

Program at A Glance

Wednesday 04/17/2019		60	60	45	40	56/35	32	32	32
	Mahler	Room F/G	Y/Z	Room E	Room J	Room V/W	Room B	Room C	Room D
8:00- 8:30	Welcome								
8:30 – 9:30	Keynote 1: David Ambrose								
9:30 – 10:00	Coffee Break								
10:00 – 10:50	S7_I/IX	S3_I/III	S24_I/III	S25_I/VII	S20_I/II	S21_I/II	S15_I/III	S19_I/II	
10:55 – 12:10	S7_II/IX	S3_II/III	S24_II/III	S18_I/IV	S6_I/III	S5_I/V	S15_II/III	S19_II/II	
12:10 – 1:40	LUNCH on your own								
1:40 – 3:20	S7_III/IX	S5_II/V	S9_I/III	S18_II/IV	S6_II/III	S28_I/I	S15_III/III	PAPERS: 276, 19, 23, 18	
3:20 – 3:50	Coffee Break								
3:50 – 5:55	S7_IV/IX	S5_III/V	S9_II/III	S25_II/VII	S6_III/III	S16_I/III	S21_II/II	S24_III/III	S10_I/I

Thursday 04/18/2019									
	Masterss Hall	Room F/G	Room Y/Z	Room E	Room J	Room V/W	Room K	Room L	Room D
8:00- 9:00	Keynote 2: Alex Himonas								
9:10 – 10:00		S4_I/III	S8_I/V	S25_III/VII	S12_I/III	S16_II/III	PAPERS: 13, 16		S17_I/II
10:00 – 10:30	Coffee Break								
10:30– 12:10	S18_III/IV	S9_III/III	S22_I/II	S25_IV/VII	S12_II/III	S16_III/III	S3_III/III	S2_I/II	S17_II/II
12:10 – 1:40	Lunch on your Own								
1:40 – 3:20	S7_V/IX	S5_IV/V	S8_II/V	S25_V/VII	S1_I/II	S12_III/III	S26_I/II	S2_II/II	S20_II/II
3:20 – 3:50	Coffee Break								
3:50 – 5:55	S7_VI/IX	S5_V/V	S8_III/V	S18_IV/IV	S1_II/II	S22_II/II	S26_II/II	S4_II/III	S23_I/II
POSTERS 5:00 – 7:00 pm Hill Atrium, outside of Mahler	#20, #30, #293, #337								
7:00 – 9:00	Conf. Banquet (including student papers award)								

Friday 04/19/2019					
	Masterss Hall	Room F/G	Room Y/Z	Room K	Room V/W
8:00- 9:00	Keynote 3: Stefano Trillo				
9:10 – 10:00	S7_VII/IX	S13_I/II		S14_I/II	S25_VI/VII
10:00 – 10:30	Coffee Break				
10:30– 12:10	S7_VIII/IX	S13_II/II	S8_IV/V	S4_III/III	S25_VII/VII
12:10 – 1:40	LUNCH on your own				
1:40 – 3:20	S7_IX/IX	S23_II/II	S8_V/V	S14_II/II	
3:20 – 3:50	Coffee Break				

PROGRAM

TUESDAY, April 16, 2019

5:00 – 6:00 REGISTRATION in front of the Maher Hall

5:00 – 7:00 RECEPTION

WEDNESDAY, April 17, 2019

7:30 – 9:30 REGISTRATION

8:00 – 8:30 WELCOME

Thiab Taha: Program Chair and Conference Coordinator

Alan Dorsey: Dean of the Franklin College of Arts and Sciences at UGA.

