

Wednesday, July 4

16:00PM-18:30PM

Parallel Session 12

Special Session 4	Nonlinear PDEs and Control Theory with Applications Organizer(s): Barbara Kaltenbacher, Irena Lasiecka, Petronela Radu, Lorena Bociu	Location GRC-B
16:00-16:30	Mohammad A Rammaha (University of Nebraska-Lincoln, USA) Local and global well-posedness to a nonlinear model in viscoelasticity with m -Laplacian damping	Abstracts p. 21
16:30-17:00	Akif Ibragimov (Texas Tech University, USA) Non-Linear Plate Coupled with Darcy Flows for Slightly Compressible Fluid	Abstracts p. 20
17:00-17:30	Sorin Micu (University of Craiova, Romania) Time optimal boundary controls for the heat equation	Abstracts p. 21
17:30-18:00	Ciprian Gal (Florida International University, USA) Some Elliptic and Parabolic problems with boundary conditions of diffusive type	Abstracts p. 18
18:00-18:30	Amjad Tuffaha (The Petroleum Institute, United Arab Emirates) Solutions to the Euler equation on a domain with a moving boundary	Abstracts p. 22

Special Session 8	Propagation Phenomena Appearing in Reaction-Diffusion Systems Organizer(s): Hirokazu Ninomiya, Masaharu Taniguchi	Location REH-1
16:00-16:30	Kota Ikeda (Meiji University, Japan) Stability analysis for a planar traveling wave solution in an excitable systemes	Abstracts p. 35
16:30-17:00	Chen Yan-Yu (Meiji University, Taiwan) Existence and uniqueness of spiral waves of a wave front interaction model in a plane	Abstracts p. 35
17:00-17:30	Ken-Ichi Nakamura (Kanazawa University, Japan) Existence of recurrent traveling waves in a two-dimensional undulating cylinder: the virtual pinning case	Abstracts p. 36
17:30-18:00	Matthias Winter (Brunel University, England) Symmetric and Asymmetric Spikes for the Two-Dimensional Schnakenberg Model	Abstracts p. 38
18:00-18:30	Hideo Ikeda (University of Toyama, Japan) Dynamics of traveling fronts in some heterogeneous diffusive media	Abstracts p. 35

Special Session 9	Mathematics for Information Processing and Management Organizer(s): Jianhong Wu, Zongben Xu	Location REH-5
16:00-16:30	Zongben Xu (Xi'an Jiaotong University, Peoples Rep of China) L1/2 regularization theory for sparse machine learning	Abstracts p. 41
16:30-17:00	Feng Xu (School of Management, Xi'an Jiaotong University, Peoples Rep of China) Risk assessment of China's commercial banks: Assessing data quality	Abstracts p. 42
17:00-17:30	Xuguozhang (Xi'an Jiaotong University, Peoples Rep of China) Delay Differential Equations and its Application in Developmental Biology	Abstracts p. 42
17:30-18:00	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
16:00-16:30	Roberta Fabbri (Universita' di Firenze, Italy) Rotation number and exponential dichotomy for linear Hamiltonian systems: theoretical and numerical aspects	Abstracts p. 44
16:30-17:00	Cinzia Elia (University of Bari, Italy) Rotation number and QR based techniques for exponential dichotomy: numerical comparisons	Abstracts p. 43
17:00-17:30	Jacek Szybowski (AGH University of Science and Technology, Krakow, Poland) Towards automatic computation of the Conley index over a base	Abstracts p. 47

Special Session 16	Reaction Diffusion Equations and Applications Organizer(s): Jerome Goddard, Ratnasingham Shivaji	Location REH-8
16:00-16:30	Jerome Goddard II (Auburn University, USA) Population models with diffusion, strong Allee effect, and nonlinear boundary conditions	Abstracts p. 74
16:30-17:00	Robert Stephen Cantrell (University of Miami, USA) Evolution of dispersal and the ideal free distribution	Abstracts p. 73
17:00-17:30	Junping Shi (College of William and Mary, USA) Spatiotemporal Mutualistic Model of Mistletoes and Birds	Abstracts p. 76
17:30-18:00	Sarath Sasi (Mississippi State University, USA) Alternate Stable States in Ecological Systems	Abstracts p. 76
18:00-18:30	Shilpee Srivastava (Indian Institute of Technology Delhi, India) Dynamical behaviour of spatio-temporal plankton population model	Abstracts p. 77

