PROGRAM
for
THE EIGHTH IMACS INTERNATIONAL CONFERENCE ON
NONLINEAR EVOLUTION EQUATIONS AND WAVE PHENOMENA:
COMPUTATION AND THEORY
ATHENS, GA
MARCH 25-28, 2013

SUNDAY, MARCH 24, 2013

05:00 – 06:00 REGISTRATION
05:00 – 07:00 RECEPTION

MONDAY, MARCH 25, 2013

07:00 – 09:00 REGISTRATION
08:00 – 08:30 WELCOME, Mahler Hall
Thiab R. Taha/Program Chair and Conference Coordinator
Alan Dorsey /Dean of Franklin College of Arts and Science, UGA
Robert Beauwens/IMACS President
Event Manager/Georgia Center

08:30 - 09:30 KEYNOTE LECTURE: Harry Yeh , Masters Hall
Title: Tsunamis: Interplay between observations and theories
Chair: Thiab Taha

09:30 – 9:50 COFFEE BREAK

9:50 – 10:50 SESSION 1, Masters Hall
Chair: Jerry Bona, Min Chen and Vassilios Dougalis
Title: Nonlinear Waves

09:50 – 10:20 Speaker: Jerry Bona
Title: Global Well-posedness for a System of KdV-type Equations

10:20 - 10:50 Speaker: Dimitrios Mitsotakis, Denys Dutykh and Boaz Ilan
Title: On the standard Galerkin/finite element method for the Serre-Green-Naghdi system
09:50 - 10:50 SESSION 17, Room K
Chairs: A.O. Korotkevich and P.M. Lushnikov
Title: Nonlinear waves and singularities in optics, hydrodynamics, and plasmas: numerical and analytical approaches (Part I).

09:50 - 10:20 Speaker: D. Appelo
Title: P-Adaptive Hermite Methods for the Schrödinger Equation

10:20 - 10:50 Speaker: Y. Shimabukuro
Title: Orbital stability of Dirac solitons

09:50 - 10:50 SESSION 05, Room L
Chairs: Zhijun Qiao, Changzheng Qu, Taixi Xu, and Dajun Zhang
Title: Recent development on integrable peakon systems

9:00 – 9:30 Speaker: Alex Himonas, University of Notre Dame
Title: Well-posedness of nonlocal evolution equations in spaces of analytic functions

9:30 – 10:00 Speaker: Jibin Li, Zhejiang Normal University
Title: On the Traveling Wave Solutions for a Nonlinear Diffusion-Convection-Reaction Equation: Dynamical System Approach

09:50 - 10:50 SESSION 13, Room R
Chairs: Gennady El and Mark Hoefer
Title: Recent Developments in Dispersive Hydrodynamics

09:50 – 10:20 Speaker: Nicolas Pavloff
Title: Formation and detection of analogues of black holes in Bose-Einstein condensates

10:20 - 10:50 Speaker: Andrea Fratalocchi
Title: Dispersive shocks in systems with competing high order nonlinearities

09:50 - 10:50 SESSION 02, Room F/G
Chairs: Gino Biondini and Barbara Prinari
Title: Inverse scattering transform and Riemann-Hilbert problems: Theory and applications

09:50 – 10:20 Speaker: Stephanos Venakides
Title: Perturbation of Riemann-Hilbert jump contours with application to semiclassical focusing Nonlinear Schrodinger equation

10:20 - 10:50 Speaker: Peter Miller
Title: Initial-boundary value problems for the defocusing nonlinear Schrodinger equation in the semiclassical limit
09:50 - 10:50 SESSION 8, Room T/U
   Chairs: Panayotis Kevrekidis and Ricardo Carretero
   Title: Nonlinear Schrödinger Models and Applications

09:50 – 10:20 Speaker: Chandra Raman
   Title: Spontaneous Domain Formation in Antiferromagnetic Spinor Bose-Einstein condensates
10:20 - 10:50 Speaker: D. Yan
   Title: Dark bright solitons in Bose-Einstein condensates

10:50 - 12:20 SESSION 1, Masters Hall
   Chair: Jerry Bona, Min Chen and Vassilios Dougalis
   Title: Nonlinear Waves

10:50 - 11:20 Speaker: Min Chen
   Title: Stabilities of traveling wave solutions of Boussinesq systems: Numerical and Theoretical results
11:20 - 11:50 Speaker: Bernard Deconinck, Natalie Sheils, Nghiem Nguyen and Rushun Tian
   Title: On the Spectral Stability of Solitary Wave Solutions of the vector Nonlinear Schrödinger Equation
11:50 - 12:20 Speaker: Chun-Hsiung Hsia
   Title: Global well-posedness for the BBM equation on a quarter plane

10:50 - 12:20 SESSION 17, Room K
   Chair: A.O. Korotkevich and P.M. Lushnikov
   Title: Nonlinear waves and singularities in optics, hydrodynamics, and plasmas: numerical and analytical approaches (Part I).

10:50 - 11:20 Speaker: T.I. Lakoba
   Title: Instability analysis of the split-step method via a modified linearized nonlinear Schroedinger equation
11:20 - 11:50 Speaker: S. Dyachenko
   Title: Solitons in dipolar BEC with 1/r interatomic potential
11:50 – 12:20 Speaker: P.G. Kevrekidis
   Title: Theory, Computation and Experiments for Higher-Dimensional Nonlinear Waves in Bose-Einstein Condensates: from Vortices to Vortex Rings and Beyond
10:50 - 12:20 SESSION 15, Room L
Chairs: Wily Hereman and Unal Goktas
Title: Symbolic and Numerical Aspects of Nonlinear Differential and Difference Equations

10:50 - 11:20 Speaker: Barbara Prinari
Title: On the Inverse Scattering Transform for the Defocusing Nonlinear Schrodinger Equation with Non-vanishing Boundary Conditions

11:20 - 11:50 Speaker: Unal Goktas
Title: Symbolic Computation of Soliton Solutions of PDEs through Homogenization

11:50 - 12:20 Speaker: Chris Swierczewski
Title: Calculus on Riemann Surfaces using Python

10:50 - 12:20 SESSION 13, Room R
Chairs: Gennady El and Mark Hoefer
Title: Recent Developments in Dispersive Hydrodynamics

10:50 - 11:20 Speaker: Richard Clift
Title: Riemann problem for the Gardner equation

11:20 - 11:50 Speaker: Douglas Baldwin
Title: Dispersive shock wave interactions and asymptotics

11:50 - 12:20 Speaker: Nicholas Lowman
Title: Dispersive Shock Waves in Viscously Deformable Media

10:50 -12:20 SESSION 21, Room F/G
Chairs: Ziad Muslimani and Olivier Pinaud
Title: Waves in Disordered Media

10:50 - 11:20 Speaker: Ziad Musslimani and Kelly Pawlak
Title: Nonlinear Dynamics of Bose-Einstein Condensation

11:20 - 11:50 Speaker: Justin Cole
Title: Spectral Transverse Instabilities for Low-dimensional Localized Waves to the Fourth Order Nonlinear Schrodinger Equation

