Programme

EQUADIFF 11

International Conference on Differential Equations

Czecho–Slovak series

Comenius University

Bratislava, Slovakia

July 25–29, 2005

Monday / July 25, 2005

	Plenary talks (Lecture room 1)
9:00 - 9:15	Opening ceremony
9:15 - 10:05	**H. Amann**
10:05 - 10:30	coffee break
10:30 - 11:20	**H. Matano**
11:25 - 12:15	**M. Mimura**

12:30-14:00	lunch

	Mini - symposia						
	Room 1	**Room 2**	**Room 3**	**Room 4**	**Room 5**	**Room 6**	**Room 7**
Title	On the Navier-Stokes flow with infinite energy	Rate independent processes and hysteresis	Numerical Software for PDEs	Applications of the calculus of variations	Qualitative studies of parabolic equations	Perturbations in ODE	Nonlinear diffusion and motion of interfaces
Organizer	Y.Giga	P. Krejčí	K.G. Siebert	P. Rabinowitz	P. Poláčik	F.Dumortier, P.Szmolyan	M. Beneš
14:30 - 14:55	Thierry Gallay	Alexander Mielke	Peter Boehm	Massimiliano Berti	Pavol Quittner	Freddy Dumortier	Michal Beneš
15:00 - 15:25	Yasunori Maekawa	Dmitrii Rachinskii	Robert Klöfkorn	Sergey Bolotin	Peter Poláčik	Peter Szmolyan	Tatsuyuki Nakaki
15:30 - 15:50	coffee break						
15:50 - 16:15	Jürgen Saal	Ulisse Stefanelli	Karsten Urban	Margherita Nolasco	Hirokazu Ninomiya	Nikola Popovic	Kenji Tomoeda
16:20 - 16:45	Yoshikazu Giga	Pavel Krejčí	Kunibert G. Siebert	Slawomir Rybicki	Yoshihisa Morita	André Vanderbauwhede	Yohei Kashima

	Contributed talks						
	Room 1	**Room 2**	**Room 3**	**Room 4**	**Room 5**	**Room 6**	**Room 7**
	Session 1	*Session 2*	*Session 3*	*Session 4*	*Session 5*	*Session 6*	*Session 7*
17:00 - 17:15	Jörg Wolf	Petra Kordulová	Joachim Rang	Norimichi Hirano	Alexandre Carvalho	Tomoyuki Tanigawa	José Miguel
17:20 - 17:35	Milan Pokorný	Volker Reitmann	Tomáš Oberhuber	Miroslav Krbec	Juraj Húska	Francesca Ceragioli	Ivan Mojsej
17:40 - 17:55	Miroslav Pošta	Emil Minchev	Anna Kepczynska	Katarzyna Wojteczek	Jan Cholewa	Casey Cremins	Lukáš Maňásek
18:00 - 18:15	Matthias Geißert	Jana Kopfová	Karolina Kropielnicka	Ryuji Kajikiya	Anibal Rodríguez-Bernal	Katrin Gelfert	Petr Stehlík
18:20 - 18:35	Arup Bhattacharjee		Richard Liska	Radu Ignat	Cristina Marcelli	Alexander Boichuk	Ana Pedro

Monday

Plenary lectures

Herbert Amann
A new approach to quasilinear parabolic problems
Hiroshi Matano
Complete and incomplete blow-up in a nonlinear heat equation
Masayasu Mimura
Transient pattern formation in reaction–diffusion systems

Lecture room 1

Mini-symposium:

On the Navier–Stokes flow with infinite energy

organized by: Y. Giga

Thierry Gallay
Convergence to equilibrium in two-dimensional viscous flows
Yasunori Maekawa
Large time behaviors of derivatives of the vorticity for the two dimensional Navier–Stokes flow
Jürgen Saal
A uniform geostrophic flow affected by rotation: the Ekman boundary layer problem
Yoshikazu Giga
The Navier–Stokes flow with almost periodic initial data

Contributed talks

Jörg Wolf
Interior regularity of weak solutions to the equations of motion of a class of non-Newtonian fluid
Milan Pokorný
On a new approximation scheme for the steady compressible Navier–Stokes equations
Miroslav Pošta
Optimal control of Navier–Stokes equations by Oseen approximation
Matthias Geissert
Strong L^p-solutions of Navier–Stokes equations in the exterior of a rotating obstacle
Arup Bhattacharjee
On the dynamics of multi-component heat-conducting incompressible plane flow with temperature dependent viscosity

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Lecture room 2

Mini-symposium:

Rate independent processes and hysteresis

organized by: P. Krejčí

Alexander Mielke
Energetic formulation of hysteresis problems, existence and uniqueness
Dmitrii Rachinskii
Equations with inverse Preisach operator
Ulisse Stefanelli
Sweeping processes with monotonicity

Pavel Krejčí
Nonresonance and energy decay of oscillations in hysteretic media

Contributed talks

Petra Kordulová
An example of discontinuous solution for a quasilinear hyperbolic equation with hysteresis
Volker Reitmann
Convergence in evolutionary variational inequalities with hysteresis nonlinearities
Emil Minchev
On a system of nonlinear PDEs with hysteresis effect
Jana Kopfová
Entropy condition for a quasilinear hyperbolic equation with hysteresis

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Lecture room 3

Mini-symposium:

Numerical software for PDEs

organized by: K. G. Siebert

Peter Böhm
Diffpack - A flexible development framework for the numerical modeling and solution of partial differential equations
Robert Klöfkorn
DUNE - Distributed and Unified Numerics Environment
Karsten Urban
FLENS - A Flexible Library for Efficient Numerical Solutions
Kunibert G. Siebert
Concepts of the finite element toolbox ALBERTA

Contributed talks

Joachim Rang
New Rosenbrock methods of order 3 for PDAEs of Index 2
Tomáš Oberhuber
On a numerical scheme for the Willmore flow
Anna Kepczynska
Implicit difference methods for first order partial differential functional quasilinear equations
Karolina Kropielnicka
Implicit difference methods for parabolic functional differential equations
Richard Liska
Arbitrary Lagrangian Eulerian method for compressible plasma simulations

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Lecture room 4

Mini-symposium:

Applications of the calculus of variations

organized by: P. Rabinowitz

Massimiliano Berti
Nonlinear oscillations in Hamiltonian PDEs
Sergey Bolotin
Shadowing collision chains of the 3 body problem

Margherita Nolasco
Vortices for some self-dual gauge field models
Sławomir Rybicki
Periodic solutions of Hamiltonian system in a neighborhood of a degenerate rest point

Contributed talks

Norimichi Hirano
Mutiple existence of solutions for semilinear elliptic problems
Miroslav Krbec
Fefferman's inequality and related topics
Katarzyna Wojteczek
Second order Hardy type integral inequalities in different classes of functions
Ryuji Kajikiya
Symmetric mountain pass lemma and multiple solutions of sublinear elliptic equations
Radu Ignat
Energy expansion and vortex location for a 2D rotating Bose–Einstein condensate

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Lecture room 5

Mini-symposium:

Qualitative studies of parabolic equations

organized by: P. Poláčik

Pavol Quittner
Liouville type theorems for superlinear parabolic equations and applications
Peter Poláčik
Asymptotic symmetry of positive solutions of parabolic equations: bounded domains reconsidered
Hirokazu Ninomiya
The influence of diffusion and boundary conditions on blowup
Yoshihisa Morita
Some entire solutions to reaction–diffusion equations with bistable nonlinearity

Contributed talks

Alexandre Carvalho
Compact convergence and continuity of attractors
Juraj Húska
Harnack inequality and exponential separation for oblique derivative problems on Lipschitz domains
Jan W. Cholewa
Semilinear parabolic equations with critical nonlinearities
Aníbal Rodríguez-Bernal
Dissipative dynamics of reaction diffusion equations in R^N
Cristina Marcelli
Finite speed of propagation in monostable degenerate reaction–diffusion–convection equations

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Lecture room 6

Mini-symposium:

Perturbations in ODE

organized by: F. Dumortier, P. Szmolyan

Freddy Dumortier
Bifurcation of relaxation oscillations
Peter Szmolyan
Blow-up analysis of delayed Hopf bifurcations
Nikola Popovic
Evans functions and blow-up for degenerate shock waves
André Vanderbauwhede
Degenerate subharmonic bifurcation in reversible systems

Contributed talks

Tomoyuki Tanigawa
On oscillation of higher order nonlinear differential equations
Francesca Ceragioli
Switched systems, discontinuous ODEs and Zeno phenomenon
Casey Cremins
A semilinear Birkhoff–Kellogg theorem and application
Katrin Gelfert
Asymptotic behavior of bi-coupled slow-fast systems
Alexander Boichuk
A set of bounded solutions for perturbed differential and difference systems

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Lecture room 7

Mini-symposium:

Nonlinear diffusion and motion of interfaces

organized by: M. Beneš

Michal Beneš
Quantitative aspects of microstructure formation in solidification
Tatsuyuki Nakaki
Approximations for some diffusion and interfaceproblems using singular limit technique
Kenji Tomoeda
The support re-splitting phenomemna caused by the interaction between diffusion and absorption
Yohei Kashima
A finite element approximation of the Bean critical state model for superconductivity in 3D

Contributed talks

José J. Miguel
Delay logistic model with control parameter
Ivan Mojsej
On third order advanced nonlinear differential equations
Lukáš Maňásek
On constructing a solution of a boundary value problem for functional differential equations
Petr Stehlík
On discrete boundary value problems
Ana M. Pedro
Oscillation and nonoscillation criteria for retarded functional differential equations

Tuesday / July 26, 2005

	Plenary talks (Lecture room 1)
9:00 - 9:50	**J. Mallet-Paret**
9:50 - 10:15	coffee break
10:15 - 11:05	**J. Hulshof**
11:10 - 12:00	**G. Weiss**

12:30-14:00	lunch

Mini - symposia

	Room 1	Room 2	Room 3	Room 4	Room 5	Room 6	Room 7
Title	Evolution of crystalline interfaces	Asymptotic behaviour in fluid mechanics	Patterns in Reaction-Diffusion Systems	Nonlinear elliptic systems, theory and applications	Nonlinear parabolic problems without conditions at infinity	Dynamical systems and applications	Differential Equations with p-Laplacian and Related Topics
Organizer	A. Chambolle	G. Raugel	D. Hilhorst	Ph. Souplet	A. Gladkov	M. Fečkan	O.Došlý
14:30 - 14:55	Yoshikazu Giga	Dragos Iftimie	Harald Garcke	Masayasu Mimura	Andrey Shishkov	Jan Andres	Gabriella Bognár
15:00 - 15:25	Piotr Rybka	Genevieve Raugel	Cyrill Muratov	Nikolaos M. Stavrakakis	Alexander Gladkov	Flaviano Battelli	Ondřej Došlý
15:30 - 15:50	coffee break						
15:50 - 16:15	Matteo Novaga	Grzegorz Karch	Isamu Ohnishi	Boyan Sirakov	Janos Englander	Andrzej Bielecki	Norio Yoshida
16:20 - 16:45	Antonin Chambolle	Andro Mikelic	Danielle Hilhorst	Philippe Souplet		Barnabas M. Garay	Hwai-chiuan Wang

	Contributed talks						
	Room 1	**Room 2**	**Room 3**	**Room 4**	**Room 5**	**Room 6**	**Room 7**
	Session 1	*Session 2*	*Session 3*	*Session 4*	*Session 5*	*Session 6*	*Session 7*
17:00 - 17:15	Vera Miljanovic	Yakov Goltser	Lajos Lóczi	Ángela Jimenéz-Casas	Dirk Blömker	Luisa Malaguti	Shin-Hwa Wang
17:20 - 17:35	Salvador Moll	Josef Kalas	Christian Pötzsche	Tsang-Hai Kuo	Lutz Recke	David Cheban	Humberto Ramos Quoirin
17:40 - 17:55	Przemyslaw Gorka	Jaromír Kuben	Milan Kubíček	Oldřich John	Violaine Roussier-Michon	Clementa Alonso-González	Satoshi Tanaka
18:00 - 18:15	Stephen Watson	Petr Kundrát	Martin Rasmussen	Eugen Viszus	Peter L. Simon	Imre Bozi	Jiří Benedikt
18:20 - 18:35	Richard Kollár	Katarína Makovinyiova	Pedro Lima	Niki Winter	Sebastian Meier		Jan Čepička

Tuesday

Plenary lectures

John Mallet-Paret
Crystallographic pinning in lattice differential equations
Josephus Hulshof
Free boundary problems in combustion
Georg S. Weiss
The singular limit of a reaction–diffusion system arising in solid combustion

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Lecture room 1

Mini-symposium:

Evolution of crystalline interfaces

organized by: A. Chambolle

Yoshikazu Giga
An application of crystalline curvature to describe bunching phenomena
Piotr Rybka
The question of stability of facets of crystals growing from vapor
Matteo Novaga
Crystalline evolutions of convex sets
Antonin Chambolle
Approximation of the anisotropic or crystalline curvature flow

Contributed talks

Vera Miljanovic
On the Shockley–Read–Hall model: generation–recombination in semiconductors
Salvador Moll
A characterization of convex φ-calibrable sets in $\mathbb{R}^N$
Przemysław Górka
Evolution of crystals in three dimensions
Stephen J. Watson
The crystalline limit of the anisotropic Wilmore flow: coarsening dynamics and scaling laws
Richard Kollár
Stability of vortex solutions to nonlinear Schrödinger equations