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
16:00-16:30	Lei Zhang (University of Florida, USA) Monge-Ampere Equations on Exterior Domains	Abstracts p. 132
16:30-17:00	Alessandro Zilio (Politecnico di Milano, Italy) Regularity results for boundary partition problems	Abstracts p. 132
17:00-17:30	Susanna S Terracini (University of Milano-Bicocca, Italy) Extremality conditions for optimal partitions	Abstracts p. 131

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
16:00-16:30	Siegfried S Carl (University of Halle, Germany) Elliptic Variational Inequalities with Discontinuous Multifunctions	Abstracts p. 143
16:30-17:00	Giuseppina D'Agui (DiSIA, University of Messina, Italy) Multiplicity results for elliptic Neumann problems	Abstracts p. 143
17:00-17:30	Elisabetta Tornatore (University of Palermo, Italy) Three weak solutions for elliptic Dirichlet system	Abstracts p. 146
17:30-18:00	Raffaella Servadei (University of Calabria, Italy) Mountain Pass and Linking solutions for fractional Laplacian equations	Abstracts p. 146

Special Session 36	Stochastic Partial Differential Equations and their Optimal Control Organizer(s): Wilfried Grecksch	Location POI-A
16:00-16:30	Gabih Abdelali (University of Caddi Ayyad, Morocco) Portfolio Optimization Under Partial with Expert Opinions	Abstracts p. 160
16:30-17:00	Diana Keller (Martin-Luther-University Halle-Wittenberg, Germany) An Optimal Control Problem for a Nonlinear Controlled Stochastic Schrödinger Equation	Abstracts p. 161
17:00-17:30	Frank Wusterhausen (Martin Luther University Halle-Wittenberg, Germany) Schrödinger Equation with Noise on the Boundary	Abstracts p. 163
17:30-18:00	Michael Hinz (FSU Jena and Univ. of Connecticut, Germany) Vector calculus on fractals and applications	Abstracts p. 161
18:00-18:30	Wilfried Grecksch (Martin-Luther-University, Germany) A Filtering Problem for a Linear Stochastic Schrödinger Equation	Abstracts p. 160

Special Session 38	Bifurcations and Asymptotic Analysis of Solutions of Nonlinear Models Organizer(s): Jann-Long Chern, Yoshio Yamada, Shoji Yotsutani	Location PAL-A
16:00-16:30	Yuki Kaneko (Waseda University, Japan) Free boundary problems modeling the spreading of species in symmetric domains	Abstracts p. 167
16:30-17:00	Kazuhiro Oeda (Waseda University, Japan) Coexistence problem for a prey-predator model with a protection zone	Abstracts p. 168
17:00-17:30	Hiroshi Matsuzawa (Numazu National College of Technology, Japan) On a dynamics of solution with a transition layer to some bistable reaction diffusion equation	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
16:00-16:30	Chara C Pantazi (Universitat Politecnica de Catalunya, Spain) A generalization of Darboux's method	Abstracts p. 172
16:30-17:00	Faina Berezovsky (Howard University, USA) Asymptotics of Orbits of a Kolmogorov Type Planar Vector Field with a Fixed Newton Polygon	Abstracts p. 170
17:00-17:30	Philip C Parker (James Madison University, USA) Solving ODEs using PSM and Trees	Abstracts p. 171
17:30-18:00	John Bridstrup (James Madison University, USA) Systems of polynomial ODE's as a tool for improving the efficiency of numerical methods	Abstracts p. 170
Special Session 42	Global or/and Blowup Solutions for Nonlinear Evolution Equations and Their Applications Organizer(s): George Chen, Ming Mei	Location REH-4
16:00-16:30	Michael Winkler (University of Paderborn, Germany) Finite-time blow-up in the higher-dimensional Keller-Segel system	Abstracts p. 181
16:30-17:00	Elliott Ginder (Kanazawa University, Japan) An approximation scheme for area-constrained curvature-driven multiphase motions	Abstracts p. 178
17:00-17:30	Shaohua Chen (Cape Breton University, Canada) Global and Blowup Solutions for General Quasilinear Parabolic Systems	Abstracts p. 177