11:50 - 12:20 Speaker: Olivier Pinaud
Title: Asymptotics of a Time-Splitting Scheme for the Random Schroedinger Equation with Long-Range Correlations
10:50 - 12:20 SESSION 20, Room T/U
Chairs: Stephen Anco, Ming Chen and Yue Liu
Title: Analysis and applications of nonlinear wave equations
10:50 - 11:20 Speaker: Atanas Stefanov
Title: Asymptotic stability of standing waves for the 1D Dirac Equation
11:20 - 11:50 Speaker: Alexey Shevyakov
Title: New Conservation Laws For Viscous and Inviscid Flows in Helical, Plane and Rotational Symmetry
11:50 - 12:20 Speaker: Tuncay Aktosun, Ying Fu, Yue Liu and Byungsoo Moon
Title: Travling Raveling Wave Solutions to The Burgers-αβ Type Equations

12:20 - 1:20 LUNCH

1:20 - 3:20 SESSION 9, Masters Hall
Chair: Kenichi Maruno, Bao-Feng Feng, Nalini Joshi, and Kenji Kajiwara
Title: Integrable Systems, Painleve Equations and Applications
1:20 – 1:50 Speaker: Nalini Joshi
Title: Quicksilver solutions of a q-discrete Painlevè equation
1:50 – 2:20 Speaker: Takao Suzuki
Title: Higher order Painlevè systems and hypergeometric functions
2:20 – 2:50 Speaker: Chris Ormerod
Title: q-Painlevè equations as periodic reductions of integrable lattice equations
2:50 – 3:20 Speaker: Hayato Chiba
Title: Dynamical systems of compactified Painlevè equations on weighted projective spaces

1:20 - 3:20 SESSION 17, Room K
Chairs: A.O. Korotkevich and P.M. Lushnikov
Title: Nonlinear waves and singularities in optics, hydrodynamics, and plasmas: numerical and analytical approaches (Part II).
1:20 – 1:50 Speaker: V.E. Zakharov
Title: Nonlinear stage of modulational instability, integrable turbulence, and rogue wave statistics
1:50 - 2:20 Speaker: L. Chumakova
Title: New dissipative modes in the tropical troposphere
2:20 – 2:50 Speaker: N. Vladimirova
Title: Oscillations in turbulence-condensate system
2:50 – 3:20 Speaker: Discussion
Title: Discussion


**SESSION 03, Room L**

**Chairs:** Dan Geba & Alex Himonas  
**Title:** Analysis and Geometry of Nonlinear Evolution Equations

1:20 – 1:50  
**Speaker:** Zhijun (George) Qiao, University of Texas, Pan-American  
**Title:** Integrable system with peakon, weak kink, and kink-peakon interactional solutions

1:50 – 2:20  
**Speaker:** Dionyssis Mantzavinos, University of Notre Dame  
**Title:** The Cauchy Problem for the Fokas-olver-Rosenau-Qiao Equation

2:20 – 2:50  
**Speaker:** Luiz Farah, Universidade Federal de Minas Gerais, Brazil  
**Title:** On the generalized KdV equation

2:50 – 3:20  
**Speaker:** Curtis Holliman, University of Alabama, Birmingham  
**Title:** Comparing the Power for Two Methods of Examining Group Effects on Quantitative Measures

**PAPERS, Room R**

**Chair:** Otis Wright

1:20 – 1:50  
**Speaker:** Otis Wright  
**Title:** On elliptic solutions of a coupled nonlinear Schroedinger system

1:50 – 2:20  
**Speaker:** Anju Sood and Dr. Sanjay Kumar Srivastava  
**Title:** \( \Psi \)-Eventual Stability of Differential Systems with Variable Impulses

2:20 - 2:50  
**Speaker:** Daniele Funaro  
**Title:** Trapping Electromagnetic Solitons in a Ring

2:50 – 3:20  
**Speaker:** Georges Sadaka  
**Title:** Tsunamis wave modeling : Generation, Propagation and Inundation

**SESSION 21, Room F/G**

**Chair:** Ziad Muslimani and Olivier Pinaud  
**Title:** Waves in Disordered Media

1:20 – 1:50  
**Speaker:** Alex Elgart  
**Title:** Localization for Non-monotone Discrete Schrodinger Operators

1:50 – 2:20  
**Speaker:** Alexei Novikov  
**Title:** Passive Tracers in a Slowly Decorrelating Random Velocity Field

2:20 – 2:50  
**Speaker:** Jason Fleischer  
**Title:** Interaction of Random Optical Waves in Two Dimensions

2:40 – 3:10  
**Speaker:** Adrian Girschik  
**Title:** Coherent Wave Transmission Through Strongly Disordered Media: Microwave Tubes and Topological Insulators
1:20 - 3:20  SESSION 08, Room T/U
Chairs: Panayotis Kevrekidis and Ricardo Carretero
Title: Nonlinear Schrödinger Models and Applications

1:20 – 1:50  Speaker: Peter Engels
Title: Investigating quantum dynamics with Bose-Einstein Condensates

1:50 – 2:20  Speaker: Mark Edwards
Title: Stirring a ring Bose-Einstein condensate: vortices and overall circulation

2:20 - 2:50  Speaker: Carlos A. Prieto Gomez
Title: Vortex Nucleation in Dipolar Bose-Einstein condensates

2:50 – 3:20  Speaker: Ricardo Carretero
Title: Vortex pairs in Bose-Einstein condensates: from the quantum Spirograph to symmetry breaking bifurcations

3:20 – 3:50  COFFEE BREAK

3:50 – 6:20  SESSION 09, Masters Hall
Chairs: Kenichi Maruno, Bao-Feng Feng, Nalini Joshi, and Kenji Kajiwara
Title: Integrable Systems, Painleve Equations and Applications

3:50 – 4:20  Speaker: Yasuhiko Yamada
Title: Lax formalism for discrete Painlevé equations

4:20 – 4:50  Speaker: Nicholas Witte
Title: The Correspondence between the Askey Table of Orthogonal polynomial Systems and the Sakai Scheme of Discrete Painlevé Equations

4:50 – 5:20  Speaker: Thomas Bothner
Title: Asymptotics of a Fredholm determinant in random matrix theory and condensed matter physics

5:20 – 5:50  Speaker: Hajime Nagoya
Title: On the quantum sixth Painlevé equation

5:50 – 6:20  Speaker: Masashi Hamanaka
Title: ADHM Construction of Noncommutative Instantons
3:50 – 6:20  **SESSION 07, Room K**  
Chairs: John Carter, Christopher Curtis, Bernard Deconinck, Diane Henderson, Katie Oliveras, Harvey Segur, Olga Trichtchenko, Vishal Vasan  
Title: Water Waves

3:50 – 4:20  Speaker: Katie Oliveras  
Title: Stability of stationary periodic solutions to the Euler equations

4:20 – 4:50  Speaker: Olga Trichtchenko  
Title: Stability of gravity waves with surface tension