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Lecture room 2

Mini-symposium:

Asymptotic behaviour in fluid mechanics

organized by: G. Raugel

Dragoş Iftimie
The small obstacle limit in a viscous incompressible flow
Geneviève Raugel
Perturbed Navier–Stokes equations
Grzegorz Karch
Smooth and singular solutions to the incompressible Navier–Stokes system

Andro Mikelic
Method of homogenization applied to dispersion, convection and reaction in porous media

Contributed talks

Yakov Goltser
About an appearance of stationary resonance regimes for nonlinear integro-differential equation
Josef Kalas
Asymptotic properties of a two-dimensional differential system with delay
Jaromír Kuben
Asymptotic equivalence of systems of difference equations
Petr Kundrát
On asymptotic properties of linear delay differential equation with a forcing term
Katarína Makovinyiova
On the existence of Hopf bifurcation in an Open Economy Model

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Lecture room 3

Mini-symposium:

Patterns in reaction–diffusion systems

organized by: D. Hilhorst

Harald Garcke
Patterns in multicomponent alloy solidification
Cyrill Muratov
Traveling wave solutions and propagation phenomena in gradient reaction–diffusion systems
Isamu Ohnishi
To be announced
Danielle Hilhorst
Peak solutions in an elliptic chemotaxis-like system

Contributed talks

Lajos Lóczi
Discretizations of ODE's near some bifurcation points
Christian Pötzsche
Dynamics near attractive integral manifolds under discretization
Milan Kubíček
Complex dynamics of CO oxidation in catalytic converter
Martin Rasmussen
Morse Decompositions of nonautonomous dynamical systems
Pedro Lima
Numerical approximation of singular boundary value problems for a nonlinear differential equation

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Lecture room 4

Mini-symposium:

Nonlinear elliptic systems, theory and applications

organized by: Ph. Souplet

Masayasu Mimura
Cross-diffusion systems in biology

Nikolaos M. Stavrakakis
Eigenvalue questions on some quasilinear elliptic problems
Boyan Sirakov
A priori estimates, monotonicity and Liouville theorems for nonvariational elliptic systems
Philippe Souplet
Nonlinear elliptic systems and L^p_δ spaces

Contributed talks

Ángela Jiménez-Casas
Robin type conditions arising from concentrated potentials
Tsang-Hai Kuo
Some existence result to elliptic equations with semilinear coefficients
Oldřich John
Interior regularity for weak solutions of nonlinear second order elliptic and parabolic systems
Eugen Viszus
A remark on Morrey type regularity for nonlinear elliptic systems of second order
Niki Winter
$W^{2,p}$-estimates at the boundary for solutions of fully nonlinear, uniformly elliptic equations

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Lecture room 5

Mini-symposium:

Nonlinear parabolic problems without conditions at infinity

organized by: A. Gladkov

Andrey E. Shishkov
Propagation of support in multidimensional higher order degenerate diffusion-convection equation
Alexander Gladkov
The Cauchy problem without growth restrictions on the data at infinity
Janos Englander
Uniqueness/nonuniqueness for positive solutions to a class of semilinear equations

Contributed talks

Dirk Blömker
Stochastic modulation equations
Lutz Recke
Local existence and uniqueness for quasilinear parabolic initial boundary value problems with non-smooth data
Violaine Roussier-Michon
Asymptotic behaviour of travelling waves in a bistable reaction diffucion equation with respect to non-integrable perturbations
Peter L. Simon
Evans function method for some combustion waves
Sebastian Meier
A distributed-microstructure model for diffusion and reaction in porous media

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Lecture room 6

Mini-symposium:

Dynamical systems and applications

organized by: M. Fečkan

Jan Andres
Periodic solutions of dissipative systems revisited
Flaviano Battelli
Periodic solutions of symmetric elliptic singular systems
Andrzej Bielecki
Dynamical systems in artificial neural network
Barnabas M. Garay
Optimization and the Miranda theorem in detecting horseshoe-type chaos by computer

Contributed talks

Luisa Malaguti
Boundary value problems in Banach spaces: a bound sets approach
David Cheban
Invariant manifolds and almost automorphic solutions of second-order monotone equations
Clementa Alonso-González
Infinitesimal Poincaré's return for saddle-connections
Imre Bozi
Computing homoclinic orbits for maps with Bogdanov–Takens point

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Lecture room 7

Mini-symposium:

