
PROGRAM
for
THE SIXTH IMACS INTERNATIONAL CONFERENCE ON
NONLINEAR EVOLUTION EQUATIONS AND WAVE PHENOMENA:
COMPUTATION AND THEORY
ATHENS, GA
MARCH 23-26, 2009

SUNDAY, MARCH 22, 2009

05:00 – 07:00 REGISTRATION

05:00 – 07:00 RECEPTION

MONDAY, MARCH 23, 2009

07:00 – 09:00 REGISTRATION

08:00 – 08:20 WELCOME, Masters Hall

Thiab R. Taha/Program Chair and Conference Coordinator

Arnett Mace /Provost, Senior Vice President for Academic Affairs, UGA

08:20 - 09:20 KEYNOTE LECTURE: Alan Newell, Masters Hall

Title: Fibonacci Patterns in Annular Geometries

Chair: Thiab Taha

09:20 - 10:20 SESSION 1, Masters Hall

Chair: Jerry Bona, Min Chen and Vassilios Dougalis

Title: Nonlinear Waves

09:20 - 09:50 Speaker: Jiahong Wu

Title: Fifth-order Korteweg-de Vries type equations

09:50 - 10:20 Speaker: Juan-Ming Yuan

Title: A dual-Petrov-Galerkin method for fifth-order KdV type equations

09:20 - 10:20 SESSION 14, Room Q

Chairs: David Nicholls

Title: Numerical Methods for Nonlinear Dispersive Wave Equations

09:20 - 09:50 Speaker: Frederic Chardard, Frederic Dias and Thomas J. Bridges

Title: Computing the Maslov index of multi-pulse solitary waves

09:50 - 10:20 Speaker: Wooyoung Choi, Arnaud Goullet and Tae-Chang Jo

Title: Numerical method to solve a regularized long wave model for strongly nonlinear internal waves

09:20 - 10:20	CONTRIBUTED PAPERS, Room R Chairs: Constance Schober
09:20 - 09:50	Speaker: Constance Schober Title: Wave Action, Dispersion and Multisymplectic Integrators
09:50 - 10:20	Speaker: A. David Trubatch and Barbara Prinari Title: Inverse-scattering transform and vector solitons for vector NLS with Nonvanishing Boundary Conditions

9:20 - 10:20	SESSION 18, Room K Chairs: Xu Runzhang and Liu Yacheng Title: Family of potential wells and the applications to nonlinear evolution equations
9:20 - 9:50	Speaker: Xu Runzhang, Liu Yang and Wu Weining Title: The depth of potential wells and their computations
9:50 - 10:20	Speaker: Liu Yacheng and Xu Runzhang Title: Generalized Boussinesq equations with various power type nonlinearities

9:20 - 10:20	SESSION 10, Room L Chairs: David Cai and Gregor Kovacic Title: Spatiotemporal Coherent Structures in Neuroscience
9:20 - 9:50	Speaker: David Cai Title: Spatiotemporal Dynamics of Primary Visual Cortex
9:50 - 10:20	Speaker: Mingzhou Ding Title: Analyzing Coherent Brain Networks with Granger Causality

10:20 - 10:40	COFFEE BREAK
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10:40 - 12:10	SESSION 1, Masters Hall Chair: Jerry Bona, Min Chen and Vassilios Dougalis Title: Nonlinear Waves
10:40 - 11:10	Speaker: Vassilios Dougalis Title: On Initial-Boundary-Value Problems for the Bona-Smith Systems of Boussinesq Equations
11:10 - 11:40	Speaker: Dimitrios Mitsotakis Title: On the numerical solution of some Boussinesq systems
11:40 - 12:10	Speaker: Beatrice Pelloni Title: Boundary value problems for nonlinear integrable equation

10:40 - 12:10	SESSION 3, Room Q Chair: Christo Christov and Pedro Jordan Title: Nonlinear Wave Phenomena in Discrete and Continuous Models
10:40 - 11:10	Speaker: Guy Norton and Robert Purrington Title: The Westervelt equation with viscous attenuation vs. a causal propagation operator: A numerical comparison
11:10 - 11:40	Speaker: Anthony Rosato and V. Ratnaswamy Title: Density Relaxation of Granular Matter via Monte Carlo and Granular Dynamics Simulations
11:40 - 12:10	Speaker: Len Margolin Title: Equations of Finite Scale for Compressible Turbulent Flow

10:40 - 12:10	CONTRIBUTED PAPERS, Room R Chair: Henrik Kalisch
10:40 - 11:10	Speaker: Toan Nguyen Title: Stability of multi-dimensional viscous shocks for symmetric systems with variable multiplicities
11:10 - 11:40	Speaker: Henrik Kalisch and Nguyet Nguyen Title: On the Stability of Negative Solitary Waves
11:40 - 12:10	Speaker: Philippe Trinh, Jon Chapman and Jean-Marc Vanden-Broeck Title: Exponential asymptotics and stern waves

10:40 - 12:10	CONTRIBUTED PAPAERS, Room K Chairs: Panayotis Kevrekidis
10:40 - 11:10	Speaker: Chenyu Wang Title: Nonlinear Schrodinger Equations and Double-Well Potentials
11:10 - 11:40	Speaker: Jeong Sook Im Title: Comparison of Euler Equations and KdV equation for long waves in shallow water
11:40 - 12:10	Speaker: Sihon Crutcher and Albert Osei. Title: Oscillatory Behavior of a Spatial Soliton in a Power Law medium with a triangular refractive index Profile
10:40 - 12:10	SESSION 4, Room L Chair: Andrei Ludu Title: Dynamics of vortex patterns in superconducting materials
10:40 - 11:10	Speaker: Milorad Milosevic Title: Mixed state in superconducting hybrids: vortex-antivortex phenomena
11:10 - 11:40	Speaker: Andrei Ludu Title: General approach for the nonlinear electromagnetic Schrodinger
11:40 - 12:10	Speaker: Roy Choudhury and Jonathan Leto Title: Solitary Wave Families of the Generalized Pochhammer-Chree Equations