8:30 – 9:30 KEYNOTE LECTURE I, Mahler

David Ambrose: Vortex sheets, Boussinesq equations, and other problems in the Wiener algebra

Chair: Thiab Taha

9:30 – 10:00 COFFEE BREAK

10:00 – 10:50 SESSION 07, Mahler: Stability and traveling waves – Part I/IX

Chairs: Bernard Deconinck, Anna Ghazaryan, Mat Johnson, Stephane Lafortune, Yuri Latushkin, Jeremy Upsal, Samuel Walsh

10:00 – 10:25 Stephane Lafortune: Study of a model of a liquid in presence of a surfactant

10:25 – 10:50 Panayotis Kevrekidis: On Some Select Klein-Gordon Problems: Internal Modes, Fat Tails, Wave Collisions and Beyond

On Some Select Klein-Gordon Problems: Internal Modes, Fat Tails, Wave Collisions and Beyond

10:00 – 10:50 SESSION 03, F/G: Recent Developments in Mathematical Studies of Water Waves – Part I/III

Chair: John Carter

10:00 – 10:25 John Carter: Particle paths and transport properties of NLS and its generalizations

10:25 – 10:50 Ben Akers: Asymptotics and numerics for modulational instabilities of traveling waves

10:00 – 10:50 SESSION 24, Room Y/Z: Mathematical perspectives in quantum mechanics and quantum chemistry – PART I/III

Chairs: Jianfeng Lu and Israel Michael Sigal

10:00 - 10:25 Christof Melcher: Spinning Landau-Lifschitz solitons - a quantum mechanical analogy

10:25 – 10:50 Benjamin Stamm: A perturbation-method-based post-processing of plane wave approximations for nonlinear Schoedinger operators

10:00 – 10:50 SESSION 25, Room E: Nonlinear waves, singularities, vortices, and turbulence in hydrodynamics, physical, and biological systems – PART I/VII

Chairs: Alexander O. Korotkevich and Pavel Lushnikov

10:00 – 10:25 David Kaup: Optical phase-modulated nonlinear waves in a graphene waveguide

10:25 – 10:50 Bo Yang and Jianke Yang: Rogue waves in the nonlocal PT-symmetric nonlinear Schrodinger equation

10:00 - 10:50 SESSION 20, Room J: Dynamical Systems and integrability – Part I/II

Chairs: Nalini Joshi and Nobutaka Nakazono

10:00 – 10:25 Vladimir Dragovic and Milena Radnovic: Ellipsoidal Billiards and Chebyshev-type polynomials

10:25 – 10:50 Nalini Joshi, Christopher Lustrì and Steven Luu: Hidden solutions of discrete systems

10:00 – 10:50 SESSION 21, Room V/W: Stochastic Dynamics in Nonlinear Systems – PART I/II

Chairs: Katie Newhall

10:00 – 10:25 Katie Newhall: A network of transition pathways in a model granular system

10:25 – 10:50 Jay Newby: The effect of moderate noise on a limit cycle oscillator: counterrotation and bistability

10:00 – 10:50 SESSION 15, Room B: Waves in topological materials – PART I/III

Chairs: Yi Zhu, Xu Yang, Hailong Guo

10:00 – 10:25 Alexander Watson: Computing edge spectrum in the presence of disorder without spectral pollution

10:25 – 10:50 Justin Cole: Topologically Protected Edge Modes in Longitudinally Driven Waveguides

10:00 – 10:50 SESSION 19, Room C: Network Dynamics – PART I/II

Chairs: Tom Carty

10:00 – 10:25 Mamoon Ahmed: The universal covariant representation and amenability

10:25 – 10:50 Dashiell Fryer: Adaptive Zero Determinant Strategies in the Iterated Prisoner's Dilemma Tournament

10:55 – 12:10 SESSION 07, Mahler: Stability and traveling waves – Part II/IX

Chairs: Bernard Deconinck, Anna Ghazaryan, Mat Johnson, Stephane Lafortune, Yuri Latushkin, Jeremy Upsal, Samuel Walsh

10:55 – 11:20 Milena Stanislavova: Asymptotic stability for spectrally stable Lugiato-Lefever solutions in periodic waveguides

11:20 – 11:45 Efstathios Charalampidis: Formation of extreme events in NLS systems

11:45 – 12:10 Todd Kapitula: Viewing spectral problems through the lens of the Krein matrix