Differential equations with p-Laplacian and related topics

organized by: O. Došlý

Gabriella Bognár
Some properties of the qualilinear analogues of the Hill's equation
Ondřej Došlý
Principal solution of half-linear second order differential equations
Norio Yoshida
Oscillation criteria for half-linear partial differential equations via Picone's identity
Hwai-chiuan Wang
On domains with its indexes

Contributed talks

Shin-Hwa Wang
Exact multiplicity of positive solutions of a p-Laplacian Dirichlet problem
Humberto Ramos Quoirin
A partial extension of the Courant nodal domain theorem to the p-laplacian
Satoshi Tanaka
Existence of solutions with prescribed numbers of zeros of two-point boundary value problems for the one-dimensional p-Laplacian
Jiří Benedikt
Quasilinear problems of the $2n^{\text{th}}$-order
Jan Čepička
Comparison of analytical and numerical results for the p-Laplace equation

Wednesday / July 27, 2005

	Plenary talks (Lecture room 1)
9:00 - 9:50	**E. Baensch**
9:50 - 10:15	coffee break
10:15 - 11:05	**R. Herbin**
11:10 - 12:00	**M. Rumpf**
12:30-14:00	lunch

Wednesday

Plenary lectures

Eberhard Baensch
Finite element methods for free surface flow
Raphaèle Herbin
Analysis tools for finite volume methods in PDEs
Martin Rumpf
Variational problems in image and surface matching

Thursday / July 28, 2005

	Plenary talks (Lecture room 1)
9:00 - 9:50	**P. Rabinowitz**
9:50 - 10:15	coffee break
10:15 - 11:05	**L. Veron**
11:10 - 12:00	**P. Drabek**

12:30-14:00	lunch

Mini - symposia

	Room 1	Room 2	Room 3	Room 4	Room 5	Room 6	Room 7
Title	Nonlinear parabolic equations, approximation using finite volume	The Navier-Stokes Flow Past Rotating Obstacles	Free energy driven equations for phase change problems	Blow-up in nonlinear heat equations	Dissipative higher order evolution equations	Delay differential equations	New trends for hyperbolic equations and systems
Organizer	R. Eymard	M. Hieber	S. Luckhaus	H. Matano	Giacomelli, Novick-Cohen	T. Krisztin	T. Gallouet
14:30 - 14:55	Juergen Fuhrmann	Alex Mahalov	Harald Garcke	Noriko Mizoguchi	Guenther Grün	John Mallet-Paret	Raimund Bürger
15:00 - 15:25	Danielle Hilhorst	Sylvie Monniaux	Dietmar Hömberg	Philippe Souplet	Dejan Slepčev	Hans-Otto Walther	Miloslav Feistauer
15:30 - 15:50	coffee break						
15:50 - 16:15	Karol Mikula	Okihiro Sawada	Thomas Blesgen	José M. Arrieta	John Barrett	Mihály Pituk	julien Vovelle
16:20 - 16:45	Robert Eymard	Matthias Hieber	Stephan Luckhaus	Michael Winkler	Amy Novick-Cohen	Tibor Krisztin	Thierry Gallouet

	Contributed talks						
	Room 1	**Room 2**	**Room 3**	**Room 4**	**Room 5**	**Room 6**	**Room 7**
	Session 1	*Session 2*	*Session 3*	*Session 4*	*Session 5*	*Session 6*	*Session 7*
17:00 - 17:15	Malte Peter	Svetlana Ogorodnikova	Alexander Domoshnitsky	Marco Fontelos	Maite Grau	Marcia Federson	Nikolaos M. Stavrakakis
17:20 - 17:35	Aleš Matas	Inara Yermachenko	Alejandro Vidal-López	Mayte Pérez-Llanos	László Horváth	Bernát Slezák	Agata Golaszewska
17:40 - 17:55	Rostislav Vodák	Felix Sadyrbaev	Jose Sabina de Lis	Noriaki Umeda	Milan Medveď	Zdenek Svoboda	Dalibor Pražák
18:00 - 18:15	Jan Francu	Luisa Morgado	Markus Lilli	Uri Elias	Petr Nečesal	Jozef Džurina	Tomasz Dlotko
18:20 - 18:35		Salvador Villegas	Petr Tomiczek	Aurelian Cernea	Feliz Minhós	Bernhard Lani-Wayda	Wojciech Czernous

Thursday

Plenary lectures

Paul Rabinowitz
Some aspects of an Aubry–Mather theory for PDE's
Laurent Véron
Capacitary estimates of solutions of semilinear parabolic equations
Pavel Drabek
The p-Laplacian – mascot of nonlinear analysis

