

NOTE:
All times in GMT+1
local time



Day-1
Monday, 27th JUNE 2022

08:30-09:00	REGISTRATION						
09:00-09:30	Opening Ceremony						
09:30-10:00	Plenary 1 Room: Audit E	Plenary Lecture Speaker: Chair: Link:	Properties of "almost every" equation $F(X)=C$: pure math for the applied scientist James Yorke				
10:00-10:30	Plenary 2 Room: Audit E	Plenary Lecture Speaker: Chair: Link:	On the origin of complex dynamics in multi-strain dengue models Maira Aguiar				
10:30-11:00	Plenary 3 Room: Audit E	Plenary Lecture Speaker: Chair: Link:	Mathematical Biology: A Field Where the Fractional Calculus Operators Are Validated Dumitru Baleanu				
11:00-11:30	COFFEE-BREAK 1 (Building H, A202)						
	Room: Audit E Zoom:	Room: H202 Zoom:	Room: H207 Zoom:	Room: I201 Zoom:	Room: G201 Zoom:	Room: G202 Zoom:	Room: G203 Zoom:
11:30-11:45	Dia Zeidan "Symmetry analysis and power series solution for cancer tumour model"	Rui Ferreira "Generalized two-point boundary value problems"	N. Ozdemir "Optimal control strategies on COVID-19 and omicron variants containing heart attack by using real data from Turkey"	N. Cangussu "Comparison of response models from full, fractionated and small central composite design of experiments in cement-based mortars"	A. Pinto "Stable coalition formation for the preservation of public goods"	I. Perfilieva "Fuzzy transform for fractional fuzzy problem"	A. Hedrih "Rayleigh function of energy dissipation in modelling oscillatory behaviour of moving sister chromatids in anaphase of mitosis"
11:45-12:00	Bias Vinagre "On state variables and fractional derivatives"	D. Cao Labora "Fractional dependence in integer order PDE"	N. Ozdemir "Investigation of mathematical model aiming to fight cancer effectively with fractional derivative"	N. Cangussu "Numerical modeling and optimization of self compacting mortars: central composite design approach with"	J. Martins "The value of information search against fake news"	S. Tomasiello "A new robust fuzzy clustering algorithm based on City-Block distance"	T. Letrán "PDE model of virus-immune system interaction: Symmetry analysis"
12:00-12:15	Eva-H. Dulf "Fractional order tumor growth model"	Dia Zeidan "Study of species' migration in biological population under symmetry analysis"	A. Khan "Mathematical analysis of two strain epidemic model with crossover behavior"	L. Maia "Response models in experimental studies of fresh properties of cement pastes: Part I – typical approach through changes one-variable-at-a-time"	J. Almeida "Firm Network Location-Price Game"	T. Truong "A Fuzzy q-Symmetric Variational Problem via Granular Differentiability Approach"	M. Durán "Exact solutions for a mathematical model of high-grade brains tumors through symmetry reductions"
12:15-12:30	C. Muresan "Implementation strategies of event-based fractional order controllers in targeted drug delivery applications"	M. Vikeerpuur "A Collocation Method Based on Central Part Interpolation for Fractional Integro-Differential Equations"	L. Dzyubak "Multi-parametric controlling cancer cell invasion in biological systems with memory of states"	L. Maia "Response models in experimental studies of fresh properties of cement pastes: Part II – statistical approach based in a central composite design"	R. Soeiro "Local equilibria in price competition with positive network effects"	H. Zámečníková "F-transform-based Laplace Operator"	A. Niño-López "A mathematical model of Acute Lymphoblastic Leukemia Development"
12:30-12:45	T. Cheema "BRBFN: Bayesian-Regularization Backpropagation Networks for Fractional COVID-19 Epidemic Model"	M. Vikeerpuur "Numerical solution of linear multi-term fractional differential equations"	Z. Ahmad "Fractal-Fractional Order Modeling for the Disease Dynamics in both Prey and Predator"	D. Zeidan "Godunov-Type Methods for Computing Homogeneous Mixture Flows"	L.-C. Cuda "Bifurcation analysis for a discrete-time delayed dynamic Cournot mixed oligopoly model"	M. Dursun "An Integrated Intuitionistic Fuzzy MCDM Method for R&D Project Evaluation"	A. Niño-López "A mathematical model of COVID-19: relapses after CAR-T cell treatment in B cell leukemia"
12:45-13:00		M.M. Rodrigues "New representations for the eigenfunctions of the fractional wave-diffusion operator"	K. Shah "An Efficient Matrix Method For Coupled Systems of Variable Fractional Order Differential Equations"	S. Santhiya "Geometric Properties of Analytic Functions Dened by (p,q) Derivative Operator Involving Poisson Distribution"			I. Stamova "Lipschitz stability analysis of impulsive delayed reaction-diffusion fractional neural network models"
13:00-14:30	LUNCH						
14:30-15:00	Plenary 4 Room: Audit E	Plenary Lecture Speaker: Chair: Link:	Quantifying uncertainties in differential equations with Jumps Juan Carlos Cortés				
15:00-15:30	Plenary 5 Room: Audit E	Plenary Lecture Speaker: Chair: Link:	Laplace Operators in Hilbert manifolds initiated by fuzzy partition Irina Perfilieva				
15:30-16:00	CAREER AWARD Room: Audit E	Plenary Lecture Speaker: Chair: Link:	Hopf Bifurcation in Networks and Binocular Rivalry Marty Golubitsky				
	Room: Audit E Zoom:	Room: H202 Zoom:	Room: H207 Zoom:	Room: I201 Zoom:	Room: G201 Zoom:	Room: G203 Zoom:	
16:00-16:15	N. Yadav "Increasing the applicability of Chebyshev-Secant-type methods"	Kaido Lätt "Collocation based approximations for fractional boundary value problems"	N. Rani "Solving Prabhakar differential equations using Mikusiński's operational calculus"	L. Birdac "Stability and bifurcations in an infinite network of theta neurons"	T.A. Mesquita "Some 2-orthogonal polynomial eigenfunctions of differential operators"	M.L. Gandarias "Exact solutions, symmetries, and conservation laws for a two-dimensional Ostrovsky equation"	
16:15-16:30	J. Ugarte "Auscultation chest locations are correlated with short term spectral features of pulmonary sounds"	Cristiana Silva "Stability of epidemic fractional models"	E. Sousa "High order schemes for a subdiffusion problem"	R. Caballero "About the structure of attractors for a nonlocal Chafee-Infante problem"	N. Bosner "Efficient Algorithms for Joint Approximate Diagonalization of Multiple Matrices"	A. del Pilar "Symmetry reductions of a viscoelastic hyperbolic equation modelling biological processes"	
16:30-16:45	L. Ebrahimipour "Building a script that emulates VeriSoft® in the Gamma Analysis of Complex Radiotherapy Treatments"	Isabel S. Jesus "Electrical potential of fractal structures in the point of view of fractional calculus"	M. Kumar "Age-Structured HIV Model Incorporating Cell to Cell Transmission with Latently Infected T Cells"	J. Gajda " Mittag-Leffler special function and its connection to special Lévy processes"	V. Molek "Unproportional mosaicing"		