4:50 – 5:20  Speaker: Vera Hur  
Title: On the Benjamin-Feir instability

5:20 – 5:50  Speaker: Bernard Deconinck  
Title: The Pressure Problem

5:50 – 6:20  Speaker: Vishal Vasan  
Title: The inverse water-wave problem of bathymetry detection

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3:50 – 6:20  **SESSION 10, Room L**  
Chairs: Ivan Christov, Pedro Jordan and Michail Todorov  
Title: Modeling and Wave Phenomena in Nonlinear Continuum Mechanics

3:50 – 4:20  Speaker: Sandra Carillo  
Title: Evolution Problems in Materials with Memory: Existence, Uniqueness and Exponential Decay of Solutions

4:20 – 4:50  Speaker: Ronald Mickens  
Title: NSFD Discretizations of Cross-Diffusion PDE’s in Malignant Tumor Invasion Models

4:50 – 5:20  Speaker: Guy Norton and Robert Purrington  
Title: The Westervelt equation with viscous attenuation versus a causal propagation operator

5:20 – 5:50  Speaker: Jean Guy Caputo, Arnaud Knippel and Elie Simo  
Title: Oscillations of networks: the role of soft nodes

5:50 – 6:20  Speaker: Vladimir Gerdjikov and Michail Todorov  
Title: Multisoliton Interactions for the Perturbed Manakov System

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3:50 – 6:20  SESSION 04, Room R
Chairs: Richard Kollar and Yuri Latushkin
Title: Stability and spectrum of nonlinear waves - what’s next?

3:50 – 4:20  Speaker: Arjen Doelman (Leiden, Netherlands)
Title: Stationary co-dimension 1 structures in the functionalized Cahn-Hilliard model: existence and stability

4:20 – 4:50  Speaker: Simon Malham (Heriot-Watt, UK)
Title: Computing spectra, Grassmannians and symmetry

4:50 – 5:20  Speaker: Robby Marangell (Sydney)
Title: Stability Through a Geometric Lens

5:20 – 5:50  Speaker: Graham Cox (UNC-Chapel Hill)
Title: Essential spectrum in the absence of arbitrarily long periodic orbits

5:50 – 6:20  Speaker: Gianne Derks (Surrey, UK)
Title: Viscosity-induced instability for Euler and averaged Euler equations in a circular domain

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3:50 – 6:20  SESSION 16, Room F/G
Chairs: Robert Buckingham and Virgil Pierce
Title: Randomness in Integrable Systems

3:50 – 4:20  Speaker: Marco Bertola
Title: The scaling limit of the Laguerre-Cauchy Matrix model and the Meijer-G random point field.

4:20 – 4:50  Speaker: Sergey Belov
Title: Perturbations of Riemann-Hilbert jump contours with applications to the semiclassical focusing Nonlinear Schrodinger equation.

4:50 – 5:20  Speaker: Karl Liechty
Title: Endpoint distribution for a directed polymer in a random medium.

5:20 – 5:50  Speaker: Enrique Acosta
Title: Leading order asymptotics of a multi-matrix partition function that counts colored triangulations.

5:50 – 6:20  Speaker: Alexander Tovbis
Title: Behavior of the focusing nonlinear Schrodinger equation at the gradient catastrophe point: Peregrine breathers, poles of the tritonquee solution Painleve I and rogue wave formation.

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3:50 – 6:20 **PAPERS, Room T/U**  
Chair:

3:50 – 4:20 Speaker: Ayse Bilgen Ekin, Yigit Aksoy and Mehmet Pakdemirli  
Title: A New Analytical Method for Burgers Equation

4:20 – 4:50 Speaker: Matthew Harris, Alexei Rybkin and Lander Verhoef  
Title: Numerical realization of the Carrier-Greenspan transform for bays of arbitrary cross-section

4:50 – 5:20 Speaker: Shaokang Wang, Brian Marks and Curtis Menyuk  
Title: Instability Mechanisms for Pulse Solutions of the Cubic-quintic Mode-locking Equation

5:20 – 5:50 Speaker: Roberto Camassa, Shengqian Chen, Gregorio Falqui, Marco Pedroni and Giovanni Ortenzi  
Title: Inertial Effects in an Incompressible Stratified Euler Fluid in a Channel

5:50 – 6:20 Speaker:
Title:
TUESDAY, MARCH 26, 2013

8:00 - 9:00  KEYNOTE LECTURE: Nicholas Ercolani, Masters Hall
Title: Nonlinear Evolution Equations in Combinatorics and Probability Theory
Chair: Jerry Bona

9:00 – 10:00  SESSION 7, Masters Hall
Chairs: John Carter, Christopher Curtis, Bernard Deconinck, Diane Henderson, Katie Oliveras, Harvey Segur, Olga Trichtchenko, Vishal Vasan
Title: Water Waves

9:00 – 9:30  Speaker: Denys Dutykh
Title: Fast and accurate computation of solitary waves to the free surface Euler equations with arbitrary precision

9:30 – 10:00  Speaker: Christopher Curtis
Title: Conservation Laws and Web-Solutions for the Benney-Luke Equation

9:00 – 10:00  SESSION 17, Room K
Chair: P.M. Lushnikov
Title: Nonlinear waves and singularities in optics, hydrodynamics, and plasmas: numerical and analytical approaches (Part III).

9:00 – 9:30  Speaker: G. Falkovich
Title: New type of laminar-turbulent transition: soliton clustering

9:30 – 10:00  Speaker: A.O. Korotkevich
Title: Inverse cascade of gravity waves in the presence of condensate

9:00 – 10:00  SESSION 18, Room L
Chairs: Andrea Barreiro and Gregor Kovacic
Title: Dynamics of Neuronal Networks

9:00 – 9:30  Speaker: Guillaume Lajoie
Title: Chaos and reliability in fluctuation-driven, balanced spiking networks

9:30 – 10:00  Speaker: Kendrick Shaw
Title: Variable dwell times and evidence for a stable heteroclinic motor pattern generator
9:00 – 10:00  **Papers, Room R**  
**Chairs: Subhashini Chitta**

9:00 – 9:30  Speaker: John Steinhoff and Subhashini Chitta  
**Title: Use of Nonlinear Solitary Waves for Computing Traveling Wave Fronts over Long Distances**

9:30 – 10:00  Speaker: Ralf Deiterding, Stephen Poole and Roland Glowinski  
**Title: A Reliable Split-Step Fourier Method for Simulating the Propagation of Ultra-Fast Pulses in Optical Communication Fibers**
9:00 – 10:00  SESSIONS 05, Room F/G
Chairs: Zhijun Qiao, Changzheng Qu, Taixi Xu, and Dajun Zhang
Title: Recent development on integrable peakon systems

09:50 – 10:20 Speaker: Jacek Szmigielski, University of Saskatchewan
Title: An inverse spectral problem arising in the Geng--Xue two-component peakon equation

10:20 - 10:50 Speaker: Lingjun Zhou, Tongji University
Title: Shock creation and Painleve property of colliding peakons in the Degasperis-Procesi Equation

