

# Experimental approaches and modelling of irradiation phenomena in Medical Physics

Alejandra Jaidar Auditorium, UNAM Physics Institute, Mexico City, Mexico

June 12-16 2017

<b>Monday June 12 2017</b>			
9:00-13:00	<b>Onsite registration</b>		
	<b>Topic</b>	<b>Professor name</b>	
9:00-9:05	Welcome	María Ester Brandan	Medical Physics Network, IFUNAM
9:05-9:10	Introduction	Guelda Massillon-JL	School Director IFUNAM, Mexico
9:10- 11:10	Energy Loss Mechanisms of Ions in Amorphous Materials: A Binary Encounter Approach	Salvador Cruz-Jiménez	UAM-I, Mexico
<b>11:10-11:30</b>	<b>Coffee break</b>		
11:30-12:30	Interaction of low-energy electrons with matter and the impact in Dosimetry	Guelda Massillon-JL	IFUNAM, Mexico
12:30-14:30	Quantification of primary radiation under photopeak in planar imaging	Eugenio Torres-García	UAEMex, Mexico
<b>14:30-16:00</b>	<b>Lunch</b>		
16:00-17:00	Tissue bioengineering for bone replacement	Janeth Serrano-Bello	Facultad de Odontología, UNAM, Mexico

<b>Tuesday June 13 2017</b>			
	<b>Topic</b>	<b>Professor name</b>	
9:00-10:30	Micro/nano-dosimetry in medical physics	Fernanda Villegas-Navarro	Uppsala University, Sweden
10:30-12:00	Stochastic simulations of nanoparticles in solution. Part 1: non-magnetic particles	Lorenzo Stella	Queen's University, Belfast UK
<b>12:00-12:30</b>	<b>Coffee break</b>		
12:30-13:30	Introduction to the Physics of Medical Ultrasound	Iván Rosado-Méndez	IFUNAM, Mexico
13:00-14:30	Synchronicity analysis of ventricular contraction using nuclear medicine imaging I	Luis Jiménez-Ángeles	FI-UNAM, Mexico
<b>14:30-16:00</b>	<b>Lunch</b>		
16:00-17:00	Homeostasis and continuous physiological monitoring	Ruben Fossion	ICN-UNAM, Mexico

<b>Wednesday June 14 2017</b>			
	<b>Topic</b>	<b>Professor name</b>	
9:00-10:30	Stochastic simulations of nanoparticles in solution. Part 2: Magnetic particles	Lorenzo Stella	Queen's University, Belfast UK
9:30-12:00	Radiobiological modelling	Fernanda Villegas-Navarro	Uppsala University, Sweden
<b>12:00-12:30</b>	<b>Coffee break</b>		
12:30-13:30	Mammographic images: Acquisition, quality and dose I	María Ester Brandan	IFUNAM, Mexico
13:30-14:30	Monte Carlo modelling of medical linear accelerators for radiotherapy applications	José Manuel Lárraga-Gutiérrez	INNN, Mexico
<b>14:30-16:00</b>	<b>Lunch</b>		
16:00-17:00	Whole brain radiation-induced late effects in animal models	Paola Ballesteros-Zebadúa	INNN, Mexico

<b>Thursday June 15 2017</b>			
	<b>Topic</b>	<b>Professor name</b>	
8:40-9:40	Reference Dosimetry in modern radiotherapy	Guerda Massillon-JL	IFUNAM, Mexico
9:40-10:40	<b>To be announced</b>	José Héctor Morales-Bárceñas	UAM-I, Mexico
10:40- 11:40	Small animal brain irradiation and small field dosimetry I	Paola Ballesteros-Zebadúa	INNN, Mexico
<b>11:40-12:00</b>	<b>Coffee break</b>		
12:00-13:00	Mammographic images: Acquisition, quality and dose II	María Ester Brandan	IFUNAM, Mexico
13:00-14:30	IFUNAM colloquium: Perovskite nanoparticles for magnetic hyperthermia: theory and experiments	Lorenzo Stella	QUB, UK
<b>14:30-16:00</b>	<b>Lunch</b>		
16:00-17:00	Radiobiology using Track Structure Monte Carlo simulations	Fernanda Villegas-Navarro	Uppsala University, Sweden

<b>Friday June 16 2017</b>			
	<b>Topic</b>	<b>Professor name</b>	
9:00-10:00	Simulation and processing of Medical Ultrasound signals	Iván Rosado-Méndez	IFUNAM, Mexico
10:00-11:00	<b>To be announced</b>	José Héctor Morales-Bárceñas	UAM-I, Mexico
11:00-12:00	Small animal brain irradiation and small field dosimetry II	Paola Ballesteros-Zebadúa	INNN, Mexico
<b>12:00-12:30</b>	<b>Coffee break</b>		
12:30-13:30	Synchronicity analysis of ventricular contraction using nuclear medicine imaging II	Luis Jiménez-Ángeles	FI-UNAM, Mexico
13:00-14:30	Calculation of output correction factors for small field dosimetry in radiosurgery	José Manuel Lárraga-Gutiérrez	INNN, Mexico
<b>14:30-16:00</b>	<b>Lunch</b>		
16:00-17:00	Study of angiogenesis using mammographic images	María Ester Brandan	IFUNAM, Mexico
17:00-17:30	Closing Remarks	Guerda Massillon-JL	IFUNAM, Mexico