Lecture room 1

Mini-symposium:

Nonlinear parabolic equations, approximation using finite volume methods

organized by: R. Eymard

Juergen Fuhrmann
Finite volume schemes for nonlinear convection–diffusion problems based on local Dirichlet problems
Danielle Hilhorst
A combined finite volume–nonconforming finite element scheme for a degenerate parabolic equation
Karol Mikula
Finite volume methods in image processing
Robert Eymard
Finite volumes schemes for nonlinear parabolic problems: a regularization method

Contributed talks

Malte A. Peter
Different scalings in homogenisation of reaction, diffusion and interfacial exchange in a two-phase medium
Aleš Matas
Existence, uniqueness and regularity of the solution of the String–Beam System
Rostislav Vodák
Asymptotic analysis of elastic curved rods
Jan Franců
Modeling of liquid flow in vaneless motors

Lecture room 2

Mini-symposium:

The Navier–Stokes flow past rotating obstacles

organized by: M. Hieber

Alex Mahalov
Non blow-up of the 3D Euler equations for a class of three-dimensional initial data in cylindrical domains
Sylvie Monniaux
Navier–Stokes equations in Lipschitz domains
Okihiro Sawada
Remarks on the incompressible Navier–Stokes flows for linearly growing initail data

Matthias Hieber
The Navier–Stokes flow in the exterior of a rotating obstacle

Contributed talks

Svetlana Ogorodnikova
Multiple solutions of nonlinear BVPs for equations with critical points
Inara Yermachenko
Multiple solutions of nonlinear BVPs by the quasilinearization process
Felix Sadyrbaev
On Nehari solutions
Luisa Morgado
Analytical-numerical approach to singular boundary value problems for an Emden/Fowler equation
Salvador Villegas
Optimal Lyapunov inequalities and applications to nonlinear problems

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Lecture room 3

Mini-symposium:

Free energy driven equations for phase change problems

organized by: S. Luckhaus

Harald Garcke
Phase field models for surface diffusion
Dietmar Hömberg
On a thermomechanical model of surface heat treatments
Thomas Blesgen
On qualitative and quantitative mathematical models for diffusion induced segregation processes
Stephan Luckhaus
Nucleation of small balls for the Landau Ginzburg functional

Contributed talks

Alexander Domoshnitsky
Oscillation properties of functional equations in spaces of functions of several variables
Alejandro Vidal-López
Extremal equilibria for parabolic non-linear reaction–diffusion equations
Jose Sabina de Lis
Diffusion problems with bifurcation driven by the boundary conditions
Markus Lilli
Classical solutions for non-elliptic Euler–Lagrage equations via continuation
Petr Tomiczek
Saddle point theorem and Fredholm alternative

Lecture room 4

Mini-symposium:

Blow-up in nonlinear heat equations

organized by: H. Matano

Noriko Mizoguchi
Blowup problem for a supercritical heat equation

Philippe Souplet
Gradient blow-up and global existence for viscous Hamilton–Jacobi equations
José M. Arrieta
Blow up in reaction–diffusion equations with nonlinear boundary conditions
Michael Winkler
Optimal grow-up rate in a supercritical semilinear heat equation

Contributed talks

Marco Fontelos
Finite time singularities in transport equations with nonlocal velocities and fluxes
Mayte Pérez-Llanos
Numerical blow-up for the p-Laplacian equation with a source
Noriaki Umeda
On blow up at space infinity for semilinear heat equations
Uri Elias
Critical points at infinity and blow up of solutions of autonomous polynomial differential systems
Aurelian Cernea
Necessary optimality conditions for differential-difference inclusions via derived cones

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Lecture room 5

Mini-symposium:

Dissipative higher order evolution equations

organized by: Giacomelli, Novick-Cohen

Günther Grün
Optimal lower bounds on waiting times for degenerate parabolic equations and systems
Dejan Slepčev
Coarsening in thin-film equations: upper bound on coarsening rate
John Barrett
Soluble surfactant spreading on a thin film
Amy Novick-Cohen
On a degenerate Allen–Cahn/Cahn–Hilliard system

Contributed talks

Maite Grau
On the stability of periodic orbits for differential systems in $\mathbb{R}^n$
László Horváth
Special Bihari type integral inequalities
Milan Medveď
Nonlinear integral inequalities with singular kernels and their applications
Petr Nečesal
The beam operator and the Fucik spectrum
Feliz Minhós
Lower and upper solutions method for a fully nonlinear elastic beam equation simply supported

