Lunch and travel to Sigulda hospital	
16:30-18:00	Demonstration/practical session of the course in Modern engineering technologies in medicine: radiation therapy technologies at Sigulda hospital (Cyber knife). MSc Indra Surkova, Latvian Oncology Centre	Sigulda, Lakstigalas str 13
18:00-19:00	Discussion of the day's issues Moderator Prof. Yuri Dekhtyar, RTU Travel to Riga.	Sigulda, Lakstigalas str 13
27 September (Wednesday)		
9:00-12:00	Demonstration/practical session of the course in Modern engineering technologies in medicine: radiation diagnostics technologies at Stradina hospital (CT, MRI, etc). MSc Uldis Jaspers, Stradina hospital	Pilsonu str 13
12:00-13:00	Lunch	
13:00-14:30	Topic 4. Management of radiation medical technologies: legislation, licensing/certification. MSc Edgars Chimbars, Nuclear Medicine Centre	Gardenes str 13,
14:30-18:00	Demonstration/practical session of the course in Modern engineering technologies in medicine at Nuclear Medicine Centre (PET). MSc Edgars Chimbars, Nuclear Medicine Centre.	
18:00-19:00	Discussion of the day's issues. Moderator Prof. Yuri Dekhtyar, RTU	
28 September (Thursday)		
9:00-10:00	Assessment (Unit 3). Managed by Prof. Yuri Dekhtyar, RTU	Kipsalas str 6B, room 318
10:00- 12:00	Unit 4: Management of medical technology project Generality: The goal, objectives, outcomes, and assessment. Topic 2. Health technology economic assessment. Prof . Daiga Behmane, Riga Stradin University	
12:00-12:30	Coffee break	
12:30-14:30	Topic 3. EU requirements for medical devices. MSc Jelena Cīrule, Ministry of Health, Head of the Medical Devices Monitoring Department	
14:30-15:30	Lunch	
15:30-16:30	Assessment (Unit 4). Managed by Prof. Yuri Dekhtyar, RTU	
16:30-17:30	Discussion of the day's and course issues. Moderator, Prof. Yuri Dekhtyar , RTU	
17:30-18:30	Certificates, joint photo	