16:45-17:00	S. Silva "Calculating and employing Complexity indexes to compare and improve the quality of the VMAT plan delivery in Radiotherapy Treatments"	Juan Ugarte "Fractional derivative as normalization approach for clustering applications"		J.-O. Maaita "The effect of the same damping parameter presence in a system of linear and nonlinear oscillators"	M. Mohammadi "Hybrid functions method for solving 2D-nonlinear Fredholm integral equations"
COFFEE-BREAK 1 (Building H, A202)					
	Room: Audit E	Room: H202	Room: H207	Room: I201	Room: G201
	Zoom:	Zoom:	Zoom:	Zoom:	Zoom:
17:30-17:45	B. Mendes "Multi-class Semantic Segmentation for Prostate Cancer Radiotherapy Treatment Optimization"	O. Brandibur "Stability properties of multi-term fractional-differential equations with four fractional derivatives"	I.-L. Popa "On the Stochastic Linear Quadratic Optimal Control Problem by Piecewise Constant Controls: The Infinite Horizon Time Case"	S. Hocine "Mann's iteration scheme for Fredholm integral equation"	N. Ferreira "Inspection in the ceramics and glass industry"
17:45-18:00	F. Teodoro "Using a Logit Approach to Determine the Occurrence of Barotrauma Under Hyperbaric Oxygen Therapy: a Case Study"	E. Guariglia "Fractional derivative of the Lerch zeta function - further properties"	Y. Xu "Precise Laplace approximation for mixed rough differential equation"	S. Hocine "The influence of the tail of claims distribution on the stability bounds of the univariate classical risk model"	N. Ferreira "Vision Systems Applied in the Ceramic Industry"
18:00-18:15	H. Gómez "A numerical scheme for a model of drug delivery enhanced by light"	R. Guerra "Fractional derivative of the Lerch zeta function - further properties"	R. Wang "Averaging principle for Caputo fractional stochastic differential equations with fractional Brownian motion"	H. Baskonus "Closed-form wave solutions of the van der Waals model arising in nature and the longitudinal wave motion equation"	N. Ferreira "Development of grippers in the ceramic industry"
18:15-18:30		N. Faustino "Strichartz estimates for structurally damped equations of space-time-fractional type"	H. Hriczo "Investigation of Heat and Mass Transfer of Fluid Flows in a Non-Uniform Magnetic Field"	I. Dassios "Results in Optimization, Systems Theory & Networks for Mathematical Modelling"	N. Lima "A hierarchical matrix approach to compute polynomial approximation of smooth functions in 2D"