12:10 - 1:20	LUNCH
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1:20 - 3:20	SESSION 1, Masters Hall Chair: Jerry Bona, Min Chen and Vassilios Dougalis Title: Nonlinear Waves
1:20 – 1:50	Speaker: Arnaud Debussche Title: On the nonlinear Schrodinger equation with white noise dispersion
1:50 – 2:20	Speaker: Shu-Ming Sun Title: Existence of Nonlinear Surface Waves on Water with Surface Tension
2:20 – 2:50	Speaker: Svetlin Georgiev Title: Blow up of the solutions of nonlinear wave equation
2:50 – 3:20	Speaker: Erik Wahlén Title: Steady water waves with a critical layer

1:20 – 3:20	SESSION 14, Room Q Chairs: David Nicholls Title: Numerical Methods for Nonlinear Dispersive Wave Equations
1:20 – 1:50	Speaker: Benjamin Akers and Paul Milewski Title: Dynamics of three dimensional capillary-gravity solitary waves in deep water
1:50 - 2:20	Speaker: Liwei Xu Title: Numerical simulation of three-dimensional nonlinear water waves
2:20 – 2:50	Speaker: Christopher Curtis and Bernard Deconinck Title: On the Convergence of Hill's Method
2:50 – 3:20	Speaker: Paul Milewski and Frederic Dias Title: A comparison of strongly nonlinear Boussinesq models

1:20 – 3:20	SESSION 8, Room R Chairs: Ricardo Carretero and Panayotis Kevrekidis Title: Nonlinear Schrodinger Equations and its Applications
1:20 – 1:50	Speaker: Dmitry Pelinovsky Title: Asymptotic stability of discrete solitons
1:50 - 2:20	Speaker: Boris Malomed Title: Soliton Stability and Collapse in the Discrete Nonpolynomial Schrodinger Equation with Dipole-Dipole Interactions
2:20 – 2:50	Speaker: Yuliy Bludov Title: Resonant tunneling and Rabi oscillations of matter wave solitons in linear and nonlinear optical lattices
2:50 – 3:20	Speaker: Bo Sun Title: Splitting a Bose-Einstein condensate in two translating traps

1:20 - 3:20	TUTORIAL 1 , Room K Speaker: Jianke Yang Title: Computing solitary waves of nonlinear wave equations
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1:20 - 3:20	SESSION 10, Room L Chair: David Cai and Gregor Kovacic Title: Spatiotemporal Coherent Structures in Neuroscience
1:20 – 1:50	Speaker: Gregor Kovacic, David Cai, Aaditya Rangan and Louis Tao Title: Fokker-Planck descriptions of neuronal network activity
1:50 – 2:20	Speaker: Katherine Newhall, Gregor Kovacic, Peter Kramer, Aaditya Rangan and David Cai Title: Synchronous Behavior in Current-Based Neuronal Network
2:20 – 2:50	Speaker: Aaditya Rangan Title: Diagrammatic Expansion of Pulse-Coupled Network Dynamics
2:50 – 3:20	Speaker: Douglas Zhou Title: Chaos in Integrate-and-Fire Neuronal Networks

1:20 – 6:15	POSTER PAPERS , Pecan Tree Galleria Authors: Thiab Taha and Leonidas Deligiannidis Paper 1: A Tool to Exercise Numerical Simulation Algorithms Author: Tim Lewkow Paper 2: Line-Soliton solutions of the Kadomtsev-Petviashvili Equation Author: Kathryn Rasmussen Paper 3: Optical Pulse Dynamics in Active Media with Negative Refractive Index Author: Taras Lakoba Paper 4: Extension of the Conjugate Gradient method for finding fundamental Author: Abby Shaw-Krauss Paper 5: Scattering Resonances and the Dynamics of Deforming Bubbles in a Compressible Fluid
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3:20 – 3:45	COFFEE BREAK
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3:45 – 6:15	SESSION 3, Masters Hall Chairs: Christo Christov and Pedro Jordan Title: Nonlinear Wave Phenomena in Discrete and Continuous Models
3:45 – 4:15	Speaker: Guy Norton Title: Numerical solution of the wave equation describing acoustic propagation through dispersive moving media
4:15 – 4:45	Speaker: Ronald Mickens Title: Traveling Wave Solutions for a Nonlinear Reaction-Diffusion PDE Having Linear and Square-Root Terms
4:45 – 5:15	Speaker: Alina Chertock, Philip Du Toit, and Jerrold Marsden Title: A Particle Method for the EPDiff Equation
5:15 – 5:45	Speaker: Stefan Mancas and Roy Choudhury Title: Periodic and Chaotic Traveling Wave Patterns in Reaction-Diffusion/Predator-Prey Models with General Nonlinearities
5:45 – 6:15	Speaker: Todd Smith and Roy Choudhury Title: Regular and Embedded Solitons in a Generalized Microstructure PDE

3:45 – 6:15 SESSION 13, Room Q
Chairs: Jared Bronski, Ken McLaughlin and Peter Miller
Title: Asymptotics of Nonlinear Waves and Related Problems

3:45 – 4:15 Speaker: Alexander Tovbis and Stephanos Venakides
Title: Semiclassical limit of scattering transforms for integrable systems

