

Wednesday, July 4**13:30PM-15:30PM****Parallel Session 11**

Special Session 4	Nonlinear PDEs and Control Theory with Applications Organizer(s): Barbara Kaltenbacher, Irena Lasiecka, Petronela Radu, Lorena Bociu	Location GRC-B
13:30-14:00	Pedro M Jordan (U.S. Naval Research Laboratory, USA) Nonlinear Poroacoustic Flow in Rigid Porous Media	Abstracts p. 20
14:00-14:30	Ivan C Christov (Princeton University, USA) Dissipative acoustic solitons	Abstracts p. 18
14:30-15:00	Antonio Gaudiello (Universita' degli Studi di Cassino e del Lazio meridionale, Italy) The polarization in a ferroelectric thin film: local and nonlocal limit problems	Abstracts p. 19
15:00-15:30	Mikil Foss (University of Nebraska-Lincoln, USA) Partial Continuity for Parabolic Systems	Abstracts p. 18

Special Session 6	Dispersal in Heterogeneous Landscape Organizer(s): Robert Stephen Cantrell, Chris Cosner, Yuan Lou, Juan Diego Davila, Alexander Quaas	Location MAG-B
13:30-14:00	Jimmy Garnier (Aix-Marseille Université, France) Accelerating solutions in integro-differential equations	Abstracts p. 30
14:00-14:30	Nestor D Guillen (UCLA, USA) On pointwise estimates for non-local elliptic equations	Abstracts p. 30
14:30-15:00	Hector A Chang Lara (University of Texas at Austin, USA) Regularity for solutions of non local parabolic equations	Abstracts p. 28

Special Session 8	Propagation Phenomena Appearing in Reaction-Diffusion Systems Organizer(s): Hirokazu Ninomiya, Masaharu Taniguchi	Location REH-1
13:30-14:00	Bendong Lou (Tongji University, Peoples Rep of China) Semilinear Solutions in a Sector for a Curvature Flow Equation	Abstracts p. 36
14:00-14:30	Shimojo Masahiko (Hokkaido University, Japan) Convergence and blow-up of solutions for a complex-valued heat equation with a quadratic nonlinearity	Abstracts p. 37
14:30-15:00	Jian Fang (York University, Canada) Monotone traveling waves of the nonlocal Fisher-KPP equation	Abstracts p. 35
15:00-15:30	Tohru T Wakasa (Kyushu Institute of Technology, Japan) Precise asymptotic formulas of critical eigenfunctions for 1D bistable reaction diffusion equations	Abstracts p. 37

Special Session 9	Mathematics for Information Processing and Management Organizer(s): Jianhong Wu, Zongben Xu	Location REH-5
13:30-14:00	Deyu Meng (Xi'an Jiaotong University, Peoples Rep of China) A divide-and-conquer approach to effective and efficient L1 norm matrix factorization	Abstracts p. 40
14:00-14:30	Seyed Moghadas (York University, Canada) Agent-Based Modelling Frameworks for developing public health policies	Abstracts p. 41
14:30-15:00	Yang Mu (University of Massachusetts, USA) Tensor regression model for Crime Prediction	Abstracts p. 41
15:00-15:30	Zhou Zhang (School of Management, Xi'an Jiaotong University, Peoples Rep of China) An improved model of anonymous entity resolution in the public sector	Abstracts p. 42

Special Session 10	Computational and Nonautonomous Dynamics Organizer(s): Michael Dellnitz, Oliver Junge, Stefan Siegmund	Location GRC-A
13:30-14:00	Ken J Palmer (Providence University, Taiwan) Rigorous Connecting Orbits from Numerics	Abstracts p. 46
14:00-14:30	Stephen Lucas (James Madison University, USA) Simple Heteroclinic Orbit Examples in the Plane	Abstracts p. 45
14:30-15:00	Gianni Arioli (Politecnico di Milano, Italy) A computer assisted enclosure for invariant manifolds	Abstracts p. 43
15:00-15:30	Mirko Hessel-von Molo (University of Paderborn, Germany) Computing invariant sets with Newton-type iterations: towards a covering approach	Abstracts p. 44