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Day-2
Tuesday, 28th JUNE 2022

09:00-09:30	REGISTRATION						
09:30-10:00	James Yorke Award <i>Speaker:</i> <i>Chair:</i> <i>Link:</i>	Plenary Lecture Partial Control and Beyond: Forcing Escapes and Controlling Chaotic Transients with the Safety Function Miguel Sanjuán					
10:00-10:30	Plenary 6 <i>Room: Audit E</i>	Plenary Lecture <i>Speaker:</i> <i>Chair:</i> <i>Link:</i>	TBA Ruy Ribeiro				
10:30-11:00	Plenary 7 <i>Room: Audit E</i>	Plenary Lecture <i>Speaker:</i> <i>Chair:</i> <i>Link:</i>	Stability of multi-agents systems under DoS attacks Agnieszka Malinowska				
11:00-11:30	COFFEE-BREAK 1 (Building H, A202)						
	Room: Audit E	Room: H202	Room: H207	Room: I201	Room: G201	Room: G202	Room: G203
	Zoom:	Zoom:	Zoom:	Zoom:	Zoom:	Zoom:	Zoom:
11:30-11:45	D. Knopoff "Spatial epidemiological models of infectious disease transmission: multiscale and heterogeneity features"	N. Vieira "\$\psi\$-Hilfer fractional relaxation-oscillation equation"	J. Cortés "Probabilistic analysis of a general kinetic equation with uncertainty"	V. Taddei "Second order semilinear inclusions without compactness"	M. Rebelo "Generalised Distributed-Order Maxwell Model: the case of a distributed-springpot and a dashpot"	H. Kamaloğlu "Inverse Nodal Problem with Discontinuous Boundary Conditions"	I. Korenova "Online Education of Future Mathematics Teachers in a Virtual Reality Environment"
11:45-12:00	N. Stollenwerk "The interplay between sub-critical fluctuations and import: understanding COVID-19 dynamics and subsequent vaccination impact"	M. A. Özarslan "Approximating Fractional Calculus Operators with General Analytic Kernel by Stancu Variant of Modified Bernstein-Kantorovich Operators"	R. Villanueva "A mathematical model of the population diffusion of Candida Auris within an Intensive Care Unit"	J. Palencia "Exponential scaling and order preserving in a high order operator with non-linear diffusion and reaction"	M.L. Morgado "An Improved Integro-Differential Linear Viscoelastic Model"	T. Shavadze "On the well-posedness of the Cauchy problem for the quasi-linear controlled neutral functional differential equation"	F. Carvalho "Numerical approach to signal filtering with ODEs - classical programming and the Xcos didactic tool"
12:00-12:15	J. Merker "Rate-induced tipping in mathematical models in epidemiology"	A. Silva "On the Ulam, Hyers and Rassias stabilities for a Caputo fractional boundary value problem of order greater than two"	J. López-de-la-Cruz "Modeling real noise in population dynamics with applications to the chemostat model"	J. Neustupa "On some results from the theory of the MhD equations"	I. Ferrás "New Insights into the Generalised Distributed-Order Maxwell Model"		A. Meira "Modelling an electrical circuit using a system of differential equations"
12:15-12:30	A. DeGaetano "Parameter estimation for a FSDE model of glucose control"	S. C. Buranay "Bivariate Modified Bernstein-Kantorovich Operators for the Numerical Solution of Two-Dimensional Fractional Volterra Integral Equations"	T. Caraballo "Stochastic time fractional 2D-Stokes model with delay"	V. Kumar "Exponential Lag Synchronization of Cohen-Grossberg Neural Networks with Discrete and Distributed Delays on Time Scales"	C. Fernandes "A coupled finite-volume solver for numerical simulation of log-conformation tensor based viscoelastic flows"		F. Carvalho "An approach to signal filtering with mathematical transfer functions using Fourier series"
12:30-12:45	A.K. Srivastava "Optimal control of multi-strain host-vector dengue model"	F. Ndairou "Weak Pontryagin's Maximum Principle for Optimal Control Problems Involving a General Analytic Kernel"	T. Caraballo "Analysis to time fractional 2D-Navier-Stokes equations driven by colored noise with delay"	K. Holm "A deterministic model for Atlantic salmon life cycle"	S. Mynbayeva "Solvability conditions for the special Cauchy problem"		Y. Rogovchenko "Teaching differential equations for understanding"
12:45-13:00	V. Anam "Understanding the immunological responses mediated by antibodies during primary dengue infection"	M. Ferreira "On a regular \$\psi\$-fractional Sturm-Liouville problem"	C. Burgos "A complete study of the fractional Hermite differential equation with uncertainties"	S. Kryzhevich "Stability for time scale dynamics"			R.A. Cheema "Tips for Teaching and Learning mathematics in Engineering and Technology"
13:00-14:30	LUNCH						
15:00-15:30	Plenary 8 <i>Room: Audit E</i>	Plenary Lecture <i>Speaker:</i> <i>Chair:</i> <i>Link:</i>	An unusual tipping mechanism --- Mid-Pleistocene Transition Jan Sieber				
15:00-15:30	Plenary 9 <i>Room: Audit E</i>	Plenary Lecture <i>Speaker:</i> <i>Chair:</i> <i>Link:</i>	Hyers-Ulam and Hyers-Ulam-Rassias Stability of First-Order Linear and Nonlinear Dynamic Equations Martin Bohner				
	Room: Audit E	Room: H202	Room: H207	Room: I201	Room: G201		
	Zoom:	Zoom:	Zoom:	Zoom:	Zoom:		
15:30-15:45	B. Guerra "A pragmatic view on chaotic dynamics and ergodicity in a SIR-like epidemic model"	Kaido Latt "Numerical methods for singular fractional integro-differential equations with constant coefficients"	A.N. Quiles "Analysis of the effect of the randomized damping coefficient on the response of a SDOF system"	E. Diz-Pita "Global dynamics of a Kolmogorov predator-prey system"	D. Chergui "Existence and Uniqueness of Solutions to Higher Order Fractional Partial Differential Equations with Purely Integral Conditions"		