4:15 – 4:45 Speaker: Sergey Belov, Alexander Tovbis and Stephanos Venakides
Title: Numerical studies of breaking in the semiclassical solution of the focusing cubic Nonlinear Schrodinger

4:45 – 5:15 Speaker: Robert Jenkins and Ken McLaughlin
Title: Regularization of discontinuities via the focusing nonlinear Schroedinger evolution

5:15 – 5:45 Speaker: Johanna Michor, Gerald Teschl and Iryna Egorova
Title: Scattering Theory for Jacobi Operators with General Steplike Background

5:45 – 6:15 Speaker: Robert Buckingham and Peter Miller
Title: Asymptotics of the semiclassical sine-Gordon equation

3:45 – 6:15 SESSION 7, Room R
Chairs: Jarle Berntsen, Philippe Guyenne, Henrik Kalisch and Emilian Parau
Title: Internal Waves: Interaction with surface waves and bottom topography

3:45 – 4:15 Speaker: Magnar Bjørkavåg and Henrik Kalisch
Title: Instability for Internal Waves

4:15 – 4:45 Speaker: Ricardo Barros and Wooyoung Choi
Title: Shear Instability and its Suppression in the Propagation of Large Amplitude Internal Solitary Waves Interacting with the Free Surface

4:45 – 5:15 Speaker: Arnaud Gouillet and Wooyoung Choi
Title: Interaction of large amplitude internal solitary waves with bottom topography

5:15 – 5:45 Speaker: Roxana Tiron, Roberto Camassa and Ann Almgren
Title: Unstable Internal Waves

5:45 – 6:15 Speaker: Philippe Guyenne
Title: Long-wave models for internal waves

3:45 – 6:15 SESSION 19, Room K
Chairs: Taixi Xu, Wen-Xiu Ma, Zhijun Qiao, Hongyou Wu and Yue Liu
Title: Recent Development in Soliton Theory

3:45 – 4:15 Speaker: Anton Dzhamay
Title: On the Lagrangian Description of the Discrete Isospectral and
 Isomonodromic Transformations

4:15 – 4:45 Speaker: Anton Sakovich and Dmitry Pelinovsky
Title: Global well-posedness of the short-pulse and sine-Gordon equations in
 energy space

4:45 – 5:15 Speaker: Zhijun Qiao and Xianqi Li
Title: New Integrable Equations with Non-smooth Solitons

5:15 – 5:45 Speaker: Florentina Tone
Title: On the long time stability of the implicit Euler scheme for the 2d space-
 periodic Navier--Stokes equations

5:45 – 6:15 Speaker: Wen-Xiu Ma
Title: Hamiltonian structures of classical and super soliton equations

3:45 – 6:15 SESSION 20, Room L
Chairs: John Carter
Title: Mathematical Models of Water Waves

3:45 – 4:15 Speaker: John Carter and Rodrigo Cienfuegos
Title: Stability and shoaling in the Serre equations

4:15 – 4:45 Speaker: Diane Henderson and Harvey Segur
Title: The Benjamin-Feir Instability and Propagation of Swell Across the Pacific

4:45 – 5:15 Speaker: David Lovit and Bernard Deconinck
Title: Data Analysis Using NLS Stationary Solutions

5:15 – 5:45 Speaker: Rodrigo Cienfuegos, Leonardo Duarte, Eric Barthelemy and
 Florent Grasso
Title: Nonlinear Energy Transfers Affecting Waves Propagating in Shallow Water

5:45 – 6:15 Speaker: Harvey Segur
Title: Explosive instability due to 3-wave or 4-wave mixing

TUESDAY, March 24, 2009

- 8:00 - 9:00 KEYNOTE LECTURE: Nail Akhmediev, Masters Hall
Chair: Jerry Bona
Title: Dissipative Solitons: General Concepts and Optical Applications
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- 9:00 – 10:00 SESSION 1, Masters Hall
Chairs: Jerry Bona, Min Chen and Vassilios Dougalis
Title: Nonlinear Waves
- 9:00 – 9:30 Speaker: Bernard Deconinck
Title: Cnoidal Waves of KdV are stable
- 9:30 – 10:00 Speaker: Serge Dumont
Title: Viscous asymptotical models for water waves
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- 9:00 – 10:00 SESSION 17, Room Q
Chairs: Sarbarish Chakravarty and Yuji Kodama
Title: Two-dimensional solitary waves in shallow water
- 9:00 – 9:30 Speaker: John Dudley, Goery Genty, Frederic Dias and Ben Eggleton
Title: Extreme value phenomena in optics: origins and links with oceanic rogue waves
- 9:30 – 10:00 Speaker: Tarmo Soomere
Title: Shallow-water soliton interactions as a potential source of freak waves and agents of danger from fast ferries
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- 9:00 – 10:00 SESSION 16, Room R
Chairs: Jianke Yang and Taras Lakoba
Title: Advances in Numerical Methods for Nonlinear Wave Computations
- 9:00 – 9:30 Speaker: John Boyd, Zhengjie Xu and Lei Wang
Title: Adaptive Radial basis function algorithm for the Benjamin-Ono equation
- 9:30 – 10:00 Speaker: Heydar Qasimov and Semyon Tsynkov
Title: Lacunae-Based Stabilization of PMLs
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- 9:00 – 10:00 SESSION 6, Room K
Chairs: Bao-Feng Feng, Stephane Lafortune, Kenichi Maruno and Daisuke Takahashi
Title: Discrete and Ultradiscrete Integrable Systems
- 9:00 – 9:30 Speaker: Takeo Kojima
Title: Wakimoto realization of the elliptic algebra $U_{q,p}(\mathfrak{sl}_N)$ and its application to the integrals of motion
- 9:30 – 10:00 Speaker: Yohei Tutiya and Jun'ichi Shiraishi
Title: Periodic ILW equation with discrete Laplacian
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9:00 – 10:00	SESSION 11, Room L Chairs: David Cai and Gregor Kovacic Title: Nonlinear Dispersive Waves"
9:00 – 9:30	Speaker: Wonjung Lee, Gregor Kovacic and David Cai Title: Renormalized Resonance Quartets in Dispersive Wave Turbulence
9:30 – 10:00	Speaker: Pavel Lushnikov Title: Regularization of collapse from microscopic cellular dynamics

