

Experimental approaches and modelling of irradiation phenomena in Medical Physics

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

June 10-14 2019

Monday June 10 2019			
9:00-13:00	Onsite registration		
	Topic	Professor name	
9:00-9:05	Welcome		IFUNAM
9:05-9:10	Introduction	Guerda Massillon-JL	School Director IFUNAM, Mexico
9:10- 10:10	Energy loss mechanisms of charged particles in matter	Remigio Cabrera-Trujillo	ICF-UNAM, Mexico
10:10-11:10	Interaction of low-energy electrons with matter and the impact in Dosimetry	Guerda Massillon-JL	IFUNAM, Mexico
11:10-11:30	Coffee break and Poster viewing		
11:30-12:00	Analysis and evaluation of Uncertainties	Guerda Massillon-JL	IFUNAM, Mexico
12:00-13:00	Monte Carlo Photon Transport in Voxelized Geometries: Part I	Héctor Mauricio Garnica-Garza	Cinvestav-Monterrey, Mexico
13:00-14:00	Radiation drug combinations	Adela Poitevin	Hospital Médica Sur, México
14:00-15:30	Lunch		
15:30-16:30	Monte Carlo track-structure simulations of DNA damage part I: direct damage.	José Ramos-Méndez	University of California, San Francisco USA
16:30-18:00	Monte Carlo modelling for medical applications	Nahum Xicohténcatl	IFUNAM, Mexico

Tuesday June 11 2019			
	Topic	Professor name	
9:00-10:00	Physics of Medical Ultrasound	Ivan Rosado Mendez	IF-UNAM, Mexico
10:00-11:00	Resonant Ultrasound Spectroscopy: Part I	Ma Isabel Delgadillo Cano	UGto-Leon, Mexico
11:00-11:30	Coffee break and Poster viewing		IFUNAM, Mexico
11:30-12:30	Physics of Resonance Magnetic Imaging and innovations	Margarita López Titla	General Electric, Latin-America
12:30-13:30	IAVE Congress	Ivan Rosado Mendez	IF-UNAM, Mexico
13:30-15:00	Lunch		
15:00-16:00	IAVE Congress	Ivan Rosado Mendez	IF-UNAM, Mexico
16:00-17:00	IAVE Congress	Ivan Rosado Mendez	IF-UNAM, Mexico

17:00-18:00	Task-based measures of image quality	Juan Pablo Cruz Bastida	University of Wisconsin, USA
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Wednesday June 12 2019

	Topic	Professor name	
9:00-10:00	Monte Carlo Photon Transport in Voxelized Geometries: Part II	Héctor Mauricio Garnica-Garza	Cinvestav-Monterrey, Mexico
10:00-11:00	Radiobiological Modelling of Fractionated Radiotherapy	Colin G. Orton	Wayne State University, USA
11:00-11:30	Coffee break and Poster viewing		
11:30-12:30	Radiobiological Optimization of Treatment Plans	Colin G. Orton	Wayne State University, USA
12:30-13:30	SBRT plus immunotherapy or targeted therapy	Adela Poitevin	Hospital Médica Sur, México
13:30-15:00	Lunch		
15:00-16:00	Mammography images: The delicate balance of image quality and patient dose. Part I, the basics	María Ester Brandan	IF-UNAM, Mexico
16:00-17:00	Quantitative analysis in PET molecular imaging	Miguel Ángel Ávila-Rodríguez	FM-UNAM, Mexico
17:00-18:00	Parameter Estimation and Inverse Problems in Medical Physics.	J. Héctor Morales-Bárceñas	UAM-I, Mexico

Thursday June 13 2019

	Topic	Professor name	
9:00-10:00	Modeling the Dynamics of Microenvironment of Solid Tumors	J. Héctor Morales-Bárceñas	UAM-I, Mexico
10:00-11:00	Radiation Dosimetry in medical applications	Guerda Massillon-JL	IFUNAM, Mexico
11:00- 11:30	Coffee break and Poster viewing		
11:30-12:50	Monte Carlo track-structure simulations of DNA damage part II: indirect damage	José Ramos-Méndez	University of California, San Francisco USA
13:00-14:30	IFUNAM colloquium: How physics improves cancer radiotherapy: recent advances and future possibilities	Colin G. Orton	Wayne State University, USA
14:30-16:00	Lunch		
16:00-18:00	Round table Medical physics challenges versus “Fake news” in	Colin G. Orton, Adela Poitevin, María Ester	Wayne State University Hospital Medica Sur IFUNAM, Mexico

	diagnostic and treatment of diseases	Brandan, Martha Patricia Pérez Badillo	INCan, Mexico
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Friday June 14 2019

	Topic	Professor name	
9:00-10:00	Simulation and processing of Medical Ultrasound signals	Iván Rosado-Méndez	IFUNAM, Mexico
10:00-11:00	Resonant Ultrasound Spectroscopy: Part II	Ma Isabel Delgadillo Cano	UGto-Leon, Mexico
11:00-11:30	Coffee break and Poster Viewing		
11:30-12:30	Functional Resonance Magnetic Imaging, Resting State and Neural Networks with Human Connectome Project	Margarita López Titla	General Electric, Latin-America
12:30-13:30	Theranostics: a new paradigm in nuclear medicine applications	Miguel Ángel Ávila-Rodríguez	FM-UNAM, Mexico
13:30-15:00	Lunch		
15:00-16:00	Mammography images: The delicate balance of image quality and patient dose. Part II, the reality	María Ester Brandan	IF-UNAM, Mexico
16:00-16:30	Closing Remarks	Guerda Massillon-JL	IFUNAM, Mexico