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9:00 – 10:00  Tutorial_3, Room T/U
Speaker: Nalini Joshi
Title: Geometry and Asymptotics

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10:00 – 10:20 COFFEE BREAK

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10:20 - 12:20 SESSION 20, Masters Hall
Chairs: Stephen Anco, Ming Chen and Yue Liu
Title: Analysis and applications of nonlinear wave equations

10:20 – 10:50 Speaker: Dan Geba, Alex Himonas and David Karapetyan
Title: Ill-posedness results for generalized Boussinesq equations

10:50 – 11:20 Speaker: Ian Tice
Title: Stability analysis of the viscous surface-internal wave problem

11:20 – 11:50 Speaker: Stephen Anco
Title: Symmetry analysis and exact solutions of semilinear Schrodinger equations

11:50 – 12:20 Speaker: Samuel Walsh, Pierre Germain and Zaher Hani
Title: Resonance for nonlinear dispersive equations with a Potential

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10:20 – 12:20 SESSION 02, Room K
Chair: Gino Biondini and Barbara Prinari
Title: Inverse scattering transform and Riemann-Hilbert problems:

  Theory and applications

10:20 – 10:50 Speaker: Paolo Santini
Title: IST for vector fields, nonlinear Riemann - Hilbert problems, dispersionless PDEs, and multidimensional wave breaking

10:50 – 11:20 Speaker: Robert Buckingham
Title: Asymptotics of Painleve Functions and Applications to Nonlinear Wave Equations

11:20 – 11:50 Speaker: Thomas Trogdon
Title: A numerical Riemann--Hilbert approach to the inverse scattering transform

11:50 – 12:20 Speaker: Emily Fagerstrom
Title: The focusing nonlinear Schroedinger equation with non-zero boundary conditions and piecewise constant initial conditions
10:20 – 12:20 SESSION 15: Room L
Chair: Unal Goktas and Wily Hereman
Title: Symbolic and Numerical Aspects of Nonlinear Differential and Difference Equations

10:20 – 10:50 Speaker: Jacob Rez
Title: A Symbolic Algorithm to Compute Lax Pairs in Matrix Form for Nonlinear Evolution Equations

10:50 – 11:20 Speaker: Willy Hereman
Title: Symbolic Computation of Lax Pairs of Systems of Partial Difference Equations Using Consistency Around the Cube

11:20 – 11:50 Speaker: Muhammad Usman
Title: Bifurcations in Steady-State Solutions for a Class of Nonlinear Partial Differential Equations Using a Perturbation Method

11:50 – 12:20 Speaker: Yigit Aksoy
Title: Perturbation-Iteration Method and Solutions for Lotka-Volterra Equations

10:20 – 12:20 SESSION 06, Room R
Chair: Benjamni Akers and Xu Yang
Title: Waves and their applications in climate science

10:20 – 10:50 Speaker: David Ambrose
Title: Traveling and time-periodic interfacial waves

10:50 – 11:20 Speaker: Joseph A. Biello
Title: Connecting midlatitude and tropical atmospheric waves; from quasi-geostrophy to the weak temperature gradient

11:20 – 11:50 Speaker: Jon Wilkening
Title: Microseisms and standing waves in the ocean

11:50 – 12:20 Speaker: Xu Yang
Title: A large deviation framework to analyze metastable behavior in climate systems

10:20 – 12:20 SESSION 05, Room F/G
Chair: Zhijun Qiao, Changzheng Qu, Taixi Xu, and Dajun Zhang
Title: Recent development on integrable peakon systems

10:20 – 10:50 Speaker: Wenxiu Ma, University of South Florida
Title: Soliton equations and matrix Lie algebras

10:50 – 11:20 Speaker: Taixi Xu, Southern Polytechnic State University
Title: Solutions to Soliton Equations

11:20 – 11:50 Speaker: Zhen Wang, Dalian University of Technology
Title: Multi-soliton solution to two component Camassa-Holm equation

11:50 – 12:20 Speaker: Jing Kang, Northwest University
Title: Symmetry groups and fundamental solutions for systems of parabolic equations
10:20 - 12:20 PAPERS (XU), Room T/U
Chair: Runzhang Xu

10:20 – 10:50 Speaker: Runzhang Xu
Title: Sharp condition of global existence and blow up for nonlinear Schrodinger equation

10:50 – 11:20 Speaker: Tao Yu and Runzhang Xu
Title: The quenching phenomena for fourth-order nonlinear parabolic equations

11:20 – 11:50 Speaker: Yanbing Yang and Runzhang Xu
Title: Long time behaviour for a class of fourth order strongly damped wave equations

11:50 – 12:20 Speaker: Yi Niu, Yanbing Yang and Runzhang Xu
Title: Global existence and nonexistence of strongly damped viscoelastic wave equation

12:20 – 1:20 LUNCH

1:20 – 3:20 SESSION 18, Masters Hall
Chairs: Andrea Barreiro and Gregor Kovacic
Title: Dynamics of Neuronal Networks

1:20 – 1:50 Speaker: Yi Sun
Title: Modeling, Simulation, and Analysis for Hodgkin-Huxley Neuronal Network Dynamics

1:50 – 2:20 Speaker: Janet Best
Title: Dynamics of competing stochastic excitatory-inhibitory networks

2:20 – 2:50 Speaker: Sara Solla
Title: Modeling the activity of networks of spiking neurons

2:50 – 3:20 Speaker: Lee Deville
Title: Stochastic dynamics on networks: Emergence of collective behaviors

1:20 – 3:20 SESSION 17, Room K
Chairs: A.O. Korotkevich
Title: Nonlinear waves and singularities in optics, hydrodynamics, and plasmas: numerical and analytical approaches (Part IV).

1:20 – 1:50 Speaker: I.M. Sigal
Title: Magnetic Vortices, Nielsen-Olesen-Nambu strings and theta functions

1:50 – 2:20 Speaker: D. A. Zezyulin
Title: Macroscopic Zeno effect and stationary flows in nonlinear waveguides with localized dissipation

2:20 – 2:50 Speaker: D. Silantyev
Title: Vlasov-Poisson model and it's reduction for laser-plasma 2D simulation

2:50 – 3:20 Speaker: P.M. Lushnikov
Title: Beyond log-log scaling of critical collapse of Nonlinear Schrodinger equation
1:20 – 3:20  SESSION 03, Room L  
Chairs: Dan Geba & Alex Himonas  
Title: Analysis and Geometry of Nonlinear Evolution Equations

1:20 – 1:50  Speaker: Henrik Kalisch, University of Bergen, Norway  
Title: Flow properties of surface waves described by the KdV equation

1:50 – 2:20  Speaker: Ming Chen, University of Pittsburgh  
Title: Existence and symmetry of ground states to the Boussinesq abcd systems

2:20 – 2:50  Speaker: John Holmes, University of Notre Dame  
Title: Holder continuity of the solution map for Novikov equation

2:50 – 3:20  Speaker: Matthew Creek, University of Rochester  
Title: Toward a Large Data Global Wellposedness Result for a (1+2) Skyrme Model

1:20 – 3:20  SESSION 04, Room R  
Chairs: Richard Kollar and Yuri Latushkin  
Title: Stability and spectrum of nonlinear waves - what's next?