10:00 – 10:20	COFFEE BREAK
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10:20 – 12:20	SESSION 1, Masters Hall Chair: Jerry Bona, Min Chen and Vassilios Dougalis Title: Nonlinear Waves
10:20 – 10:50	Speaker: Vladimir Varlamov Title: Riesz potentials for Korteweg-de Vries Solitons
10:50 – 11:20	Speaker: Henrik Kalisch Title: Energy Balance for Undular Bores
11:20 – 11:50	Speaker: Bingyu Zhang Title: interior Regularity of Solutions of the Korteweg-de Vrie s Equation
11:50 – 12:20	Speaker: Jeongwhan Choi Title: Supercritical surface gravity waves generated by a negative or a time dependent forcing

10:20 – 12:20	TUTORIAL 2 , Room Q Title: Water wave modeling: theory and simulation Speaker: Min Chen
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10:20 – 12:20	SESSION 16, Room R Chair: Jianke Yang and Taras Lakoba Title: Advances in Numerical Methods for Nonlinear Wave Computations
10:20 – 10:50	Speaker: Tomas Dohnal and Thomas Hagstrom Title: Perfectly Matched Layers in Nonlinear Coupled Mode Equations
10:50 – 11:20	Speaker: Simon Malham, Veerle Ledoux, Jitse Niesen and Vera Thuemmler Title: Grassmannian shooting and the stability of multi-dimensional fronts
11:20 – 11:50	Speaker: Bernard Deconinck and Katie Oliveras Title: Determining the Stability of Periodic Solutions to Euler's Equations for Surface Gravity Waves
11:50 – 12:20	Speaker: Jianke Yang Title: Iteration methods for linear-stability eigenvalues of solitary waves

10:20 – 12:20	SESSION 8, Room K Chair: Ricardo Carretero and Panayotis Kevrekidis Title: Nonlinear Schrodinger Equations and its Applications
10:20 – 10:50	Speaker: Wieslaw Krolkowski Title: Nonlocal solitons
10:50 – 11:20	Speaker: George Theocharis Title: Dynamics and collisions of dark matter-wave solitons
11:20 – 11:50	Speaker: Shu Jia Title: Rayleigh-Taylor Instability in Nonlinear Schrodinger Flow
11:50 – 12:20	Speaker: Zhigang Chen Title: Manipulation of light waves with reconfigurable ionic-type photonic structures

10:20 – 12:20	SESSION 11, Room L Chair: David Cai and Gregor Kovacic Title: Nonlinear Dispersive Waves
10:20 – 10:50	Speaker: Alexander Korotkevich Title: Formation of the condensate and its influence on the direct and inverse cascades in wave turbulence
10:50 – 11:20	Speaker: Ibrahim Fatkullin Title: Vortex dynamics in two-dimensional nematics
11:20 – 11:50	Speaker: Brenton LeMesurier Title: Conservative Time-Discrete Hamiltonian Systems and Models of Pulses in Molecular Chains
11:50 – 12:20	Speaker: Michael Weinstein Title: Dynamics of Coherent Structures in NLS/Gross-Pitayevsky equations

10:20 – 11:20	SESSION 13, Room V/W Chair: Jared Bronski, Ken McLaughlin and Peter Miller Title: Asymptotics of Nonlinear Waves and Related Problems
10:20 – 10:50	Speaker: Jared Bronski and Mathew Johnson Title: Stability of Periodic Solutions of Nonlinear Dispersive Equations
10:50 – 11:20	Speaker: Helge Krueger Title: Perturbations of the periodic Toda lattice

11:20 – 12:20	CONTRIBUTED PAPERS, Room V/W Chairs: Marco Sammartino
11:20 – 11:50	Speaker: Gaetana Gambino, Maria Carmela Lombardo and Marco Sammartino Title: Pattern formation for a reaction-diffusion system with nonlinear diffusion
11:50 – 12:20	Speaker: Marco Sammartino, Francesco Gargano, Maria Carmela Lombardo and Vincenzo Sciacca Title: Well posedness results and singularity formation for slightly viscous flows

12:20 – 1:20	LUNCH
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1:20 – 3:20	SESSION 3, Masters Hall Chair: Christo Christov and Pedro Jordan Title: Nonlinear Wave Phenomena in Discrete and Continuous Models
1:20 – 1:50	Speaker: Alexander Kurganov Title: Numerical Methods for Modern Traffic Flow Models
1:50 – 2:20	Speaker: Paul Elmore Title: Ultrasonics in solids with frequency-dependent nonlinearity parameters
2:20 – 2:50	Speaker: Evgeny Demekhin and Alex Korovyakovsky Title: Nonlinear Electrophoresis in DC Electric Field
2:50 – 3:20	Speaker: Joseph Calantoni and Paul Elmore Title: Discrete Element Simulations of Solitary Waves in Non-spherical Granular Media