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Lecture room 6

Mini-symposium:

Delay differential equations

organized by: T. Krisztin

John Mallet-Paret
Singular State-Dependent Delay Equations: Asymptotics and Stability
Hans-Otto Walther
State-dependent delays, linearization, and periodic solutions
Mihály Pituk
A Perron type theorem for functional differential equations
Tibor Krisztin
Smooth invariant manifolds for state dependent FDEs

Contributed talks

Marcia Federson
Existence and impulsive stability for second order retarded differential equations
Bernát Slezák
On the noncontinuable solutions of retarded functional differential equations
Zdeněk Svoboda
Positive solutions of p-type retarded functional linear differential equations
Jozef Džurina
Asymptotic properties of third order differential equations with deviating arguments
Bernhard Lani-Wayda
Connecting orbits in analytical sine-like delay equations

Lecture room 7

Mini-symposium:

New trends for hyperbolic equations and systems

organized by: T. Gallouet

Raimund Bürger
Conservation laws and related equations with discontinuous flux modeling clarifier-thickener units
Miloslav Feistauer
Higher order methods for the numerical solution of the compressible Euler equations
Julien Vovelle
Conservation laws with flux with discontinuous coefficients: the question of uniqueness of solution
Thierry Gallouët
Numerical methods for hyperbolic systems with discontinuous coefficients or sources terms

Contributed talks

Nikolaos M. Stavrakakis
On some Klein–Gordon–Schrödinger type systems
Agata Gołaszewska
Carathéodory solutions to quasi-linear hyperbolic systems of partial differential equations with state dependent delays
Dalibor Pražák
A remark on characterization of entropy solutions using Colombeau's algebra of generalized functions
Tomasz Dlotko
Strongly damped wave equation in uniform spaces
Wojciech Czernous
Generalized solutions of mixed problems for first order partial functional differential equations

Friday / July 29, 2005

	Plenary talks (Lecture room 1)
9:00 - 9:50	**S. Yakovenko**
9:50 - 10:15	coffee break
10:15 - 11:05	**C. Elliott**
11:10 - 12:00	**A. Mahalov**

12:30-14:00	lunch

	Mini - symposia						
	Room 1	**Room 2**	**Room 3**	**Room 4**	**Room 5**	**Room 6**	**Room 7**
Title	Navier-Stokes equations and related topics	Dynamics of patterns in nonlinear PDEs	Nonlinear parabolic problems: singular solutions	Critical numerical issues for transport problems	Qualitative properties of solutions to PDEs	Contributed talks (15 min)	
Organizer	E. Feireisl	B. Sandstede	A. Shishkov	J. Kačur	B. Kawohl		
14:30 - 14:55	Toshiaki Hishida	Thierry Gallay	Manuela Chaves	Vadym Aizinger	Rolando Magnanini	Francesca Papalini	
15:00 - 15:25	Yoshihiro Shibata	Hannes Uecker	Sergey Shmarev	Jozef Kačur	Thomas Bartsch	Robert Mařík	
15:30 - 15:50	coffee break						
15:50 - 16:15	Eduard Feireisl	Björn Sandstede	Robert Kersner	Peter Bastian	Bernd Kawohl	Jacek Tabor	
16:20 - 16:45	Reinhard Farwig	Karsten Matthies	Andrey Shishkov	Peter Frolkovič	Enzo Vitillaro	János Karsai	

	Contributed talks						
	Room 1	**Room 2**	**Room 3**	**Room 4**	**Room 5**	**Room 6**	**Room 7**
	Session 1	*Session 2*	*Session 3*	*Session 4*	*Session 5*	*Session 6*	*Session 7*
17:00 - 17:15	Hyeong Ohk Bae	Peter Rand	László Simon	Josef Dalík	J. Ignacio Tello	Frantisek Jaroš	Wiktor Radzki
17:20 - 17:35	Šárka Nečasová	Dimitrios Kravvaritis	Niall Dodds	Hideki Murakawa	Bodo Dittmar	Mohammad Mahdi Hosseini	Leonard Shilgba
17:40 - 17:55	Duc Huy Nguyen	Salah-Eddine Rebiai	Nikolaos Matzakos	Jiří Vala	Jiří Fišer	Nikos Yannakakis	Rafael O. Ramirez

Friday

Plenary lectures

Sergei Yakovenko
Hidden lattice structures and oscillatory behavior of systems of polynomial ordinary differential equations

Charlie Elliott
Finite elements and evolving surfaces

Alex Mahalov
Global regularity of the 3D Navier–Stokes equations with uniformly large initial vorticity

Lecture room 1

Mini-symposium:

Navier–Stokes equations and related topics

organized by: E. Feireisl

Toshiaki Hishida
Stationary Navier–Stokes flows around a rotating obstacle

Yoshihiro Shibata
On the Stokes equation with Neumann boundary condition.