1:20 – 1:50  Speaker: Dmitry Pelinovsky (McMaster)  
Title: Spectral stability of nonlinear waves in KdV-type evolution equations

1:50 – 2:20  Speaker: Milena Stanislavova (KU-Lawrence)  
Title: Linear stability analysis for special solutions of second order in time PDE: the higher dimensional case

2:20 – 2:50  Speaker: Alin Pogan (Indiana)  
Title: Quasi-gradient systems, modulational dichotomies, and stability of spatially periodic patterns

2:50 – 3:20  Speaker: Toan Trong Nguyen (Brown)  
Title: Nonlinear stability of source defects

1:20 – 3:20  SESSION 21, Room F/G  
Chair: Ziad Muslimani and Olivier Pinaud  
Title: Waves in Disordered Media

1:20 – 1:50  Speaker: Ziad Musslimani  
Title: Transport and Localization in Periodic and Random Nonlinear Media

1:50 – 2:20  Speaker: Hakan Tureci  
Title: Pump-induced Exceptional Points in Lasers Above Threshold

2:20 – 2:50  Speaker: K. G. Makris  
Title: Nonlinear Dynamics in Non-Hermitian Optical Potentials

2:50 – 3:20  Speaker: Hui Cao  
Title: Position Dependent Diffusion of Light in Disordered Waveguides
1:20 – 3:20  TUTORIAL_1, Room T/U  
Speaker: Gennady El  
Title: Whitham equations and dispersive shock waves

3:20 – 3:50  COFFEE BREAK

3:50 – 6:20  SESSION 01, Master Hall  
Chairs: Jerry Bona, Min Chen and Vassilios Dougalis  
Title: Nonlinear Waves  
3:50 – 4:20  Speaker: Jeongwhan Choi  
Title: Capillary Gravity Waves over an Obstruction  
4:20 – 4:50  Speaker: Nghiem Nguyen  
Title: Existence of periodic traveling-wave solutions for a nonlinear Schrödinger system: a topological approach;  
4:50 – 5:20  Speaker: Shu-Ming Sun  
Title: 3D waves bifurcating from 2D solitary waves on water with small surface tension  
5:20 – 5:50  Speaker: Christof Sparber  
Title: On Schrödinger type equations with nonlinear damping  
5:50 – 6:20  Speaker: Hongqiu Chen  
Title: Nonlinear waves and their stability for a class of systems of nonlinear dispersive equations: BBM-BBM type

3:50 – 6:20  SESSION 07, Room K  
Chairs: John Carter, Christopher Curtis, Bernard Deconinck, Diane Henderson, Katie Oliveras, Harvey Segur, Olga Trichtchenko, Vishal Vasan  
Title: Water Waves  
3:50 – 4:20  Speaker: Stefan Mancas  
Title: Solutions of viscous Benjamin, Bona & Mahony (BBM) equation  
4:20 – 4:50  Speaker: Zhiwu Lin  
Title: Invariant manifolds for some model equations of water waves  
4:50 – 5:20  Speaker: Wooyoung Choi  
Title: Nonlinear Water Waves in Shear Flows  
5:20 – 5:50  Speaker: Shahrdad Sajjadi  
Title: Asymptotic Analysis of Wind Over Unsteady Surface Waves  
5:50 – 6:20  Speaker: Francesco Fedele  
Title: Vortexons of Axisymmetric Navier Stokes Flows and Peakons of Deep-Water Gravity Waves
3:50 – 6:20   **SESSION 09, Room L**

Chairs: Kenichi Maruno, Bao-Feng Feng, Nalini Joshi, and Kenji Kajiwara

Title: Integrable Systems, Painleve Equations and Applications

3:50 – 4:20   Speaker: Jonathan Nimmo
Title: Discrete inverse scattering for compact support potentials

4:20 – 4:50   Speaker: Claire Gilson
Title: A direct method in ultra-discrete integrable systems

4:50 – 5:20   Speaker: Baofeng Feng
Title: Integrable discretization and self-adaptive moving mesh method for a class of nonlinear wave equations

5:20 – 5:50   Speaker: Kenji Kajiwara
Title: Some exact results in discrete differential geometry

5:50 – 6:20   Speaker: Kenichi Maruno
Title: Gauge transformations of discrete integrable systems

3:50 – 6:20   **SESSION 04, Room R**

Chairs: Richard Kollar and Yuri Latushkin

Title: Stability and spectrum of nonlinear waves - what's next?

3:50 – 4:20   Speaker: Anna Ghazaryan (Miami University, OH)
Title: Unstable fronts in a gasless combustion model

4:20 – 4:50   Speaker: Matt Holzer (Minnesota)
Title: Accelerated fronts in a two stage invasion process

4:50 – 5:20   Speaker: Mat Johnson (KU-Lawrence)
Title: On the Instability of Periodic Wave Trains in a Generalized Boussinesq Equation

5:20 – 5:50   Speaker: Zoi Rapti (Urbana)
Title: Multi-breather stability in nonlinear Klein-Gordon chains: nonstandard interactions, nonstandard phase shifts, and bifurcations

5:50 – 6:20   Speaker: Jared Bronski (Urbana)
Title: Stability and Synchronization in the Kuramoto model
3:50 – 6:20  **SESSION 16, Room F/G**  
Chairs: Robert Buckingham and Virgil Pierce  
Title: Randomness in Integrable Systems

3:50 – 4:20  Speaker: Virgil Pierce  
Title: The enumeration of three and five valent maps with Random Matrix Partition Functions.

4:20 – 4:50  Speaker: Patrick Waters  
Title: Generating functions for maps with arbitrary degree structure.

4:50 – 5:20  Speaker: Seung Yeop Lee  
Title: Random normal matrices via Riemann-Hilbert problems.

5:20 – 5:50  Speaker: Irina Nenciu  
Title: On confinement and stochastic particles.

5:50 – 6:20  Speaker: Ken McLaughlin  
Title: Asymptotic analysis of a class of 2D orthogonal polynomials, with applications to the Normal Random Matrix Model.