1:20 – 3:20	SESSION 6, Room Q Chairs: Bao-Feng Feng, Stephane Lafortune, Kenichi Maruno and Daisuke Takahashi Title: Discrete and Ultradiscrete Integrable Systems
1:20 – 1:50	Speaker: Adrian Carstea and Tomoyuki Takenawa Title: Algebraic-geometrical approach to some Hirota-Kimura-Yahagi type mappings
1:50 – 2:20	Speaker: Tomoyuki Takenawa Title: Tropical curves and integrable cellular automata
2:20 – 2:50	Speaker: Shin Isojima Title: Oscillatory solutions for ultradiscrete systems
2:50 – 3:20	Speaker: Panayotis Kevrekidis Title: Discrete Breathers in NLS and KG Chains: Some Recent Results

1:20 – 3:20	SESSION 12, Room R Chair: Zoran Grujic and Henrik Kalisch Title: Nonlinear PDE in Spaces of Analytic Functions
1:20 – 1:50	Speaker: David Nicholls and Maria Kakleas Title: Models of Weakly Viscous Water Waves
1:50 – 2:20	Speaker: Alex Himonas Title: Gevrey regularity of the periodic gKdV equation
2:20 – 2:50	Speaker: Olivier Goubet and Nadir Maaroufi Title: Entropy by unit length for the Ginzburg-Landau equation on the line. An Hilbert space framework
2:50 – 3:20	Speaker: Rafaela Guberovic Title: Smoothness of Koch-Tataru solutions to the Navier-Stokes equations revisited

1:20 – 3:20	SESSION 5, Room K Chair: Alex Himonas and Beatrice Pelloni Title: Nonlinear Evolution Equations and Integrable Systems
1:20 – 1:50	Speaker: Gino Biondini* and Guenbo Hwang Title: Solitons, boundary value problems and the nonlinear method of images
1:50 – 2:20	Speaker: Barbara Prinari*, Marco Boiti, Flora Pempinelli and Andrei K Pogrebkov Title: Towards a general inverse scattering transform for the Kadomtsev-Petviashvili II
2:20 – 2:50	Speaker: Makoto Seino*, Takahiko Tanahashi and Kenji Yasuoka Title: A numerical study of the Rayleigh-Benard convection using the discrete Boltzmann equation with the exact solution of a relaxation equation
2:50 – 3:20	Speaker: Matti Lassas, Jennifer Mueller, Samuli Siltanen and Andreas Stahel Title: Solution of a (2+1)-dimensional KdV equation by the inverse

1:20 – 2:50	SESSION 4, Room L Chair: Andrei Ludu Title: Dynamics of vortex patterns in superconducting materials
1:20 – 1:50	Speaker: Oksana Shevtsova Title: Giant vortex structures in nanometer-scale spherical type-II superconducting samples
1:50 – 2:20	Speaker: Vyacheslav Misko Title: Vortex Dynamics in Mesoscopic Superconducting Corbino Disks
2:20 – 2:50	Speaker: Golibjon Berdiyrov, Denis Vodolazov, Milorad Milosevic and Francois Peeters Title: Finite size effect on the resistive state in a mesoscopic type-II superconducting stripe

1:20 – 3:20	TUTORIAL 5 , Room V/W Title: Shallow Water Waves: Theory, Simulation and Experiments Speaker: Yuji Kodama
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3:20 – 3:45	COFFEE BREAK
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3:45 – 5:45	SESSION 17, Master Hall Chairs: Sarbarish Chakravarty and Yuji Kodama Title: Two-dimensional solitary waves in shallow water
3:45 – 4:15	Speaker: Al Osborne Title: Numerical Simulations of Higher-Order Integrable Soliton Equations with Riemann Theta Functions and Lie-Kodama Transforms
4:15 – 4:45	Speaker: Prabir Daripa Title: Singularity formation in some nonlinear Boussinesq-type models of shallow water waves
4:45 – 5:15	Speaker: Hidekazu Tsuji, Masayuki Oikawa and Yuji Kodama Title: Soliton Solutions and Initial Value Problems of the KP Equation --- Time Development of V-shape pattern--
5:15 – 5:45	Speaker: Chiu-Yen Kao and Yuji Kodama Title: A Spectral Method with Window Technique for the Initial Value Problems of the Kadomtsev-Petviashvili Equation

3:45 – 6:15	SESSION 13, Room Q Chairs: Jared Bronski, Ken McLaughlin and Peter Miller Title: Asymptotics of Nonlinear Waves and Related Problems
3:45 – 4:15	Speaker: Stephane Lafortune Title: Stability Analysis of Persisting Periodic Solutions to a Complex Ginzburg-Landau Perturbation of NLS
4:15 – 4:45	Speaker: Tom Claeys Title: Critical asymptotics for the KdV equation in the small dispersion
4:45 – 5:15	Speaker: Jeffery DiFranco and Peter Miller Title: Semiclassical Asymptotics of the modified NLS equation
5:15 – 5:45	Speaker: Marco Bertola Title: The Riemann-Hilbert approach to the asymptotic of Cauchy biorthogonal polynomials
5:45 – 6:15	Speaker: Virgil Pierce and Yuji Kodama Title: Universality of the dispersionless Toda hierarchy

3:45 – 5:45	SESSION 24, Room R Chairs: Grozdena Todorova and Borislav Yordanov Title: Nonlinear Dissipative Equations
3:45 – 4:15	Speaker: Kiyoshi Mochizuki Title: On resolvent estimates and scattering for evolution equations with time dependent perturbations
4:15 – 4:45	Speaker: Hiroshi Uesaka Title: The blowup boundary for a semilinear wave equation with a convolution nonlinearity
4:45 – 5:15	Speaker: George Avalos Title: Higher Regularity Properties of a Coupled Parabolic-Hyperbolic Fluid-Structure System
5:15 – 5:45	Speaker: Michael Brock, Jessica Kenigson and Montgomery Taylor Title: Decay Estimates for Nonlinear Dissipative Klein-Gordon Equations with Space-Dependent Coefficients
5:45 – 6:15	Speaker: Lorena Bociu and Irena Lasiecka Title: Supercritical Sources in Nonlinear Wave Equations