10:55 – 12:10 SESSION 03, F/G: Recent Developments in Mathematical Studies of Water Waves – Part II/III

Chair: John Carter

10:55 – 11:20 Chris Curtis: Nonlinear waves over patches of vorticity

11:20 – 11:45 Henrik Kalisch: Fully dispersive model equations for hydroelastic waves

11:45 – 12:10 Harvey Segur: Tsunami

10:55 – 12:10 SESSION 24, Room Y/Z: Mathematical perspectives in quantum mechanics and quantum chemistry – PART II/III

Chairs: Michael Sigal and Jianfeng Lu

10:55 – 11:20 Michael Weinstein: Edge states in honeycomb structures

11:20 – 11:45 Fabio Pusateri: Nonlinear Schroedinger equations with a potential in dimension 3

11:45 – 12:10 Artur Izmaylov: New developments in quantum chemistry on a quantum computer

10:55 – 12:10 SESSION 18, Room E: Negative flows, peakons, integrable systems, and their applications – PART I/IV

Chairs: Zhijun (George) Qiao

10:55 – 11:20 Jing Kang: Liouville correspondences between multi-component integrable hierarchies

11:20 – 11:45 Huafei Di: Global well-posedness for a nonlocal semilinear pseudo-parabolic equation with conical degeneration

10:55 – 12:10 SESSION 06, Room J: Random Matrices, Painleve Equations, and Integrable Systems – PART I/III

Chairs: Vladimir Dragovic

10:55 – 11:20 Anton Dzhamay: Discrete Painlevé equations in tiling problems

11:20 – 11:45 Tomoyuki Takenawa: The space of initial conditions for some 4D Painlevé systems

11:45 – 12:10 Nobutaka Nakazono: Classification of quad-equations on a cuboctahedron

10:55 – 12:10 SESSION 05, Room V/W: Evolution Equations and Integrable Systems – PART I/IV

Chairs: Alex Himonas, Curtis Holliman & Dionyssi Mantzavinos

10:55 – 11:20 Gino Biondini: Riemann problems, solitons and dispersive shocks in modulationally unstable media

11:20 – 11:45 Barbara Prinari: Inverse Scattering Transform for the defocusing Ablowitz-Ladik equation with arbitrary nonzero background

11:45 – 12:10 Satbir Malhi: Energy Decay for the linear Damped Klein Gordon Equation on Unbounded Domain

10:55 – 12: 10 SESSION 15, Room B: Waves in topological materials – PART II/III

Chairs: Yi Zhu, Xu Yang, Hailong Guo

10:55 – 11:20 Junshan Lin: Embedded eigenvalues and Fano resonance for metallic structures with small holes

11:20 – 11:45 Alexis Drouot: Edge states in near-honeycomb structures

11:45 – 12:10 Hailong Guo: Unfitted Nitsche's method for computing edge modes in photonic graphene

10:55 – 12: 10 SESSION 19, Room C: Network Dynamics – PART II/II

Chairs: Tom Carty

10:55 – 11:20 Timothy Ferguson: Bistability in the Kuramoto model

11:20 – 11:45 Tom Carty: Configurational stability for the Kuramoto-Sakaguchi model

11:45 – 12:10 Sarah Simpson: A Matrix Valued Kuramoto Model

12:10 – 1:40 LUNCH on your own

1:40 – 3:20 SESSION 07, Mahler: Stability and traveling waves – Part III/IX

Chairs: Bernard Deconinck, Anna Ghazaryan, Mat Johnson, Stephane Lafortune, Yuri Latushkin, Jeremy Upsal, Samuel Walsh

1:40 – 2:05 Ross Parker: Spectral stability of multi-pulses via the Krein matrix

2:05 – 2:30 Anna Ghazaryan: Stability of planar fronts in a class of reaction-diffusion systems

2:30 – 2:55 Yuri Latushkin: Recent results on application of the Maslov index in spectral theory of differential operators

2:55 – 3:20 Alim Sukhtayev: Spectral stability of hydraulic shock profiles

1:40 – 3:20 SESSION 05, Room F/G: Evolution Equations and Integrable Systems – PART II/V