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3:50 – 6:20  **SESSION 10, Room T/U**  
Chairs: Ivan Christov, Pedro Jordan and Michail Todorov  
Title: Modeling and Wave Phenomena in Nonlinear Continuum Mechanics

3:50 – 4:20  Speaker: Sanichiro Yoshida  
Title: Wave dynamics in deformation and fracture of solid-state media

4:20 – 4:50  Speaker: Len Margolin  
Title: Discrete Thermodynamics

4:50 – 5:20  Speaker: Pedro Jordan  
Title: Nonlinear acoustic propagation in thermoviscous, thermally relaxing fluids

5:20 – 5:50  Speaker: Ganesh Tiwari and Ashok Puri  
Title: Numerical Analysis of nonFickian Diffusion Equation with a General Source

5:50 – 6:20  Speaker: David Rossmanith and Ashok Puri  
Title: Role of Brinkman Viscosity on Poroacoustic Flow

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7:00 – 9:00  **BANQUET**  
Speaker:  
Awards (Best Student Papers): Thiab Taha

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WEDNESDAY, MARCH 27, 2013

8:00 – 09:00  KEYNOTE LECTURE, Beatrice Pelloni, Mahler Hall
    Title: The effect of boundary conditions on linear and nonlinear waves
    Chair: Bernard Deconinck

9:00 – 10:20  POSTER PAPERS, Pecan Tree Galleria

Title: Minimization of Timing Jitter near Zero-Average Dispersion in an Amplifier Similariton Fiber Laser
Authors: John Zweck and Curtis Menyuk

Title: A Symbolic Algorithm for the Computation of Conservation Laws from Lax Pairs
Authors: Jacob Rezac and Willy Hereman

Title: Undular bore theory for the Gardner equation
Authors: Richard Clift and Gennady El

Title: The Zero-Dispersion Limit of the Benjamin-Ono Equation with Negative Initial Data
Authors: Alfredo Wetzel

Title: Random and Regular Dynamics of Stochastically Driven Neuronal Networks
Authors: Pamela Fuller, Gregor Kovacic and David Cai

Title: Step-Initial Function to the MKdV Equation: Hyper-Elliptic Long-Time Asymptotics of the Solution
Authors: Alexander Minakov

Title: Internal long wave generation in a two-layer fluid system
Authors: Roberto Camassa, Shengqian Chen, Wooyoung Choi, Tae-Chang Jo, and Roxana Tiron

Title: Do the Wave: Applying Finite Elements to the Shallow Water Equations
Authors: Lytle George

Title: Effect of the ground properties on the fluid temperature of Geothermal Heat Exchangers
Authors: Paul Christodoulides, Georgios Florides, Elisavet Theofanous, Lazaros Lazari and Vassilios Messaritis

Title: Dynamics of Two Slowly Varying Waveguides in the Presence of Weak Nonlinearity
Authors: Katelyn Plaisier Leisman and Alejandro Aceves

Title: Modified exponential integrator for nonlinear waves
Authors: Brice Eichwald, Didier Clamond and Marc Francius

Title: Stability of Traveling-Wave Solutions to the Whitham Equation
Authors: Nathan Sanford, Keri Kodama and John Carter

Title: Light Propagation in Two Dimensional Plasmonic Arrays
Authors: Danhua Wang and Alejandro Aceves

Title: Stability of Waves with Constant Vorticity
Authors: Patrick Sprenger, Katie Oliveras and Vishal Vasan

Title: Pressure along Streamlines
Authors: Edward Charlesworth, Katie Oliveras and Vishal Vasan

Title: Perturbations of Magnetic Solitons
Authors: Lake Bookman and Mark Hoefer

Title: Using CUDA for GPUs with MPI to solve Nonlinear Evolution Equations
Authors: Jennifer Rouan and Thiab Taha

Title: Localization for Non-monotone Discrete Schrodinger Operators
Authors: Alex Elgart

Title: A GUI Tool for Numerical Simulation Methods
Authors: Leonidas Deligiannidis and Thiab Taha

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9:30 – 10:00  COFFEE BREAK
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10:20 - 12:20 SESSION 01, Masters Hall

Chair: Jerry Bona, Min Chen and Vassilios Dougalis
Title: Nonlinear Waves

10:20 – 10:50 Speaker: Olivier Goubet
Title: Theory and numerical simulation on the Exact Boundary Controllability of the second-order Maxwell system

10:50 – 11:20 Speaker: Angel Duran
Title: Fixed-point algorithms for the numerical generation of traveling waves

11:20 – 11:50 Speaker: William Fullmer
Title: Stability, Verification and Convergence of a Well-posed Linearly Unstable Two Equation Problem

11:50 – 12:20 Speaker: Juan-Ming Yuan
Title: Some results for complex-valued nonlinear wave equations

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10:20 – 12:20 Session 02, Room K
Chair: Gino Biondini and Barbara Prinari
Title: Inverse scattering transform and Riemann-Hilbert problems:
Theory and applications

10:20 – 10:50 Speaker: David Kaup
Title: Integrability of Multi-Level and Multi-Atom Self-Induced Transparency (SIT)

10:50 – 11:20 Speaker: Gregor Kovacic
Title: Integrable, non-integrable, and stochastic dynamics in resonant light-matter interaction

11:20 – 11:50 Speaker: Francesco Demontis
Title: Direct Scattering Problem for Zakharov-Shabat system: characterization of scattering data

11:50 – 12:20 Speaker: Daniel Kraus
Title: The focusing and defocusing Manakov system with non-zero boundary conditions at infinity

10:20 - 12:20 Session 07, Room L
Chairs: John Carter, Christopher Curtis, Bernard Deconinck, Diane Henderson, Katie Oliveras, Harvey Segur, Olga Trichtchenko, Vishal Vasan
Title: Water Waves

10:20 – 10:50 Speaker: David George
Title: Non-hydrostatic effects and dispersion in depth-averaged models for wave-propagation: application to tsunamis and flood inundation

10:50 – 11:20 Speaker: John Carter
Title: Dispersion in Shallow Water

11:20 – 11:50 Speaker: Harvey Segur
Title: The role of dissipation in the evolution of ocean swell

11:50 – 12:20 Speaker: Diane Henderson
Title: Surface waves and dissipation: experiments
10:20 – 12:20 PAPERS, Room R

Chairs:

10:20 – 10:50 Speaker: Sumit Vishwakarma and Shishir Gupta
Title: Torsional wave dispersion relation in a Self-Reinforced layer resting over a viscoelastic half space

10:50 – 11:20 Speaker: Salim Messaoudi and Muhammad Mustafa
Title: A general stability result for a quasilinear viscoelastic equation

11:20 – 11:50 Speaker: Aïssa Guesmia
Title: Well-posedness and exponential stability of an abstract evolution equation with infinite memory and time delay

11:50 – 12:20 Speaker: Jianhua Zeng and Yueheng Lan
Title: Two-dimensional solitons in parity-time (PT) linear lattices

10:20 – 12:20 SESSION 12, Room F/G

Chairs: Thiab Taha and Constance Schober
Title: Numerical simulations for solving nonlinear wave equations

10:20 – 10:50 Speaker: Constance Schober
Title: Conformal Integrators for damped Hamiltonian PDEs

10:50 – 11:20 Speaker: Jue Wang and Runzhang Xu
Title: Dynamics and Long Time Convergence of the EFK Equation under Numerical Discretization

11:20 – 11:50 Speaker: Avner Peleg and Debananda Chakraborty
Title: Stable long-distance propagation of solitons in two-channel waveguides with saturable absorption

11:50 – 12:20 Speaker: Frederick Moxley, David Chuss and Weizhong Dai
Title: An Implicit Generalized Finite-Difference Time-Domain Scheme for Solving Nonlinear Schrodinger Equations