Special Session 43	Stochastic Networks with Applications to Neuroscience Organizer(s): Lee DeVille, Georgi Medvedev	Location REH-7
16:00-16:30	Carina Curto (University of Nebraska-Lincoln, USA) Spatially structured networks from sequences	Abstracts p. 184
16:30-17:00	Katherine A Newhall (Courant Institute, NYU, USA) Synchrony in Stochastic Pulse-coupled Neuronal Network Models	Abstracts p. 184
17:00-17:30	Vladimir Itskov (University of Nebraska-Lincoln, USA) Memory encoding via perturbations of spatially structured networks.	Abstracts p. 184

Special Session 44	Applications of Chaotic and Stochastic Multiscale Dynamics Organizer(s): Rafail Abramov, Gregor Kovacic, Ilya Timofeyev	Location REH-2
16:00-16:30	Mickael Chekroun (UCLA, USA) Nonlinear stochastic inverse models with memory, and prediction of climatic phenomena	Abstracts p. 187
16:30-17:00	Boualem Khouider (University of Victoria, Canada) Stochastic models for organized tropical convection	Abstracts p. 188
17:00-17:30	Celestine A Woodruff (Florida State University, USA) The Effects of Time Iteration Schemes on the Climate of the Lorenz 96 Model	Abstracts p. 190

Special Session 47	Dynamics and Games Organizer(s): Alberto Pinto, Michel Benaim	Location POI-C
16:00-16:30	Abdelrahim Mousa (University of Porto, Portugal) A game theoretical approach to resort prices	Abstracts p. 199
16:30-17:00	Bruno Oliveira (LIAAD UP, Portugal) Strategic optimization in R&D Investment with uncertainty in the investment	Abstracts p. 200
17:00-17:30	Tania Oliveira (LIAAD UP, Portugal) The replicator dynamics and human decisions	Abstracts p. 199
17:30-18:00	Bruno Oliveira (LIAAD UP, Portugal) Random Matching Edgeworthian economies trading in the core via a prisoners dilemma	Abstracts p. 200

Special Session 50	Mathematical Novelties in Inverse Problems in Imaging Sciences Organizer(s): Alexandru Tamasan	Location PAL-D
16:00-16:30	Toufic El Arwadi (Beirut Arab University, Lebanon) Geometrical effects of the conductivity on the D-bar method procedure for the electrical impedance tomography	Abstracts p. 210
16:30-17:00	Peter Gibson (York University, Canada) Identification of minimum phase preserving operators	Abstracts p. 210
17:00-17:30	Nicholas Hoell (University of Toronto, Canada) Some Results on the Attenuated Ray Transform	Abstracts p. 210
17:30-18:00	Sungwhan Kim (Hanbat National University, USA) Reinterpretation of the imaginary part of the complex potential In EIT	Abstracts p. 210

Special Session 51	Ordinal Symbolic Dynamics and Applications Organizer(s): Jose Maria Amigo, Karsten Keller	Location POI-B
16:00-16:30	Maria F Correia (University of Evora, Portugal) Iteration of differentiable functions under m-modal maps with aperiodic kneading sequences	Abstracts p. 214
16:30-17:00	Karsten Keller (University of Luebeck, Germany) KS Entropy and Permutation Entropy	Abstracts p. 214
17:00-17:30	Anton M Unakafov (University of Luebeck, Germany) Conditional entropy of ordinal patterns	Abstracts p. 216
17:30-18:00	Jose M Amigo (Universidad Miguel Hernandez (Spain), Spain) Permutation entropy: One concept, two approaches	Abstracts p. 213
18:00-18:30	Juergen Kurths (Humboldt University Berlin, Germany) Cardiovascular Regulation During Sleep Quantified By Symbolic Coupling Traces	Abstracts p. 215

