

## Tentative Scientific Program

Day I: Thursday November 23, 2023		
Time	Speaker	Title of the talk
8:30—9:00	Registration & Information	
9:00—9:30	Opening	
9:30—10:30	<b>Keynote Speaker II, Chaired by Prof. Gennady Bocharov</b>	
	Prof. Andreas Meyerhans Spain: Universitat Pompeu Fabra	Pathogenic virus infections: on fate regulation and functional cure strategies
10:30—11:00	Coffee Break	
11:30—12:00	<b>Keynote Speaker I, Chaired by Andreas Meyerhans - IT Building, Auditorium, Female Side</b>	
	Prof. Gennady Bocharov Russian Academy of Sciences, Moscow	Understanding the pathogenesis of virus infections using mathematical models based on delay differential equations
12:00—13:00	<b>Invited Talks, Chaired by Dr. Abdessamad and Prof. Farrukh Mohamadov - IT Building, Auditorium, Female Side</b>	
12:00-12:30	Prof. Radouane Yafia Morocco: Ibn Tofail University	Turing Bifurcation Induced by Cross-Diffusion and Amplitude Equation in Oncolytic Therapeutic Model
12:30-13:00	Prof. Abdulla Azamov Uzbekistan: Institute of Mathematics	Cinematographic Method for Mathematical Modeling of Heat Transfer and Exchange Processes in Geometrically Complicated Bodies
13:00—14:30	Lunch	
14:30—16:00	<b>Invited Talks, Chaired by Prof. R. Yafia - IT Building, Auditorium, Female Side</b>	
14:30-15:00	Prof. Fathalla Rihan UAE: UAEU	Qualitative and Quantitative Features of DDEs and Applications to Immunology
15:00-15:30	Prof. Attila Denes Hungary: University of Szeged	Malaria dynamics with bimodality of incubation period in hostsina seasonal environment
15:30-14:00	Dr. Ardak Kashkynbayev Kazakhstan: Nazarbayev University (AUA)	Traveling wave speed and profile of a "go or grow" glioblastoma multiforme model

<b>16:00—18:00</b>		
<b>Day I: Parallel Session I, Chaired by, Prof. Kalyan Das, E1-1055 Female side</b>		
16:00-16:20	Prof. Syed Abbas India: Indian Institute of Technology Mandi	Analysis and stability of a social interaction model with age-structure and law enforcement
16:20-16:40	Dr. Rajivganthi, C India: Vellore Institute of Technology	Control Analysis of Nilaparvata Lugens with Wolbachia using Sterile Insect Techniques
16:40-17:00	Dr. Hebatallah Alsakaji UAE: UAEU (AUA)	Optimal Control of Stochastic Michaelis-Menten Kinetics Based Tumour-Immune Interaction with Time Delay
17:00-17:20	Prof. Mohamed N. Anwar Egypt: Faros Uni.	Deterministic and Stochastic SIRC Epidemic model with Time-Delay for COVID-19
17:20-17:40	Prof. Y. A. El-Khatib UAE: UAEU (AUA)	The SEIR model With Unreported Cases and Markovian Switching
17:40-18:00	Ms. Ghilmana Sarmad UAE: UAEU (AUA)	Exploring the Influence of Fear on the Progression of an Infectious Disease in a Delayed Spatiotemporal Epidemic Model Featuring Both Local and Nonlocal Dispersion

<b>16:00—18:00</b>		
<b>Day I, Parallel Session II (Fractional Order DEs): Chaired by Prof. Syed Abbas, E1-1045 Female side</b>		
16:00-16:20	Dr. Zhou Chao Singapore: NUS (AUA)	Convergence analysis on the particle systems with centralized control
16:20-16:40	Dr. Isa Abdullahi Baba Nigeria: Bayero University Kano	Dynamics of HIV-COVID-19 Co-Infection: A Fractional Order Model and Analysis using Laplace- Adomian Decomposition Method
16:40-17:00	Dr. K. Udhayakumar UAE: Zayed University	A fractional-order delay differential tumor-immune model: external treatment and optimal control strategies
17:00-17:20	Dr. Rakkiyappan Rajan India: Bharathiar University	Optimal Control for Cancer Tumor Immune Systems Using Reinforcement Learning
17:20-17:40	Dr. Chandan Maji India: Jagannath Kishore College	Impact of fear of a fractional-order plant disease model with herbivore attack
17:40-18:00	Dr Mutaz Mohammad UAE: Zayed University	On delay differential equations: a robust fractional-order autoimmune disease application using wavelet frames

<b>16:00—18:00</b>		
<b>Day I, Parallel Session III Chaired by Prof. Samares Pal E1-1053 Female side</b>		
16:00-16:20	Dr. Tri Thanh Pham (AUA) Kazakhstan: Nazarbayev University	Multivariate models for assessing the effects of nanoparticles on bacterial growth
16:20-16:40	Prof. Motassem Alarydah UAE: Khalifa University	Mathematical Model Integrating Vaccine and Variable Immunity Period in Infectious Disease Dynamics
16:40-17:00	Dr. S Dineshkumar India: VELLORE INSTITUTE OF TECHNOLOGY	Higher Order Numerical Scheme for singularly Perturbed Delay Differential Equations with Small Shift Arising in Bioscience
17:00-17:20	Dr. Khalid Muhammad UAE: UAEU (AUA)	Role of the NFAT-signaling network in controlling allergic skin reactions