10:20 – 12:20 SESSION 08, Room T/U

Chairs: Panayotis Kevrekidis and Ricardo Carretero
Title: Nonlinear Schrödinger Models and Applications

1:20 - 1:50 Speaker: Mark A. Hoefer
Title: Perturbed magnetic droplet solitons

1:50 - 2:20 Speaker: Vladimir V. Konotop
Title: Discrete solitons in PT-symmetric lattices

2:20 - 2:50 Speaker: Tsampikos Kottos
Title: Asymmetric Wave Transport in Structures with Parity-Timesymmetry

2:50 - 3:20 Speaker: Lev Ostrovsky
Title: Radiation decay of cnoidal waves within the rotation modified KdV equation
12:20 – 1:20 LUNCH

1:20 – 3:20 SESSION 05, Masters Hall
Chairs: Zhijun Qiao, Changzheng Qu, Taixi Xu, and Dajun Zhang
Title: Recent development on integrable peakon systems

13:20 – 13:50 Speaker: Gino Biondini
Title: Boundary value problems for the Ablowitz-Ladik system

13:50 – 14:20 Speaker: Changzheng Qu, Northwest University
Title: Well-posedness, wave breaking and peakons for a generalized modified $\mu$-CH equation

14:20 – 14:50 Speaker: Mathew Baxter, Roy Choudhury and Robert Van Gorder
Title: Zero curvature representation, bi-Hamiltonian structure, and an integrable hierarchy for the Zakharov-Ito system

14:50 – 15:20 Speaker: Dajun Zhang, Zhijun Qiao
Title: Semi-discrete AKNS systems: Integrability aspects and applications

1:20 – 3:20 SESSION 03, Room K
Chairs: Dan Geba & Alex Himonas
Title: Analysis and Geometry of Nonlinear Evolution Equations

1:20 – 1:50 Speaker: Mats Ehrnström,
Title: On the existence and stability of solitary-wave solutions to a class of evolution equations of Whitham type

1:50 – 2:20 Speaker: Michael Goldberg
Title: Wave Propagation on Periodic Planar Graphs

2:20 – 2:50 Speaker: Ryan Thompson
Title: Non-uniform Dependence of the 2-component Camassa-Holm system

2:50 – 3:20 Speaker: Xiang Zhang
Title: Small Data Global Well-Posedness and Scattering for the 2+1 Dimensional Equivariant Faddeev Model
1:20 – 3:20 **SESSION 11, Room L**
Chairs: Thomas Bellsky and Greg Hayrapetyan
Title: Dynamical systems, curvature driven flows, and pattern formation

1:20 – 1:50 Speaker: Thomas Bellsky
Title: Adiabatic stability for a generalized Gray-Scott equation
1:50 – 2:20 Speaker: Shibin Dai
Title: Competitive geometric evolution under the functionalized Cahn-Hilliard equation
2:20 – 2:50 Speaker: Gurgen Hayrapetyan
Title: Spectra of Functionalized Operators Arising from Hypersurfaces
2:50 – 3:20 Speaker: Marco Morandotti
Title: Renormalized Energy and Dynamics for a System of Screw Dislocations

1:20 – 3:20 **SESSION 04, Room R**
Chairs: Richard Kollar and Yuri Latushkin
Title: Stability and spectrum of nonlinear waves - what's next?

1:20 – 1:50 Speaker: Vadim Zharnitsky (Urbana)
Title: High frequency waves in nonlinear dispersive equations on compact domains
1:50 – 2:20 Speaker: Blake Barker (Indiana)
Title: Numerical stability analysis for thin film flow: toward rigorous verification
2:20 – 2:50 Speaker: Vitali Vougalter (Cape Town)
Title: Existence and nonlinear stability of stationary states for the semi-relativistic Schroedinger-Poisson system
2:50 – 3:20 Speaker: Todd Kapitula (Calvin College)
Title: Instability indices for matrix pencils

1:20 – 3:20 **SESSION 18, Room F/G**
Chairs: Andrea Barreiro and Gregor Kovacic
Title: Dynamics of Neuronal Networks

1:20 – 1:50 Speaker: Andrea K. Barreiro
Title: Low-dimensional descriptions of neural networks
1:50 – 2:20 Speaker: Jiwei Zhang
Title: Population model of neuronal networks dynamics between homogeneity and synchrony
2:20 – 2:50 Speaker: Victor Barranca
Title: Data Compression in Sensory Signal Processing
2:50 – 3:20 Speaker: Hermann Riecke
Title: Action-potential firing in an axon-less retina cell subserving night vision
1:20 – 3:20  TUTORIAL_2, Room T/U
Speaker: Alex Townsend
Title: Chebfun tutorial: Numerical algorithms

3:20 – 3:50  COFFEE BREAK

3:50 – 6:20  PAPPERS, Masters Hall
Chairs: Hassan Fathallah-Shaykh

3:50 – 4:20  Speaker: Ahmed Bchatnia and Moez Daoulatli
Title: Behavior of the Energy for the Lame System in Bounded Domain with Nonlinear Damping and External Force

4:20 – 4:50  Speaker: Mohammad Kafini
Title: On the stabilization of a Cauchy viscoelastic problem with singular kernel and nonlinear source

4:50 – 5:20  Speaker: Zoubir Dahmani and Soumia Belarbi
Title: New Results In Nonlinear Fractional Evolution Equations Theory

5:20 – 5:50  Speaker: Hassan Fathallah-Shaykh
Title: Conditions For Non-Convergence, Limit Cycles, and Stability in Complete Networks

5:50 – 6:20  Speaker: M. S. Ismail
Title: Alternating Direction Implicit Scheme for Solving Two-Dimensional Coupled Nonlinear Schrodinger Equation

3:50 – 6:20  SESSION 10, Room K
Chair: Ivan Christov, Pedro Jordan and Michail Todorov
Title: Modeling and Wave Phenomena in Nonlinear Continuum Mechanics

3:50 – 4:20  Speaker: Kert Tamm and Andrus Salupere
Title: Numerical study of the wave propagation in Mindlin-type microstructured solids

4:20 – 4:50  Speaker: Andrus Salupere and Martin Lints
Title: On existence of hidden solitons in solitonic structures

4:50 – 5:20  Speaker: Ivan Christov
Title: Variational approximation of repelling and attracting solitons in coupled nonlinear Schrodinger equations

5:20 – 5:50  Speaker: Brenton Lemesurier
Title: Airy-like pulses in models of large molecular chains, and conservative numerical methods for quasi-linear Hamiltonian systems

5:50 – 6:20  Speaker: Matthew Beauregard and Qin Sheng
Title: Adaptive Splitting Algorithms in Application to Singular Reaction-Diffusion Equations Over Elliptical Domains
3:50 – 6:20  **SESSION 13, Room L**  
Chairs: Gennady El and Mark Hoefer  
Title: Recent Developments in Dispersive Hydrodynamics