3:45 – 5:45	SESSION 5, Room K Chairs: Alex Himonas and Beatrice Pelloni Title: Nonlinear Evolution Equations and Integrable Systems
3:45 – 4:15	Speaker: Sergey Belov, Alexander Tovbis and Stephanos Venakides* Title: Long time soliton confinement in semiclassical NLS
4:15 – 4:45	Speaker: Gerard Misiolek Title: Integrable equations on Virasoro orbits
4:45 – 5:15	Speaker: DJ Kaup Title: A Covering Set of Squared Eigenfunctions for the Sasa-Satsuma Equation
5:15 – 5:45	Speaker: Theodora Ioannidou Title: Soliton Solutions of the Skyrme Model
5:45 – 6:15	Speaker: Kenichi Maruno* and Sarbarish Chakravarty Title: Classification of the line-soliton solutions of two-dimensional soliton cellular automaton

WEDNESDAY, March 25, 2009

- 8:00 – 10:00 SESSION 3, Masters Hall
Chair: Christo Christov and Pedro Jordan
Title: Nonlinear Wave Phenomena in Discrete and Continuous Models
- 8:00 – 8:30 Speaker: Anders Rasmussen and Mads Sorensen
Title: Compound Shock Waves in Nonlinear Thermoviscous Fluids
- 8:30 – 9:00 Speaker: Anya Zaitseva
Title: Inverse Shilnikov Bifurcation as a Terminator of 2D Wave
- 9:00 – 09:30 Speaker: Slobodan Veljovich
Title: Wellposedness Theory and Optimal Boundary Controllability in Context of
Equations of Nonlinear Acoustics
- 9:30 – 10:00 Speaker: Michail Todorov and Christo Christov
Title: Collision Dynamics of Elliptically Polarized Solitons of Coupled Nonlinear
Schrodinger Equations (CNLSE)
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- 8:00 – 10:00 SESSION 9, Room Q
Chair: Greg Forest, Qi Wang and Brandon Lindley
Title: Complex Fluids
- 8:00 – 8:30 Speaker: M. Gregory Forest
Title: Transport Phenomena in Complex Fluids
- 8:30 – 9:00 Speaker: Brandon Lindley and Qi Wang
Title: A Multicomponent Model for Biofilm-Disinfectant/Drug Interaction
- 9:00 – 09:30 Speaker: Xiaofeng Yang
Title: Defect morphology of nematic liquid crystalline polymers
- 9:30 – 10:00 Speaker: Guanghua Ji and Qi Wang
Title: Modeling and simulation of polymer particulate nanocomposites
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- 8:00 – 10:00 SESSION 7, Room R
Chair: Jarle Berntsen, Philippe Guyenne, Henrik Kalisch and Emilian Parau
Title: Internal Waves: Interaction with surface waves and bottom topography
- 8:00 – 8:30 Speaker: Jay Douglas Wright
Title: Linear Dispersive Decay Estimates for Vortex Sheets in 2 and 3
- 8:30 – 9:00 Speaker: John McHugh
Title: Internal waves in non-Boussinesq flow
- 9:00 – 09:30 Speaker: Emilian Parau
Title: Steady and unsteady gravity-capillary waves in three dimensions and related
flows
- 9:30 – 10:00 Speaker: Richard Kollar
Title: Unusual decay rates of internal waves in stratified fluids via homotopy
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8:00 – 10:00	SESSION 5, Room K Chair: Alex Himonas and Beatrice Pelloni Title: Nonlinear Evolution Equations and Integrable Systems
8:00 – 8:30	Speaker: Jennifer Gorsky Title: On analyticity in space variable of solutions to KdV type equations
8:30 – 9:00	Speaker: Jerry Bona Title: Initial-boundary value problems via inverse scattering theory
9:00 – 9:30	Speaker: Hongqiu Chen Title: Boundary Value Problems for Nonlinear Dispersive Wave Equations
9:30 – 10:00	Speaker: Justin Holmer* and Maciej Zworski Title: Dynamics of soliton solutions to NLS with potential

8:00 – 08:30	SESSION 19, Room L Chair: Taixi Xu, Wen-Xiu Ma, Zhijun Qiao, Hongyou Wu and Yue Liu Title: Recent Development in Soliton Theory
8:00 – 8:30	Speaker: Man Jia and S. Y. Lou Title: Vortices, Circumfluence, Symmetry Groups and Darboux Transformations of the Euler Equation

8:30 – 09:30	SESSION 15, Room L Chair: Yuri Latushkin Title: Spectral theory for linearizations of discrete and continuous nonlinear waves
8:30 – 09:00	Speaker: Dmitry Pelinovsky Title: Eigenvalues of the Thomas-Fermi ground state
9:00 – 09:30	Speaker: Anna Ghazaryan and Chris Jones Title: Stability of wave fronts in a high Lewis number combustion model

9:30 – 10:00	SESSION 1, Masters Hall Chairs: Jerry Bona, Min Chen and Vassilios Dougalis Title: Nonlinear Waves
9:30 – 10:00	Speaker: John Albert and Nghiem Nguyen Title: Uniqueness of homoclinic orbits for stationary KdV equations

10:00 – 10:20	COFFEE BREAK
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10:20 – 12:20	SESSION 3, Masters Hall Chairs: Christo Christov and Pedro Jordan Title: "Nonlinear Wave Phenomena in Discrete and Continuous Models
10:20 – 10:50	Speaker: John Boyd and Cheng Zhou Title: The Corner Wave Bifurcation in Atmospheric and Oceanic Kelvin Waves
10:50 – 11:20	Speaker: Andrus Salupere, Margit Vallikivi, and Hui-Hui Dai Title: On propagation of solitary deformation waves in a compressible hyperelastic rod