Chairs: Alex Himonas, Curtis Holliman & Dionyssi Mantzavinos

1:40 – 2:05 David Nicholls: Well-Posedness and Analyticity of Solutions to a Water Wave Problem with Viscosity

2:05 – 2:30 John Gemmer: Isometric immersions and self-similar buckling in non-Euclidean elastic sheets

2:30 – 2:55 Curtis Holliman: Non-uniqueness and Norm-Inflation for Camassa-Holm-type Equations

2:55 – 3:20 Fredrik Hildrum: Solitary waves in dispersive evolution equations of Whitham type with nonlinearities of mild regularity

1:40 – 3:20 SESSION 09, Room Y/Z: Nonlinear Evolutionary Equations: Theory, Numerics and Experiments – PART I/III

Chairs: Efstathios Charalampidis and Fotini Tsitoura

1:40 – 2:05 Roy Goodman: Bifurcations on a dumbbell quantum graph

2:05 – 2:30 Patrick Sprenger and Mark Hoefer: Traveling waves in the fifth order Korteweg-de Vries equation and discontinuous shock solutions of the Whitham modulation equations

2:30 – 2:55 Adilbek Kairzhan, Dmitry E. Pelinovsky and Roy Goodman: Nonlinear instability of spectrally stable shifted states on star graphs

2:55 – 3:20 Yuan Chen and Keith Promislow: Curve Lengthening and shortening in Stong FCH

1:40 – 3:20 SESSION 18, Room E: Negative flows, peakons, integrable systems, and their applications – PART II/IV

Chairs: Stephen Anco

1:40 – 2:05 Anna Geyer: Instability and uniqueness of the peaked periodic traveling wave in the reduced Ostrovsky equation

2:05 – 2:30 Huijun He: Some analysis results for the $U(1)$ -Invariant Equation

2:30 – 2:55 Stephen Anco and Elena Recio: Accelerating dynamical peakons and their behaviour

2:55 – 3:20 Xiao-Jun Yang: A new perspective in anomalous viscoelasticity from the derivative with respect to another function view point

1:40 – 3:20 SESSION 06, Room J: Random Matrices, Painleve Equations, and Integrable Systems – PART II/III

Chairs: Virgil Pierce

1:40 – 2:05 Robert Buckingham: A representation of joint moments of CUE characteristic polynomials in terms of a Painlevé-V solution

2:05 – 2:30 Peter Miller: Rational solutions of Painlevé equations

2:30 – 2:55 Andrei Prokhorov: Asymptotic of solutions of three-component Painlevé-II equation

2:55 – 3:20 Sevak Mkrtchyan: Entropy of Beta Random Matrix Ensembles

1:40 – 3:20 SESSION 28, Room V/W: Recent advances in analytical and computational methods for nonlinear partial differential equations

Chairs: Chaudry Masood Khaliq and Muhammad Usman

1:40 – 2:05 Muhammad Usman: A collocation method for a class of a nonlinear partial differential equations

2:05 – 2:30 Arshad Muhammad: Applications of Fixed Point Theorems to Integral and Differential Equations

2:30 – 2:55 Kinza Mumtaz and Mudassar Imran: The Optimal control of HPV Infection and Cervical Cancer with HPV vaccine

1:40 – 3:20 SESSION 15, Room B: Yi Zhu, Xu Yang, Hailong Guo: waves in topological materials – PART III/III

Chairs: Hailong Guo, Xu Yang, Yi Zhu

1:40 – 2:05 Lihui Chai: Frozen Gaussian Approximation for the Dirac equation in semi-classical regime

2:05 – 2:30 Yi Zhu: Linear and nonlinear waves in honeycomb photonic materials

2:30 – 2:55 Peng Xie and Yi Zhu: Wave-packet dynamics in slowly modulated photonic graphene

1:40 – 3:20 PAPERS, Room C

Chairs: Gennady El

1:40 – 2:05 Giacomo Roberti, Gennady El, Pierre Suret and Stéphane Randoux: Early stage of integrable turbulence in 1D NLS equation: the semi-classical approach to statistics