Special Session 16	Reaction Diffusion Equations and Applications Organizer(s): Jerome Goddard, Ratnasingham Shivaji	Location REH-8
13:30-14:00	Abdur Raheem (Indian Institute of Technology, Kanpur, India) A study of delayed cooperation diffusion system with Dirichlet boundary conditions	Abstracts p. 75
14:00-14:30	Maya Chhetri (UNC Greensboro, USA) Existence and Nonexistence of Positive Solutions For a Special Class of Elliptic Systems	Abstracts p. 73
14:30-15:00	Inbo Sim (University of Ulsan, Korea) Existence of solutions for degenerate elliptic $p(x)$ -Laplacian	Abstracts p. 77
15:00-15:30	Eun Kyoung Lee (Pusan National University, Korea) Existence of the second positive solution for a p -Laplacian problem	Abstracts p. 75

Special Session 29	Self-organized Behavior of Nonlinear Elliptic Equations and Pattern Formation of Strongly Interacting Systems Organizer(s): Susanna Terracini, Jun-cheng Wei	Location GRC-H
13:30-14:00	Hugo Tavares (University of Lisbon, Portugal) Optimal partition problems involving Laplacian eigenvalues	Abstracts p. 131
14:00-14:30	Gianmaria Verzini (Politecnico di Milano, Italy) Natural constraints in variational methods and superlinear Schroedinger systems	Abstracts p. 132
14:30-15:00	Juncheng Wei (Chinese University of Hong Kong, Hong Kong) Qualitative properties and existence results for an nonlinear elliptic system	Abstracts p. 132
15:00-15:30	Matthias Winter (Brunel University, England) Spiky Patterns in a Consumer Chain Model	Abstracts p. 132

Special Session 32	Existence and Multiplicity Results in Elliptic Variational Problems Organizer(s): G. Bonanno, S. Carl, S. A. Marano, D. Motreanu	Location REH-9
13:30-14:00	Shibo Liu (Xiamen University, Peoples Rep of China) Standing waves of nonlinear Schrodinger equation	Abstracts p. 144
14:00-14:30	Petru Jebelean (West University of Timisoara, Romania) Multiple critical orbits for a class of lower semicontinuous functionals	Abstracts p. 144
14:30-15:00	Michael M Melgaard (Dublin Institute of Technology, Ireland) Elliptic variational problems with nonlocal operators	Abstracts p. 144
15:00-15:30	Antonia Chinnì (University of Messina, Italy) Multiple solutions for Dirichlet problems involving the $p(x)$ -Laplace operator	Abstracts p. 143

Special Session 36	Stochastic Partial Differential Equations and their Optimal Control Organizer(s): Wilfried Grecksch	Location POI-A
13:30-14:00	Hans-Joerg Starkloff (University of Applied Sciences Zwickau, Germany) Generalized polynomial chaos expansion and the solution of random pdes	Abstracts p. 162
14:00-14:30	Antje Mugler (Brandenburg University of Technology Cottbus, Germany) On random partial differential equations	Abstracts p. 161
14:30-15:00	Martin Sauer (Department of Mathematics, TU Darmstadt, Germany) Kolmogorov Equations for Randomly Forced Fluids	Abstracts p. 162
15:00-15:30	Christian F Roth (Martin-Luther-University Halle-Wittenberg, Germany) A Maximum Principle for a Distributed Stochastic Optimal Control Problem	Abstracts p. 162

Special Session 38	Bifurcations and Asymptotic Analysis of Solutions of Nonlinear Models Organizer(s): Jann-Long Chern, Yoshio Yamada, Shoji Yotsutani	Location PAL-A
13:30-14:00	Hidemitsu Wadade (Gifu University, Japan) On the sharp constant for the weighted Trudinger-Moser type inequality of the scaling invariant form	Abstracts p. 168
14:00-14:30	Chun-Hsiung Hsia (National Taiwan University, Taiwan) Dynamical bifurcation of the two dimensional Swift-Hohenberg equation with odd periodic condition	Abstracts p. 166
14:30-15:00	Tien-Tsan Shieh (National Chiao-Tung University, Taiwan) Bifurcation analysis for the superconducting/normal phase transition of the Ginzburg-Landau system	Abstracts p. 168
15:00-15:30	Hans Koch (The University of Texas at Austin, USA) Non-symmetric low-index solutions for symmetric boundary value problems	Abstracts p. 167