11:20 – 11:50	Speaker: Kert Tamm and Andrus Salupere Title: On propagation of 1D solitary waves in Mindlin-type microstructured solids
11:50 – 12:20	Speaker: Ivan Christov Title: Hidden solitons in the Zabusky-Kruskal experiment: Analysis using the periodic, inverse scattering transform
10:20 – 12:20	SESSION 22, Room Q Chairs: David Ambrose and J. Douglas Wright Title: Interfacial Fluid Flows with Applications
10:20 – 10:50	Speaker: Lyudmyla Barannyk, Demetrios Papageorgiou and Peter Petropoulos Title: Gravity capillary interfacial waves in a channel in the presence of electric fields
10:50 – 11:20	Speaker: Xuming Xie Title: Well posedness in Sobolev space of a crystal growth problem
11:20 – 11:50	Speaker: David Ambrose Title: Time-Periodic Solutions of the Benjamin-Ono Equation
11:50 – 12:20	Speaker: Zhiwu Lin Title: Instability of 2D solitary water waves
10:20 – 12:20	CONTRIBUTED PAPERS, Room R Chairs: Dong-Wook Lee
10:20 – 10:50	Speaker: Artur Sowa Title: On Equilibrium Solutions of the Noncommutative Schrodinger Equation
10:50 – 11:20	Speaker: Daniele Funaro Title: A Model for Electromagnetic Solitary Waves in Vacuum
11:20 – 11:50	Speaker: Kody Law Title: Vortices in Bose-Einstein Condensates: new advances
11:50 – 12:20	Speaker: Dong-Wook Lee, Marisol Koslowski and JiHwan Kim Title: The Solitary Wave Solutions for Korteweg-de Vries (KdV) equation with quartic nonlinearity
10:20 – 12:20	SESSION 23, Room K Chairs: Alexander Nepomnyashchy Title: Controlling Nonlinear Waves
10:20 – 10:50	Speaker: Yuliya Kanevsky, Alexander Nepomnyashchy and Alexander Golovin Title: Control of subcritically excited solitary waves
10:50 – 11:20	Speaker: Kenneth Showalter Title: Collective Behavior in Excitable Media: Interacting Particle-Like Waves
11:20 – 11:50	Speaker: Vladimir Zykov Title: Control of spiral wave location in excitable media
11:50 – 12:20	Speaker: Michael Zaks Title: Control of localized asynchronous states in lattices of phase oscillators

10:20 – 12:20	SESSION 15, Room L Chairs: Yuri Latushkin Title: Spectral theory for linearizations of discrete and continuous nonlinear waves
10:20 – 10:50	Speaker: Keith Promislow and Richard Moore Title: Strong Contraction in Singularly Perturbed C_0 Semigroups
10:50 – 11:20	Speaker: Aslihan Demirkaya Title: L_2 bounds for Radially Symmetric Solutions of Kuramoto-Sivashinsky Equation in Dimension 3
11:20 – 11:50	Speaker: Milena Stanislavova Title: A precise stable manifold theorem for parabolic equations
11:50 – 12:20	Speaker: Vahagn Manukian and Bjorn Sandstede Title: Existence and stability of multi-pulses with applications to nonlinear optics

12:20 – 1:20	LUNCH
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1:20 – 3:20	TUTORIAL 3 , Masters Hall Title: Theory and Simulation of Randomly Driven Nonlinear Waves Speakers: William Kath and Gino Biondini
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1:20 – 2:20	SESSION 22, Room Q Chairs: David Ambrose and J. Douglas Wright Title: Interfacial Fluid Flows with Applications
1:20 – 1:50	Speaker: Michael Siegel Title: Efficient numerical computation of fluid interfaces with soluble surfactant
1:50 – 2:20	Speaker: C. Carlo Fazioli and David Nicholls Title: Parametric Analyticity of Variations of the Dirichlet--Neumann Operator, with Computational Considerations

2:20 – 3:20	SESSION 9, Room Q Chair: Greg Forest, Qi Wang and Brandon Lindley Title: Complex Fluids
2:20 – 2:50	Speaker: Sarthok Sircar Title: Biaxial Liquid crystals in small amplitude oscillatory shear
2:50 – 3:20	Speaker: Eric P. Choate, Lili Ju and M. Gregory Forest Title: The dependence of the dynamic moduli on the director angle anchoring condition for heterogeneous nematic polymers

1:20 – 2:50	SESSION 6, Room R Chairs: Bao-Feng Feng, Stephane Lafortune, Kenichi Maruno and Daisuke Takahashi Title: Discrete and Ultradiscrete Integrable Systems
1:20 – 1:50	Speaker: Long Lee and Roberto Camassa Title: Complete Integrable Particle Methods for a Nonlinear Shallow-water Wave Equation
1:50 – 2:20	Speaker: Baofeng Feng , Kenichi Maruno and Yasuhiro Ohta Title: Integrable discretizations of the Camassa-Holm and short pulse equations
2:20 – 2:50	Speaker: Atsushi Mukaihira Title: Tau-function on the inhomogeneous lattice and the classical isotropic Heisenberg spin chain

2:50 – 3:20	CONTRIBUTED PAPER, Room R Chair: Kenichi Maruno
2:50 – 3:20	Speaker: Francisco J. Diaz-Otero and Pedro Chamorro-Posada Title: Effects of the amplifier location in interchannel soliton collisions in periodic dispersion maps in the presence of third order dispersion