2:05 – 2:30 Bryn Balls-Barker, Blake Barker and Olivier Lafitte: Spectral Stability of Ideal-Gas Shock Layers in the Strong Shock Limit

2:30 – 2:55 Camille R. Zaug and John D. Carter: Frequency Downshift in the Ocean

2:55 – 3:20 Ali Eshaghian Dorche, Ali Asghar Eftekhari and Ali Adibi: Advanced Dispersion Engineered for Wideband On-chip Optical Frequency Comb Generation

3:20 – 3:50 COFFEE BREAK

3:50 – 5:55 SESSION 07, Mahler: Stability and traveling waves – Part IV/IX

Chairs: Bernard Deconinck, Anna Ghazaryan, Mat Johnson, Stephane Lafortune, Yuri Latushkin, Jeremy Upsal, Samuel Walsh

3:50 – 4:15 Blake Barker: Rigorous verification of wave stability

4:15 – 4:40 Alin Pogan: Nonlinear stability of layers in precipitation models

4:40 – 5:05 Vahagn Manukian: Fisher-KPP dynamics in diffusive Rosenzweig-MacArthur and Holling-Tanner models

5:05 – 5:30 Zhiwu Lin: Turning point principle for the stability of stellar models

5:30 – 5:55 Robert Marangell: Stability of travelling waves in a haptotaxis model

3:50 – 5:55 SESSION 05, Room F/G: Evolution Equations and Integrable Systems – PART III/V

Chairs: Alex Himonas, Curtis Holliman & Dionyssi Mantzavinos

3:50 – 4:15 Sarah Raynor: Low Regularity Stability for the KdV Equation

4:15 – 4:40 John Holmes: Existence of solutions for conservation laws

4:40 – 5:05 Ryan Thompson: On the Evolution of Dark Matter

5:05 – 5:30 Yuexun Wang: Enhanced existence time of solutions to the fractional Korteweg-de Vries equation

5:30 – 5:55 Jose Pastrana Chiclana: Non-Uniform Continuous Dependence for Euler Equations in Besov Spaces

3:50 – 5:55 SESSION 09, Room Y/Z: Nonlinear Evolutionary Equations: Theory, Numerics and Experiments – PART II/III

Chairs: Efsthios Charalampidis and Fotini Tsitoura: "

3:50 – 4:15 Foteini Tsitoura: Observation of phase domain walls in deep water surface gravity waves

4:15 – 4:40 Hang Yang: Models for 3D Euler Equations

4:40 – 5:05 Igor Barashenkov: **Cancelled**

5:05 – 5:30 Demetrios Christodoulides: Parity-Time and other Symmetries in Optics and Photonics

5:30 – 5:55 Guo Deng, Gino Biondini and Surajit Sen: Generation, propagation and interaction of solitary waves in integrable versus non-integrable lattices

3:50 – 5:55 SESSION 25, Room E: Nonlinear waves, singularities, vortices, and turbulence in hydrodynamics, physical, and biological systems – PART II/VII

Chairs: Alexander O. Korotkevich and Pavel Lushnikov

3:50 – 4:15 Fabio Pusateri, Massimiliano Berti, and Roberto Feola: The Zakharov-Dyachenko conjecture on the integrability of gravity water waves

4:15 – 4:40 Joseph Zaleski, Miguel Onorato and Yuri Lvov: Anomalous correlators, “ghost” waves and nonlinear standing waves in the β -FPUT system

4:40 – 5:05 Denis Silantyev and Pavel Lushnikov: Powerful conformal maps for adaptive resolving of the complex singularities of Stokes wave

5:05 – 5:30 Amir Sagiv, Adi Ditkowski and Gadi Fibich: Efficient Numerical Methods for Nonlinear Dynamics with Random Parameters

3:50 – 5:55 SESSION 06, Room J: Random Matrices, Painleve Equations, and Integrable Systems – PART III/III