Special Session 39	Polynomial Methods for Differential Equations and Dynamical Systems Organizer(s): Stephen Lucas, James Stanley Sochacki, Roger Thelwell, Paul Warne	Location REH-6
13:30-14:00	Jun-Sheng Duan (Shanghai Institute of Technology, Peoples Rep of China) Fast generation algorithms for the Adomian polynomials	Abstracts p. 170
14:00-14:30	Richard D Neidinger (Davidson College, USA) Efficient Recurrence Relations for Univariate and Multivariate Taylor Series Coefficients	Abstracts p. 171
14:30-15:00	Saroj Aryal (University of Wyoming, USA) Sparse Moment Sequences	Abstracts p. 170
15:00-15:30	Joseph D Rudmin (James Madison University, USA) Padé Approximants and Pole Extraction Near Singular Points.	Abstracts p. 171

Special Session 41	New Developments in Qualitative Behavior of Evolutionary PDEs Organizer(s): Ryo Ikehata, Grozdna Todorova	Location PAL-CC
13:30-14:00	Ruy Charão (Federal University of Santa Catarina, Brazil) Energy decay of a magnetoelastic system in an exterior 3-D domain	Abstracts p. 173
14:00-14:30	Ryo Ikehata (Hiroshima University, Japan) Energy decay estimates for wave equations with a fractional damping	Abstracts p. 174
14:30-15:00	Grozdna Todorova (University of Tennessee, USA) Generalized diffusion phenomenon in Hilbert space	Abstracts p. 176

Special Session 42	Global or/and Blowup Solutions for Nonlinear Evolution Equations and Their Applications Organizer(s): George Chen, Ming Mei	Location REH-4
13:30-14:00	Weihua Ruan (Purdue University Calumet, USA) Viscosity Solutions of a Class of Degenerate Quasilinear Parabolic Equations	Abstracts p. 180
14:00-14:30	Chi-Tien Lin (Providence University, Taiwan) Numerical study for long-time solutions for some hyperbolic conservation laws with nonlinear term	Abstracts p. 179
14:30-15:00	Xiongfeng Yang (Shanghai Jiao Tong University, Peoples Rep of China) Global existence and asymptotic behavior of the solutions to the three dimensional bipolar Euler-Poisson systems	Abstracts p. 181
15:00-15:30	Koji Kikuchi (Shizuoka University, Japan) An analysis in the space of BV functions for the equation of motion of a vibrating membrane with a “viscosity” term	Abstracts p. 179

Special Session 43	Stochastic Networks with Applications to Neuroscience Organizer(s): Lee DeVille, Georgi Medvedev	Location REH-7
13:30-14:00	Georgi S Medvedev (Drexel University, USA) The geometry of spontaneous spiking in neuronal networks	Abstracts p. 184
14:00-14:30	Eli Shlizerman (University of Washington, USA) Competing spatiotemporal neural codes in the olfaction of the Manduca sexta moth	Abstracts p. 185
14:30-15:00	Stephen Berning (University of Illinois, USA) Dynamics of a Stochastic Neuronal Network Model with Inhibitory Neurons	Abstracts p. 183
15:00-15:30	Andrea K Barreiro (Southern Methodist University, USA) Modeling collective neural activity: when are pairwise maximum entropy methods good enough?	Abstracts p. 183

Special Session 44	Applications of Chaotic and Stochastic Multiscale Dynamics Organizer(s): Rafail Abramov, Gregor Kovacic, Ilya Timofeyev	Location REH-2
13:30-14:00	Kevin K Lin (University of Arizona, USA) Faster Dynamic Monte Carlo via Markov Couplings	Abstracts p. 188
14:00-14:30	Yi Sun (University of South Carolina, USA) A Multiscale Method for Epitaxial Growth	Abstracts p. 189
14:30-15:00	Arjun Beri (Mathematical Biosciences Institute, USA) A general Method for Parametric Estimation of Stochastic Volatility Models	Abstracts p. 186
15:00-15:30	Rafail V Abramov (University of Illinois at Chicago, USA) A simple linear response closure approximation for slow dynamics of a multiscale system	Abstracts p. 186