Special Session 54	Dynamics in Complex Networks Organizer(s): Juan A. Almendral, Miguel Romance	Location MAG-C
16:00-16:30	Stefano Boccaletti (Center for Biomedical Technology - UPM, Spain) Emerging Meso-and Macroscales from Synchronization of Adaptive Networks	Abstracts p. 223
16:30-17:00	Juan A Almendral (Rey Juan Carlos University, Spain) The integration/segregation phenomena from the complex networks viewpoint	Abstracts p. 222
17:00-17:30	Massimiliano Zanin (Centre for Biomedical Technology, UPM, Spain) Network reconstruction from vectors of features	Abstracts p. 225
17:30-18:00	Jean R Bragard (University of Navarra, Spain) Defibrillation mechanisms on a one-dimensional ring of cardiac tissue	Abstracts p. 223

Special Session 55	Nonlinear Elliptic and Parabolic Problems Organizer(s): Julian Lopez-Gomez	Location GRC-C
16:00-16:30	Giovanni Porru (University of Cagliari, Italy) Optimization of the first eigenvalue of equations with indefinite weights	Abstracts p. 228
16:30-17:00	David G Costa (University of Nevada Las Vegas, USA) On homoclinic solutions for singular Hamiltonian systems	Abstracts p. 227
17:00-17:30	Stella Piro Vernier (University of Cagliari, Italy) Pointwise estimates for solutions of singular parabolic problems in $\mathbb{R}^N \times [0, +\infty)$	Abstracts p. 228
17:30-18:00	Kimun Ryu (Cheongju University, Korea) Qualitative behavior of a diffusive predator-prey model	Abstracts p. 229
18:00-18:30	Kenichiro Umezū (Ibaraki University, Japan) On the effect of spatial heterogeneity in logistic type elliptic equations with nonlinear boundary conditions	Abstracts p. 230

Special Session 61	PDE Models for Biological Pattern Formation Organizer(s): Thomas Hillen, Michael Winkler	Location PAL-CC
16:00-16:30	Marcello Delitala (Politecnico di Torino, Italy) Mutations, competition and progression in cancer dynamics	Abstracts p. 238
16:30-17:00	Sachiko Ishida (Tokyo University of Science, Japan) Remarks on the global existence in super-critical cases for quasilinear degenerate Keller-Segel systems	Abstracts p. 238
17:00-17:30	Youshan Tao (Dong Hua University, Peoples Rep of China) Global dynamics in a multi-dimensional chemotaxis-haptotaxis model	Abstracts p. 239
17:30-18:00	Cristian Morales-Rodrigo (Univ. Sevilla, Spain) Long time behaviour in some chemotaxis models arising in angiogenesis	Abstracts p. 238
18:00-18:30	Christian Stinner (University of Paderborn, Germany) Finite-time blowup and global-in-time unbounded solutions to a parabolic-parabolic quasilinear Keller-Segel system	Abstracts p. 239
18:30-19:00	Etsushi Nakaguchi (Tokyo Medical and Dental University, Japan) Global existence of solutions to a parabolic-parabolic system for chemotaxis with logistic source in the higher-dimensional domain	Abstracts p. 239

Special Session 62	PDEs and Dynamical Systems, and Their Applications Organizer(s): Soo Kyung Joo, Jinhae Park, Tuoc Van Phan	Location GRC-I
16:00-16:30	Patricia Bauman (Purdue University, USA) Analysis of Liquid Crystals with Defects of Degree One-Half	Abstracts p. 241
16:30-17:00	Jihoon Lee (Sungkyunkwan University, Korea) On some coupled system with the Navier-Stokes equations	Abstracts p. 242
17:00-17:30	Chong Luo (University of Oxford, England) Planar bistable liquid crystal device and dynamics of switching	Abstracts p. 243
17:30-18:00	Dan Phillips (Purdue University, USA) An analysis of textures in smectic-C films with multiple defects	Abstracts p. 244
18:00-18:30	Ruhai Zhou (Old Dominion University, USA) Kinetic theory and simulations of active nematic suspensions	Abstracts p. 245