15:45-16:00	V. Steindorf "Complex dynamics in SIR model-type driven by disease enhancement factor and temporary immunity in secondary infections"	Z. Aljani "On the Solution of Fuzzy Volterra Integral Equation of the Second Kind with Weakly Singular Kernels"	J. Valero "Analysis of a stochastic differential equation with nonlocal discrete diffusion modeling life tables"	I. Jadlovská "Oscillation criteria for second-order half-linear neutral functional differential equations"	E.A. Kokovics "Stability and bifurcation analysis of a time-delayed model of synaptically coupled neurons"
16:00-16:15	C. Estadilla "Optimal strategies for mitigating the HIV/AIDS epidemic in the Philippines"	A. Fernandez "Fractional versions of complex Wirtinger (d-bar) derivatives"	C. Andreu-Vilarroig "delling antibiotic resistance from an agent-based modelling approach: an application to colistin-resistant A. baumannii"	R. Rodríguez-López "Existence and approximation of solutions to a class of second-order functional differential equations"	E. Diz-Pita "The influence of indirect effect in the dynamics of a three-dimensional population model"
16:15-17:00	K. Holm "Impact of travel restrictions on the spread of infection"	C. Li "On the fractional derivatives with an exponential"	E. Navarro "Probabilistic analysis of a cantilever beam with random parameters via probability density functions"	R. Rodríguez-López "On the solutions to differential equations with uncertainties: comparison of different approaches"	C.J. Schinas "Stability and flip bifurcation of a three dimensional exponential system of difference equations"