1:20 – 2:20	SESSION 23, Room K Chairs: Alexander Nepomnyashchy Title: Controlling Nonlinear Waves
1:20 – 1:50	Speaker: Jean Bragard, Andreas Amann and Eckehard Schoell Title: Improving pinning control of nonlinear waves using Floquet modes
1:50 – 2:20	Speaker: Alejandro Garzon and Roman Grigoriev Title: Model-based control of cardiac dynamics in a ring geometry

2:20 – 3:20	CONTRIBUTED PAPERS, Room K Chair: Alexander Nepomnyashchy
2:20 – 2:50	Speaker: Russell Jackson Title: Horseshoes and standing waves in a Gross-Pitaevskii equation with periodic potential
2:50 – 3:20	Speaker: Alexei Rybkin Title: On the inverse scattering transform for the KdV equation with non-decaying initial data

1:20 – 3:20	CONTRIBUTED PAPERS, Room L Chair: Takuya Yamano
1:20 – 1:50	Speaker: Francesco Fedele Title: Rogue waves in oceanic turbulence
1:50 – 2:20	Speaker: Takuya Yamano, T.Ben Nohara, Katsuya Inui and Akio Arimoto Title: Cubic-Quartic Nonlinear Schroedinger equation and its solitary solutions:
2:20 – 2:50	Speaker: Mark Hoefer, JiaJia Chang and Peter Engels Title: Matter Wave Interference
2:50 – 3:20	Speaker: Title:

3:20 – 3:45	COFFEE BREAK
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3:45 – 5:45	SESSION 1, Masters Hall Chairs: Jerry Bona, Min Chen and Vassilios Dougalis Title: Nonlinear Waves
3:45 – 4:15	Speaker: Mark Groves Title: Existence and stability of fully localised three-dimensional gravity-capillary solitary water waves
4:15 – 4:45	Speaker: Gurjeet Bagri Title: Three dimensional doubly periodic traveling gravity-capillary water waves with infinite depth
4:45 – 5:15	Speaker: Min Chen Title: Simulations of three-dimensional water waves
5:15 – 5:45	Speaker: Radu Cascaval Title: A model for peripheral circulation using nonlinear dispersive waves
5:45 – 6:15	Speaker: Marcia Scialom Title: On Cauchy problem for a system of Schrodinger type equations

3:45 – 5:45	SESSION 3, Room Q Chair: Christo Christov and Pedro Jordan Title: Nonlinear Wave Phenomena in Discrete and Continuous Models
3:45 – 4:15	Speaker: Pedro Jordan and Ashok Puri Title: Selected Topics in Wave Phenomena: Diffusive Solitons, Singular Surfaces, and Wave Chaos
4:15 – 4:45	Speaker: Stanley Chin-Bing and Robert Zingarelli Title: Modeling the Interaction of Acoustic Waves with Penetrable Fractal-Rough Seafloors
4:45 – 5:15	Speaker: James Fulford Title: Effects of permeabilty scaling on Biot poro-elastic predictions
5:15 – 5:45	Speaker: Igor Barashenkov and O. F. Oxtoby Title: Resonantly driven wobbling kinks in the ϕ^4 theory
5:45 – 6:15	Speaker: Christo Christov Title: Stationary Localized Wave Solutions of the Two-Dimensional Regularized Wave Equation

3:45 – 5:45	SESSION 24, Room R Chairs: Grozdena Todorova and Borislav Yordanov Title: Nonlinear Dissipative Equations
3:45 – 4:15	Speaker: Karen Yagdjian, Tamotu Kinoshita and Anahit Galstyan Title: The Nonlinear Wave Equations Arising in Mathematical Cosmology
4:15 – 4:45	Speaker: Grozdena Todorova and Borislav Yordanov Title: On the Regularizing Effect of Nonlinear Damping in Hyperbolic

4:45 – 5:45	SESSION 25, Room R Chairs: Grozdena Todorova and Petronela Radu Title: Asymptotic Behavior and Regularity for Nonlinear Evolution Equations
4:45 – 5:15	Speaker: Stephen Pankavich Title: Large Time Behavior of Relativistic, Collisionless Plasma
5:15 – 5:45	Speaker: Petronela Radu, Grozdena Todorova and Borislav Yordanov Title: Decay Rates for Hyperbolic Diffusion Equations
5:45 – 6:15	Speaker: Varga Kalantarov Title: Global behavior of solutions to the quasi-linear strongly damped wave equations

3:45 – 6:15	SESSION 12, Room K Chairs: Zoran Grujic and Henrik Kalisch Title: Nonlinear PDE in Spaces of Analytic Functions
3:45 – 4:15	Speaker: Igor Kukavica and Vlad Vicol Title: The domain of analyticity of solutions to the 3-D Euler equations
4:15 – 4:45	Speaker: Vlad Vicol and Igor Kukavica Title: Analyticity and Unique Continuation for the Navier-Stokes Equations
4:45 – 5:15	Speaker: Netra Khanal, Jiahong Wu and Juan-Ming Yuan Title: The Kawahara Equation in Weighted Sobolev Spaces
5:15 – 5:45	Speaker: Jiahong Wu Title: Global regularity for the 2D MHD equations with mixed partial dissipation and magnetic diffusion
5:45 – 6:15	Speaker: Animikh Biswas and Eitan Tadmor Title: Navier-Stokes equations in geometrically based regular spaces

3:45 – 6:45	TUTORIAL 4 , Room L Title: Boris Dubrovin Speaker: Hamiltonian PDEs and their solutions
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THURSDAY, March 26, 2009

12:00 – 1:00 LUNCH, Georgia Center

THE END OF THE PROGRAM