Chairs: Anton Dzhamay

3:50 – 4:15 Vasilisa Shramchenko: Algebro-geometric solutions to Schlesinger and Painlevé-VI equations

4:15 – 4:40 Leonid Chekhov: SLk character varieties and quantum cluster algebras

4:40 – 5:05 Alessandro Arsie: A survey of bi-flat F-manifolds

5:05 – 5:30 Nicholas Ercolani: Integrable Mappings and Random Walks in Random Environments

5:30 – 5:55 Virgil Pierce: Skew-orthogonal polynomials and continuum limits of the Pfaff lattice

3:50 – 5:55 SESSION 16, Room V/W: Existence and stability of peaked waves in nonlinear evolution equations – PART I/III

Chair: Anna Geyer

3:50 – 4:15 Mariana Haragus: Regular patterns and defects for the Rayleigh-Bénard convection.

4:15 – 4:40 Richard Kollar: Krein signature without eigenfunctions and without eigenvalues. What is Krein signature and what does it measure?

4:40 – 5:05 Fabio Natali: Periodic Traveling-wave solutions for regularized dispersive equations: Sufficient conditions for orbital stability with applications

5:05 – 5:30 Uyen Le: Convergence of Petviashvili's Method Near Periodic Waves in the Fractional Korteweg-De Vries Equation

5:30 – 5:55 Elek Csobo: Stability of Standing Waves for a Nonlinear Klein-Gordon Equation with Delta Potentials

3:50 – 5:55 SESSION 21, Room B: Stochastic Dynamics in Nonlinear Systems - PART II/II

Chair: Katie Newhall

3:50 – 4:15 Joe Klobusicky: Averaging for systems of nonidentical molecular motors

4:15 – 4:40 Ilya Timofeyev : Stochastic parameterization of subgrid-scales in one-dimensional shallow water equations

4:40 – 5:05 Nawaf Bou-Rabee: Coupling for Hamiltonian Monte Carlo

5:05 – 5:30 Yuan Gao: Limiting Behaviors of High Dimensional Stochastic Spin Ensemble

5:30 – 5:55 Molei Tao: Improving Sampling Accuracy of SG-MCMC Methods via Non-uniform Subsampling of Gradients

3:50 – 5:55 SESSION 24, Room C: Mathematical perspectives in quantum mechanics and quantum chemistry – PART III/III

Chairs: Jianfeng Lu and Israel Michael Sigal

3:50 – 4:15 Dionisios Margetis: On the excited state of the interacting boson system: a non-Hermitian view

4:15 – 4:40 Akos Nagy: Concentration properties of Majorana spinors in the Jackiw-Rossi theory

4:40 – 5:05 Marius Lemm: A central limit theorem for integrals of random waves

5:05 – 5:30 Christof Sparber: Rigorous derivation of nonlinear Dirac equations for wave propagation in honeycomb structures

5:30 – 5:55 Thomas Chen: Boltzmann equations via Wigner transform and dispersive methods

3:50 – 5:55 SESSION 10, Room D: Recent advances in PDEs from fluid dynamics and other dynamical models – PART I/I

Chair: Robin Ming Chen, Runzhang Xu

3:50 – 4:15 Gary Webb, Qiang Hu, Avijeet Prasad and Stephen Anco: Godbillon-Vey Helicity in Magnetohydrodynamics and Fluid Dynamics

4:15 – 4:40 Hua Chen, Robert Gilbert and Philippe Guyenne: Dispersion and attenuation in a poroelastic model for gravity waves on an ice-covered ocean

4:40 – 5:05 Qingtian Zhang: Global solution of SQG front equation

5:05 – 5:30 Dongfen Bian and Jinkai Li: Finite time blow up of compressible Navier-Stokes equations on half space or outside a fixed ball

5:30 – 5:55 Wei Lian, Runzhang Xu and Yi Niu: Global well-posedness of coupled parabolic systems