3:50 – 4:20  Speaker: Alfred Osborne  
Title: Constructing and Analyzing Asymptotic Solutions of Nonintegrable Nonlinear PDEs with Riemann Theta Functions

4:20 – 4:50  Speaker: Pierre Suret  
Title: Wave Turbulence in 1D Nonlinear Schrödinger Equation

4:50 – 5:20  Speaker: Karima Khusnutdinova  
Title: On versions of the Kadomtsev-Petviashvili equation

5:20 – 5:50  Speaker: Naum Gershenzon  
Title: Sine-Gordon modulation solutions: application to macroscopic friction, earthquakes and fault dynamics

5:50 – 6:20  Speaker: Alessandro Arsie  
Title: Integrable Viscous Conservation Laws

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3:50 – 6:20  **SESSION 09, Room R**  
Chairs: Kenichi Maruno, Bao-Feng Feng, Nalini Joshi, and Kenji Kajiwara  
Title: Integrable Systems, Painleve Equations and Applications

3:50 – 4:20  Speaker: Masataka Kanki  
Title: Discrete integrable equations over finite fields and their solutions

4:20 – 4:50  Speaker: Kazuki Maeda  
Title: Discrete integrable systems and matrix eigenvalue algorithms

4:50 – 5:20  Speaker: Nobutaka Nakazono  
Title: Solutions to the discrete Painlevè systems arising from two types of orthogonal polynomials

5:20 – 5:50  Speaker: Igor Rumanov  
Title: Integrable PDEs from random matrix theory

5:50 – 6:20  Speaker: Anton Dzhamay  
Title: Discrete Schlesinger Transformations and Difference Painlevé Equations

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3:50 – 6:20  **SESSION 19, Room F/G**  
Chairs: Daniel Toundykov, Lorena Bociu  
Title: Wave dynamics in coupled systems

3:50 – 4:20  Speaker: George Avalos  
Title: Rational Decay Properties of Some Coupled PDE Systems

4:20 – 4:50  Speaker: Giovanna Guidoboni  
Title: Mathematical modeling of the retinal circulation

4:50 – 5:20  Speaker: Piotr Rybka
Title: A sixth order Cahn-Hilliard type equation
5:20 – 5:50  Speaker: Francesca Bucci
Title: On PDE models for (some) acoustic-structure or fluid-solid problems: optimal boundary control, theoretical results and sharp regularity
5:50 – 6:20  Speaker: Lorena Bociu
Title: Weak and Regular Solutions for Wave Equations with Nonlinear Sources and Damping

3:50 – 6:20  PAPERS, Room T/U
Chair: Nasser-Eddine Tatar

3:50 – 4:20  Speaker: Jakob Löber, Eckehard Schöll and Harald Engel
Title: Controlling the position of fronts
4:20 – 4:50  Speaker: Yannan Shen, Panayotis Kevrekidis, Nathaniel Whitaker, Nikolaos Karachalios and Dimitris Frantzeskakis
Title: Finite-temperature dynamics of matter-wave dark solitons in linear and periodic potentials
4:50 – 5:20  Speaker: Sarit Maitra
Title: Traveling wave solutions of Fisher’s equation and diffusive Lotka-Volterra equations
5:20 – 5:50  Speaker: Nasser-Eddine Tatar
Title: On the stabilization of non-dissipative viscoelastic problems
5:50 – 6:20  Speaker: David Rossmanith and Ashok Puri
Title: Role of Brinkman Viscosity on Poroacoustic Flow
THURSDAY, MARCH 28, 2013

8:00 - 9:00  KEYNOTE LECTURE: Curtis Menyuk , K/L
Title: Self-Similarity, Integrability, and Accordions in Transient Stimulated Raman Scattering
Chair: Gino Biondini

9:00 – 10:00  SESSION 14, Room K/L
Chair: David Ambrose
Title: Quasilinear and Dispersive Partial Differential Equations

9:00 – 9:30  Speaker: Sarah Raynor
Title: Towards Soliton Stability in Spaces of Rough Data for the KdV Equation

9:30 – 10:00  Speaker: Jason Metcalfe
Title: The Strauss conjecture on black hole backgrounds

9:00 – 10:00  SESSION 19, Room T/U
Chairs: Daniel Toundykov and Lorena Bociu
Title: Wave Dynamics in Coupled Systems

9:00 – 9:30  Speaker: Yongjin Lu
Title: Uniform stability for energy in a nonlinear fluid-structure interaction with nonlinear viscous damping

9:30 – 10:00  Speaker: Suncica Canic
Title: A constructive existence proof for a nonlinear, moving-boundary problem arising in modeling blood flow through elastic arteries

9:00 – 10:00  PAPERS, Room V/W
Chairs:

9:00 – 9:30  Speaker: Efim Pelinovsky, Alexei Rybkin and Ira Didenkulova
Title: Nonlinear wave runup in bays of arbitrary cross-section: generalization of the Carrier-Greenspan approach

9:30 – 10:00  Speaker: Monica Rani and S.P Sharma
Title: Behavior analysis of the Washing unit using Artificial bee colony technique and vague set theory
10:20 – 12:20 SESSION 14, Room K/L
Chair: David Ambrose
Title: Quasilinear and Dispersive Partial Differential Equations

10:20 – 10:50 Speaker: Timur Akhunov
Title: A sharp condition for the well-posedness of the linear KdV equation on R

10:50 – 11:20 Speaker: Jeremy Marzuola
Title: Quasilinear Schrödinger Equations

11:20 – 11:50 Speaker: Gideon Simpson
Title: Solitons & Singularities in a Generalized Derivative Nonlinear Schrodinger Equation

10:20 - 12:20 SESSION 19, Room T/U
Chair: Daniel Toundykov and Lorena Bociu
Title: Wave Dynamics in Coupled Systems

10:20 – 10:50 Speaker: Jing Zhang
Title: Min-max game theory for elastic and visco-elastic fluid structure interactions

10:50 – 11:20 Speaker: Scott Hansen
Title: Stability and Feedback Stabilization of Layered Beam Systems

11:20 – 11:50 Speaker: Erwin Suazo, Sergei K. Suslov and Jose Vega-Guzman
Title: The Riccati System and a Diffusion-Type Equation

11:50 – 12:20 Speaker: Daniel Toundykov
Title: Nonlinear boundary feedbacks for von Karman plates in high velocity airflows

10:20 - 12:20 SESSION 18: Room V/W
Chair: Andrea Barreiro and Gregor Kovacic
Title: Dynamics of Neuronal Networks

10:20 - 10:50 Speaker: Remus Osan
Title: Initiation and propagation of traveling waves in neural slices

10:50 – 11:20 Speaker: Zachary Kilpatrick
Title: Noise-induced phenomena in continuum neural field equations

11:20 – 11:50 Speaker: Yu Hu
Title: Linking Graph Motifs and Collective Spiking in Neuronal Networks

11:50 – 12:20 Speaker: Deena Schmidt
Title: Analysis of the Stochastic Shielding Approximation for Markovian ion channel models via random graphs

12:20 – 1:20 LUNCH

THE END OF THE PROGRAM