Special Session 46	Discrete/Continuous and Nonstandard Analysis Organizer(s): Kiyoyuki Tchizawa, Imme van den Berg	Location PAL-D
13:30-14:00	Shigeaki Nagamachi (Tokushima University, Japan) Relativistic quantum field theory with a fundamental length	Abstracts p. 196
14:00-14:30	Kiyoyuki Tchizawa (Institute of Administration Engineering, Ltd., Japan) On relative stability in 4-dimensional canard	Abstracts p. 196
14:30-15:00	Imme I van den Berg (University of Evora, Portugal) Transitions between discreteness and continuity of all orders of regularity.	Abstracts p. 196
15:00-15:30	Keita Yokoyama (Pennsylvania State University, USA) A proof-theoretic approach for Nonstandard Analysis	Abstracts p. 196

Special Session 47	Dynamics and Games Organizer(s): Alberto Pinto, Michel Benaim	Location POI-C
13:30-14:00	Helena Ferreira (LIAAD, Portugal) Nash equilibria in a platonic idealized psychological model	Abstracts p. 198
14:00-14:30	Helena Ferreira (LIAAD, Portugal) Bayesian-Nash equilibria in a cave psychological model	Abstracts p. 198
14:30-15:00	James Keesling (University of Florida, USA) Application of Queueing Theory to Emergency Care	Abstracts p. 199
15:00-15:30	Jay Kovats (Florida Institute of Technology, USA) The $W^{2,p}$ Regularity for Solutions of the Simplest Isaacs Equations	Abstracts p. 199

Special Session 51	Ordinal Symbolic Dynamics and Applications Organizer(s): Jose Maria Amigo, Karsten Keller	Location POI-B
13:30-14:00	Ulrich Parlitz (Max Planck Institute for Dynamics and Self-Organization, Germany) Nonlinear Signal Analysis and Classification using Ordinal Patterns	Abstracts p. 216
14:00-14:30	Grzegorz Graff (Gdansk University of Technology, Poland) Analysis of heart rate asymmetry by ordinal patterns	Abstracts p. 214
14:30-15:00	Roberto A Monetti (Max Planck Institute for extraterrestrial Physics, Germany) Information Measures to Characterize the Coupling Complexity between Dynamical System Components	Abstracts p. 215
15:00-15:30	David Arroyo (Universidad Autonoma de Madrid, Spain) Event detection, multimodality and non-stationarity: order patterns, a tool to rule them all?	Abstracts p. 213

Special Session 54	Dynamics in Complex Networks Organizer(s): Juan A. Almendral, Miguel Romance	Location MAG-C
13:30-14:00	Rosa M Benito (Universidad Politecnica de Madrid, Spain) Dynamics in a social network surrounding an online political protest	Abstracts p. 222
14:00-14:30	F. Javier Borondo (Universidad Politecnica de Madrid, Spain) Analyzing offline events through the mirror of Online Social Networks	Abstracts p. 223
14:30-15:00	Juan Carloss J Losada (Universidad Politecnica de Madrid, Spain) Analysis of human behaviors from telephone interactions. Serendipity measures	Abstracts p. 224
15:00-15:30	Mahsa Maghami (University of Central Florida, USA) Influence Maximization for Advertising in Multi-agent Markets	Abstracts p. 224

Special Session 55	Nonlinear Elliptic and Parabolic Problems Organizer(s): Julian Lopez-Gomez	Location GRC-C
13:30-14:00	Sze-Bi Hsu (National Tsing-Hua University, Taiwan) Single Phytoplankton Growth on Light and Nutrient in a Water Column	Abstracts p. 227
14:00-14:30	Zhifu Xie (Virginia State University, USA) Blow-up Rate and Uniqueness of Singular Radial Solutions for a Class of Quasi-Linear Elliptic Equations	Abstracts p. 230
14:30-15:00	Georg Hetzer (Auburn University, USA) Diffusion-driven Instability for Non-autonomous Problems	Abstracts p. 227
15:00-15:30	Lei Wei (Jiangsu Normal University, Peoples Rep of China) Positive solutions of elliptic equation with Hardy potential	Abstracts p. 230