Eduard Feireisl
On the mathematical theory of viscous, compressible, and heat conducting fluids

Reinhard Farwig
Suitable weak solutions of the Navier–Stokes equations in arbitrary unbounded domains

Contributed talks

Hyeong Ohk Bae
Temporal and spatial decay rates of Navier–Stokes solutions in an exterior domain

Šárka Nečasová
On the steady fall of a rigid body in linear viscous fluid

Duc Huy Nguyen
On the solvability of a class of stationary generalized Stokes problem

Lecture room 2

Mini-symposium:

Dynamics of patterns in nonlinear PDEs

organized by: B. Sandstede

Thierry Gallay
Existence and stability of asymmetric Burgers vortices

Hannes Uecker
Validity of amplitude equations for electro-convection in nematic liquid crystals

Björn Sandstede
Eigenvalues near the absolute spectrum of spiral waves

Karsten Matthies
Travelling waves in heterogenous media and exponential averaging

Contributed talks

Peter Rand
Asymptotic analysis of a nonlinear partial differential equation in a semicylinder

Dimitrios Kravvaritis
On a nonlinear evolution equation
Salah-Eddine Rebiai
Nonlinear boundary stabilization of the Schrödinger equation with variable coefficients

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Lecture room 3

Mini-symposium:

Nonlinear parabolic problems: singular solutions

organized by: A. Shishkov

Manuela Chaves
On the growth rate of blowup solutions of somesemilinear and quasilinear equations of parabolictype
Sergey Shmarev
Elliptic equations with nonhomogeneous nonlinearity: existence and localization properties of solutions
Robert Kersner
Instantaneous extinction, step discontinuity and blow-up phenomena in reaction–diffusion theory
Andrey E. Shishkov
Higher order quasilinear parabolic equations with singular initial data

Contributed talks

László Simon
On non-uniformly parabolic functional differential equations
Niall Dodds
Spectral properties of non-local operators
Nikolaos M. Matzakos
Boundary value problems for strongly nonlinear differential inclusions

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Lecture room 4

Mini-symposium:

Critical numerical issues for transport problems

organized by: J. Kačur

Vadym Aizinger
A discontinuous Galerkin method for flow and transport
Jozef Kačur
Solution of inverse problems in contaminant transport with adsorption
Peter Bastian
A monotone Eulerian–Lagrangian localized adjoint scheme for convection-dominated transport
Peter Frolkovič
High-resolution finite volume methods for advection equations on general grids

Contributed talks

Josef Dalík
Numerical modelling of the simultaneous heat and moisture transport in porous media
Hideki Murakawa
On a linear approximation scheme to the classical Stefan problem
Jiří Vala
On a numerical model of phase transformation in substitutional alloys

Lecture room 5

Mini-symposium:

Qualitative properties of solutions to PDEs

organized by: B. Kawohl

Rolando Magnanini
Stationary isothermic surfaces
Thomas Bartsch
Nodal solutions of semilinear elliptic equations
Bernd Kawohl
Overdetermined problems and the p-Laplacian
Enzo Vitillaro
Heat equation with dynamical boundary conditions of reactive type

Contributed talks

J. Ignacio Tello
On the stability of solutions for a mathematical model of PDEs arising in chemotaxis
Bodo Dittmar
Sums of free membrane eigenvalues
Jiří Fišer
Dimensions of attractors of iterated multifunction systems

Lecture room 6

Contributed talks:

Francesca Papalini
Non-autonomous boundary value problems on the real line
Robert Mařík
Riccati technique for half-linear PDE
Jacek Tabor
Oscillation almost everywhere
János Karsai
Attractivity results for nonlinearly damped second order oscillator equations
František Jaroš
Strict φ-disconjugacy of n-th order linear differential equations with delays
Mohammad Mahdi Hosseini
A modified spectral method for ODEs with non-analytic or impulse solution
Nikos Yannakakis
Some generalizations of the Lax–Milgram theorem

Lecture room 7

Contributed talks:

Wiktor Radzki
On the structure of the set of bifurcation points of periodic solutions for multiparameter Hamiltonian systems
Leonard K. Shilgba
On periodic and homoclinic orbits of a class of non-autonomous Hamiltonian systems
Rafael O. Ramirez
Inverse problem in celestial mechanics

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