THURSDAY, April 18, 2019

7:30 – 9:30 REGISTRATION

8:00 – 9:00 KEYNOTE LECTURE 2, Masters Hall

Alex Himonas: Initial and boundary value problems for evolution equations

Chair: Jerry Bona

9:10 – 10:00 SESSION 04, Room F/G: Fractional Differential Equations – PART I/III

Chair: Harihar Khanal

9:10 – 9:35 Dumitru Baleanu: On fractional calculus and nonlinear wave phenomena

9:35 – 1:00 Andrei Ludu: Time dependent order differential equations

9:10 – 10:00 SESSION 08, Room Y/Z: Dispersive Wave Equations and their Soliton Interactions: Theory and Applications – PART I/V

Chairs: Avraham Soffer, Gang Zhao, S. Gustafson

9:10 – 9:35 Peter Pickl: Higher Order Corrections to Mean Field Dynamics of Bose Cold Gases

9:35 – 10:00 Thomas Chen and Avy Soffer: Dynamics of a heavy quantum tracer particle in a Bose gas

9:10 – 10:00 SESSION 25, Room E: Nonlinear waves, singularities, vortices, and turbulence in hydrodynamics, physical, and biological systems – PART III/VII

Chairs: Alexander O. Korotkevich and Pavel Lushnikov

9:10 – 9:35 Svetlana Roudenko, Kai Yang and Yanxiang Zhao: Stable blow-up dynamics in the critical and supercritical NLS and Hartree equations

9:35 – 1:00 Anastassiya Semenova, Alexander Korotkevich, and Pavel Lushnikov: Appearance of Stokes Waves in Deep Water

9:10 – 10:00 SESSION 12, Room J: Dispersive shocks, semiclassical limits and applications – PART I/III

Chairs: Gino Biondini

9:10 – 9:35 Stephane Randoux: Modulational instability of a plane wave in the presence of localized perturbations: some experimental results in nonlinear fiber optics

9:35 – 1:00 Gennady El: Wave-mean flow interactions in dispersive hydrodynamics

9:10 – 10:00 SESSION 16, Room V/W: Existence and stability of peaked waves in nonlinear evolution equations – PART II/III

Chair: Dmitry Pelinovsky

9:10 – 9:35 Stephen Anco: Evolution equations with distinct sectors of peakon-type solutions

9:35 – 10:00 Zhijun Qiao: High order peakon models

9:10 – 10:00 PAPERS, Room K

Chairs: Otis wright

9:10 – 9:35 Alessandro Barone, Alessandro Veneziani, Flavio Fenton and Alessio Gizzi: Cardiac Conductivity Estimation by a Variational Data Assimilation Procedure: Analysis and Validation

9:35 – 10:00 Otis Wright: Effective Integration of Some Integrable NLS Equations

9:10 – 10:00 SESSION 17, Room L: Nonlinear Dynamics of Mathematical Models in Neuroscience – Part I/II

Chair: Pamela Pyzza

9:10 – 9:35 Shelby Wilson: On the Dynamics of Coupled Morris-Lecar Neurons

10:00 – 10:30 COFFEE BREAK

10:30 – 12:10 SESSION 18, Masters Hall: Negative flows, peakons, integrable systems, and their applications – PART III/IV

Chair: Stephane Lafortune

10:30 – 10:55 Qilao Zha, Qiaoyi Hu and Zhijun Qiao: Short pulse systems produced through the negative WKI hierarchy

10:55 – 11:20 Evans Boadi, Sicheng Zhao and Stephen Anco: New integrable peakon equations from a modified AKNS scheme

11:20 – 11:45 Shuxia Li and Zhijun Qiao: Lax algebraic representation for an integrable hierarchy

10:30 – 12:10 SESSION 09, Room F/G: Nonlinear Evolutionary Equations: Theory, Numerics and Experiments – PART III/III

Chair: Efstathios Charalampidis and Fotini Tsitoura

10:30 – 10:55 Jason Bramburger: Snakes and lattices: Understanding the bifurcation structure of localized solutions to lattice dynamical systems