Special Session 62	PDEs and Dynamical Systems, and Their Applications Organizer(s): Soo Kyung Joo, Jinhae Park, Tuoc Van Phan	Location GRC-I
13:30-14:00	Antoine Choffrut (Universitaet Leipzig, Germany) The local structure of the set of steady-states to the 2D incompressible Euler equations of hydrodynamics	Abstracts p. 241
14:00-14:30	Ho Lee (Max Planck Institute for Gravitational Physics, Germany) Global existence and nonrelativistic limit for the Vlasov-Maxwell-Chern-Simons system	Abstracts p. 243
14:30-15:00	Luan T Hoang (Texas Tech University, USA) A Poincaré–Dulac normal form for Navier-Stokes equations	Abstracts p. 242
15:00-15:30	Kyungkeun Kang (Yonsei University, Korea) Local estimates of weak solutions for steady-state non-Newtonian fluid flows	Abstracts p. 242

Special Session 68	Analysis and Simulations of Nonlinear Systems Organizer(s): Wei Feng, Zhaosheng Feng	Location MAG-A
13:30-14:00	Qishao Q Lu (Beihang Univ., Peoples Rep of China) Burst synchronization and rhythm dynamics in neuronal networks	Abstracts p. 261
14:00-14:30	Canan Celik Karaaslanli (Bahcesehir University, Turkey) Hopf Bifurcation Analysis of a Predator- Prey System with Discrete and Distributed Delays	Abstracts p. 260
14:30-15:00	Indranil SenGupta (University of Texas- El Paso, USA) Hyper-spherical harmonics and jumps in financial markets	Abstracts p. 262
15:00-15:30	Lijun Zhang (Zhejiang Sci-Tech University, Peoples Rep of China) The effects of singular lines in nonlinear wave equations	Abstracts p. 263

Special Session 77	The Navier-Stokes Equations and Related Problems Organizer(s): Sarka Necasova, Reimund Rautmann, Werner Varnhorn	Location REH-3
13:30-14:00	Josef Bemelmans (RWTH Aachen University, Germany) An obstacle problem for capillary surfaces	Abstracts p. 286
14:00-14:30	Adelia Sequeira (Technical University of Lisbon, Portugal) Fluid-Structure Interaction Problems in Hemodynamics	Abstracts p. 289
14:30-15:00	Ana Silvestre (Instituto Superior Técnico, Portugal) On the motion of a fluid-rigid ball system at the zero limit of the rigid ball radius	Abstracts p. 289
15:00-15:30	Ewelina Zatorska (University of Warsaw, Poland) Chemically reacting mixtures	Abstracts p. 290

Contributed Session 09	PDEs and Applications Chair(s): Zhaosheng Feng	Location GRC-G
13:30-13:50	Hamidreza Rahimi (Central Tehran Branch. IAU, Iran) Note on “common fixed point results for noncommuting mappings without continuity in cone metric spaces”	Abstracts p. 330
13:50-14:10	Zhian Liang (Shanghai University of Finance and Economics, Peoples Rep of China) A Survey of the European Option Pricing Models	Abstracts p. 328
14:10-14:30	Andrei Bourchtein (Pelotas State University, Brazil) On solvability of balance equations for atmosphere dynamics	Abstracts p. 326
14:30-14:50	Nicholas Hoell (University of Toronto, Canada) Some Results in Tomography	Abstracts p. 327
14:50-15:10	Dmitry V Strunin (University of Southern Queensland, Australia) Dynamics in the nonlinearly excited 6th-order phase equation	Abstracts p. 330
15:10-15:30	Imran Naeem (Lahore University of Management Sciences (LUMS), Pakistan) Group classification of nonlinear equations on different surfaces	Abstracts p. 328