17:00-17:30 COFFEE-BREAK 1 (Building H, A202)

	Room: Audit E	Room: H202	Room: H207	Room: I201
	Zoom:	Zoom:	Zoom:	Zoom:
17:30-17:45	F. Saldana "Modeling the transmission dynamics and vaccination strategies for human papillomavirus infection: An optimal control approach"	K. Hriczo "Investigation of Heat and Mass Transfer of Fluid Flows in a Non-Uniform Magnetic Field"	V. Bevia "Probabilistic analysis of a cantilever beam with random parameters via probability density functions"	N. Dilna "Exact solvability conditions for the model with a discrete memory effect"
17:45-18:00	F. Teodoro "Attitude and Practice of Embarked Staff About Zika Virus"	G. Bognar "Mathematical modelling and analysis of non-Newtonian nanofluid flows over stretching sheets"	M. Casquilho "From unequal size sample sums to estimating the standard deviation"	V. Macha "Compressible fluid inside a rigid body"
18:00-18:15			R. Mahesh "An exact analytical solution of a mass transpiration due to stretching/shrinking sheet with slip parameter"	J. Palencia "A high degenerate invasive-invaded species interaction"
18:15-18:30				S. Santhiya "Third Hankel Determinant Problem for Bounded Turning Functions, Starlike and Convex Functions Involving Pascal Distribution Series"

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Day-3
Wednesday, 29th JUNE 2022

09:00-09:30	Plenary 10 Room: Audit E	Plenary Lecture Speaker: Chair: Link:	Existence and uniqueness of solution for fractional differential equations with integral boundary conditions and the Adomian Decomposition Method Delfim F.M. Torres
09:30-10:00	Plenary 11 Room: Audit E	Plenary Lecture Speaker: Chair: Link:	Some Properties and Applications of Extended Hypergeometric Function and Applications Praveen Agarwal
10:30-11:00	COFFEE-BREAK 1 (Building H, A202)		
	Room: Audit E		Room: H202
	Zoom:		Zoom:
11:00-11:15	F. Sadyrbaev "From Duffing equation to bio-oscillations"		K. Hedrih "Generalized function of energy dissipation, fractional type, in mechanical and electrical systems and theorems on degradation of total energy of fractional type systems"
11:15-11:30	R. Uteshova "On a boundary-value problem with parameter for differential equations with piecewise constant argument of generalized type"		C. Braumann "Stochastic differential equation models of animal growth and optimization in cattle raising"
11:30-11:45	R. Matei "Dynamics of a pituitary-adrenal model with distributed time delays"		M. Akhmet "Unpredictable solutions of quasilinear differential equations with generalized piecewise constant arguments"
11:45-12:00	L. Vesa "A five dimensional model with two distributed time delays"		M. Akhmet "Poisson stable dynamics of shunting inhibitory cellular neural networks"
12:00-12:15	A. Assanova "Initial boundary value problem for hyperbolic equation with piecewise constant argument or generalized type"		R. Vilela-Mendes "Transport models and internal transport barriers by stochastic solutions"
12:15-12:30	A. Cernea "On a Hilfer-Hadamard fractional integro-differential inclusion"		Y. Xu "Stability for semilinear wave motions damped by boundary frictions"
12:30-14:00	LUNCH		
14:00-14:30	Plenary 12 Room: Audit E	Plenary Lecture Speaker: Chair: Link:	A multi-band gap metamaterial with multi-frequency resonators Walter Lacarbonara
14:30-15:00	Plenary 13 Room: Audit E	Plenary Lecture Speaker: Chair: Link:	An Integral equation related to infectious disease Ravi P. Agarwal online
15:00-15:30	TENREIRO MACHADO AWARD Room: Audit E	Plenary Lecture Speaker: Chair: Link:	TBA Michele Caputo online
15:45-16:45	Room: A202	Zoom:	CLOSING CEREMONY, SPECIAL TRIBUTE TO PROFESSOR TENREIRO MACHADO Farewell Port
17:00-23:00	Porto Palácio da Bolsa SOCIAL PROGRAM AND GALA DINNER		