Special Session 68	Analysis and Simulations of Nonlinear Systems Organizer(s): Wei Feng, Zhaosheng Feng	Location MAG-A
16:00-16:30	Jifeng Chu (Hohai University, Peoples Rep of China) Lyapunov stability of elliptic periodic solutions of nonlinear damped equations	Abstracts p. 260
16:30-17:00	Shenzhou Zheng (School of Science, Beijing Jiaotong University, Peoples Rep of China) Energy identity for a class of approximate biharmonic maps into sphere in dimension four	Abstracts p. 263
17:00-17:30	Zengji Du (Xuzhou Normal University, Peoples Rep of China) Existence and Global Attractivity of Positive Periodic Solution to a Lotka-Volterra Model	Abstracts p. 260
17:30-18:00	Lei Wei (Jiangsu Normal University, Peoples Rep of China) Qualitative properties of positive solutions of a class of boundary blow-up problems	Abstracts p. 263

Special Session 69	Dissipative Systems and Applications Organizer(s): Georg Hetzer, Wenxian Shen, Lourdes Tello	Location POI-D
16:00-16:30	Lourdes Tello (Universidad Politecnica de Madrid, Spain) On a climate energy balance model with continents distribution.	Abstracts p. 266
16:30-17:00	Arturo A Hidalgo (Universidad Politecnica de Madrid, Spain) A finite volume scheme for the numerical approximation of a 2D climatological model.	Abstracts p. 265
17:00-17:30	Everaldo Bonotto (University from Sao Paulo - USP, Brazil) Attractors of impulsive dissipative semidynamical systems	Abstracts p. 264
17:30-18:00	Sergey S Shmarev (University of Oviedo, Spain) On a free boundary problem for a cross-diffusion system	Abstracts p. 265

Special Session 77	The Navier-Stokes Equations and Related Problems Organizer(s): Sarka Necasova, Reimund Rautmann, Werner Varnhorn	Location REH-3
16:00-16:30	Sarka Necasova (Mathematical Institute, Czech Rep) Weak solutions for the motion of a self-propelled deformable structure in a viscius incompressible fluid	Abstracts p. 288
16:30-17:00	Reimund R Rautmann (University of Paderborn, Germany) Hopf-Galerkin Approach to Vorticity Transport & Diffusion.	Abstracts p. 288
17:00-17:30	Werner Varnhorn (Institute of Mathematics, Kassel University, Germany) Extensions of Serrin's condition for weak solutions of the Navier-Stokes equations	Abstracts p. 290

Contributed Session 09	PDEs and Applications Chair(s): Zhaosheng Feng	Location GRC-G
16:00-16:20	Matthew A Fury (Penn State Abington, USA) Regularization of ill-posed evolution problems in Hilbert space	Abstracts p. 327
16:20-16:40	Kimun Ryu (Cheongju University, Korea) On ratio-dependent predator-prey systems with disease in the prey	Abstracts p. 330
16:40-17:00	Mauro Garavello (University of Milano Bicocca, Italy) Nonlinear hyperbolic balance laws coupled with ordinary differential equations	Abstracts p. 327
17:00-17:20	Mousomi Bhakta (Tata Institute of Fundamental Research, India) Poincare Sobolev equations in the Hyperbolic Space	Abstracts p. 326
17:20-17:40	Kyouhei Wakasa (Future University Hakodate, Japan) Sharp blow-up for semilinear wave equations with non-compactly supported data	Abstracts p. 331
17:40-18:00	Marilena Poulou (National Technical University of Athens, Greece) Energy Decay of Klein - Gordon - Schrödinger Type with linear memory term	Abstracts p. 329
18:00-18:20	Wei Dong (Hebei University of Engineering, Peoples Rep of China) Multiple solutions for an indefinite superlinear elliptic problem on RNI	Abstracts p.