**Dinner 7—9 PM 23-11-2023**

Day II: Friday November 24, 2023		
9:00—10:00	<b>Keynote Speaker I, Chaired by Gennady Bocharov IT Building, Auditorium, Female Side</b>	
	Prof. V. Volpert France: CNRS University Lyon 1	Mathematical modelling of respiratory viral infections
10—11 AM	<b>Invited Talks Chaired by</b>	
10:00-10:30	Prof. Kalyan Das India: NIFTEM	Time Lag Prey Predator Model with Allee Effect
11:30-11:00	Prof. Samares Pal India: Indian Inst. of Information Technology	A Seasonally Forced Eco-Epidemic Predator-Prey Model for the Impacts of Fear and its Carry-Over effect with Selective Predation
11:00—11:30	Coffee Break	
11:30—12:30	<b>Day II, Parallel Session I: Chaired by Dr. Ibrahim Elmojtaba E1-1055 Female side</b>	
11:30-11:50	Prof. Mario Lefebvre Canada: Polytechnique Montréal	Explicit solutions to delay differential equations and first-passage times of delayed Wiener processes
11:50—12:10	Dr. Dipo Aldila (AUA) Indonesia: Universitas Indonesia	Bifurcation analysis on the impact of novel TB vaccine
12:10-12:30	Dr. Tahani Al Sariri Oman: Sultan Qaboos University	Optimal heat transport induced by magnetic nanoparticle delivery in vascularized tumors
11:30-11:50	Dr. Kifah Almaqrashi Oman: Sultan Qaboos University	Mathematical Analysis and Parameter Estimation of a Two-Patch Zika Model
11:50-12:10	Prof. Qing Li China: Shijiazhuang Traditional Chinese Hospital	A continuum space is the infinitely great
10:30—12:30	<b>Day II, Parallel session II, Chaired by Dr. Ardak KASHKYNBAYEV E1-1045 Female side</b>	
10:30—10:50	Dr. Soundararajan Ganesan Kazakhstan: Nazarbayev University (AUA)	Robust Exponential $H^\infty$ Filtering for Discrete-Time Complex-Valued Neural Networks with Time-Varying Delays
10:50—11:10	Ms. Aisha TURSINKOZHA Kazakhstan: Nazarbayev University (AUA)	Structured dynamics of the cell-cycle at multiple scales
11:10-11:30	Dr. Abduzhappar Gaipov Kazakhstan: Nazarbayev University (AUA)	In-depth epidemiology and modeling of the future trends of communicable and non-communicable diseases in Kazakhstan using aggregated big data from the Unified National Electronic Healthcare System
11:30-11:50	Mrs. Madina Otkel Kazakhstan: Nazarbayev University (AUA)	Finite-time/fixed-time synchronization of memristive shunting inhibitory cellular neural networks via sliding mode control
11:50-12:10	Dr. Kathiresan Sivakumar Kazakhstan: Nazarbayev University (AUA)	Multi-stability analysis of fractional-order quaternion-valued neural networks with time delay
12:10-12:30	Mr. Zhangir Nuriyev Kazakhstan: Nazarbayev University (AUA)	Finite-time synchronization for fuzzy shunting inhibitory cellular neural networks

<b>10:30—12:30</b>	<b>Day II, Parallel session III: Chaired by Prof. Mehmet Gumus, E1-1053 Female side</b>	
10:30—10:50	Dr. Ahmed Elmwafy Portugal: University of Beira Interior	Dynamics of Cohen-Grossberg Neural Network models: Periodic Solutions and Global Exponential Stability
11:30-11:50	Dr. Prasenjit Das India: SRICHANDA MAHENDRANATH MEMORIAL INSTITUTION	Study the Dynamic Epidemiological Model For Dengue Transmission With Incubation Period and Saturated Treatment Function
11:50-12:10	Mr. Ibrahim Nali Morocco: University of Szeged	Dynamical analysis of an HIV infection model including quiescent cells and immune response
	Prof. Jiaxu Li USA: University of Louisville	Impulsive Delay Differential Equations with Delayed-Effective Inputs
<b>12:30—14:30</b>	Lunch Break	
<b>14:30—16:50</b>	<b>Day II, Parallel Session IV: Chaired Prof. Mario Lefebvre, E1-1055 Female side</b>	
14:30-14:50	Dr. Abdessamad Tridane UAE: UAEU (AUA)	Dynamics of A Delayed Spatiotemporal HBV Infection Model with Capsids, CTL Immune Response and General Incidence Function
15:10-15:30	Dr. Adel Hashish UAE: UAEU (AUA)	Improved lung model for predicting aerosol deposition in lung airways
15:30-15:50	Prof. Abdallah Rababah UAE: UAEU (AUA)	Degree Reduction of Bezier Curves
15:50-16:10	Mr. Americo Matusse South Africa: University of Pretoria	Traveling Wave Solutions on Synergistic Co-infection Model in CRP Diseases
16:10-16:30	Ms. Taimun Qaisar UAE: UAEU (AUA)	Quadratic Stochastic Process Associated with SIR Models
<b>14:30—16:50</b>	<b>Day II, Parallel session V: Chaired by Prof. Mohammed Syam E1-1045 Female side</b>	
14:50-15:10	Ms. Sondos M. Syam Malaysia: Universiti Malaya (AUA)	Numerical method for solving integro-differential model of biological species living together
15:10-15:30	Prof. Mehmet Gumus Turkey: Zonguldak Bülent Ecevit University	Stability and Bifurcation analysis of an SIR Epidemic Model
15:30-15:50	Mr Kemal Turk Turkey: Zonguldak Bülent Ecevit University	On the Nonstandard Numerical Discretization of SIR Epidemic Model
15:50-16:10	Dr. Emad E. Elmahdy Saudi Arabia: King Saud University (AUA)	Reliability Modelling of Heterogeneous Data by Using Different Competing Weibull Mixture Models
16:10-16:30	Ms. Shraddha Salwahan India: Indian Institute of Technology	Optimal Control of a a Periodically Switching Epidemic Model