10:55 – 11:20 Ryan Goh: Growing Stripes, with and without wrinkles

11:20 – 11:45 Zoi Rapti, Jared Bronski and Andrea Barreiro: Nonlinear eigenvalue problems in biologically motivated PDEs

11:45 – 12:10 Joceline Lega: Grain boundaries of the Swift-Hohenberg equation: simulations and analysis

10:30 – 12:10 SESSION 22, Room Y/Z: Modern Methods for Dispersive Wave Equations – PART I/II

Chair: Robert Buckingham and Peter Miller

10:30 – 10:55 Peter Perry: Soliton Resolution for the Derivative Nonlinear Schrödinger Equation

10:55 – 11:20 Aaron Saalman: Long-time asymptotics for the massive Thirring model

11:20 – 11:45 Elliot Blackstone: Singular limits of certain Hilbert-Schmidt integral operators and applications to tomography

11:45 – 12:10 Tom Trogdon: The computation of linear and nonlinear dispersive shocks

10:30 – 12:10 SESSION 25, Room E: Nonlinear waves, singularities, vortices, and turbulence in hydrodynamics, physical, and biological systems – PART IV/VII

Chair: Alexander O. Korotkevich and Pavel Lushnikov

10:30 – 10:55 Jerry Bona, Dynamical Problems Arising in Blood Flow: Nonlinear Waves on Trees

10:55 – 11:20 Curtis Menyuk, Zhen Qi, and Shaokang Wang: Stability and Noise in Frequency Combs: Harnessing the Music of the Spheres

11:20 – 11:45 Tobias Schaefer: Instantons and Fluctuations in Complex Systems

11:45 – 12:10 Katelyn Plaisier Leisman and Gregor Kovacic: Nonlinear Waves acting like Linear Waves in NLS

10:30 – 12:10 SESSION 12, Room J: Dispersive shocks, semiclassical limits and applications – PART II/III

Chair: Gino Biondini

10:30 – 10:55 Alexander Tovbis: Towards kinetic equation for soliton and breather gases for the focusing Nonlinear Schrödinger equation.

10:55 – 11:20 Sitai Li: Universal behavior of modulationally unstable media with non-zero boundary conditions

11:20 – 11:45 Jonathan Lottes: Nonlinear interactions between solitons and dispersive shocks in focusing media

11:45 – 12:10 Thibault Congy: Nonlinear Schrödinger equations and the universal description of dispersive shock wave structure

10:30 – 12:10 SESSION 16, Room V/W: Existence and stability of peaked waves in nonlinear evolution equations – PART III/III

Chair: Dmitry Pelinovsky

10:30 – 10:55 Mathias Arnesen: A nonlocal approach to waves of maximal height to the Degasperis-Procesi equation

10:55 – 11:20 Raj Dhara: Waves of maximal height for a class nonlocal equations with homogeneous symbol

11:20 – 11:45 Tien Truong: Large-amplitude solitary water waves for the Whitham equation

11:45 – 12:10 Bruno Vergara: Convexity of Whitham's highest cusped wave

10:30 – 12:10 SESSION 03, K: Recent Developments in Mathematical Studies of Water Waves – Part III/III

Chair: John Carter

10:30 – 10:55 Diane Henderson: Faraday waves with bathymetry
10:55 – 11:20 Olga Trichtchenko: Water waves under ice
11:20 – 11:45 Bernard Deconinck: The stability of stationary solutions of the focusing NLS equation
11:45 – 12:10 Debbie Eeltink: Effect of viscosity and sharp wind increase on ocean wave statistics

10:30 – 12:10 SESSION 02, Room L: Novel Challenges in Nonlinear Waves and Integrable Systems – PART I/II

Chair: Barbara Prinari, Alyssa K. Ortiz

10:30 – 10:55 Martin Klaus: Spectral properties of matrix-valued AKNS systems with steplike potentials
10:55 – 11:20 Alexei Rybkin: The effect of a positive bound state on the KdV solution. A case study
11:20 – 11:45 C van der Mee et al: Exact Solutions of the Focusing Nonlinear Schrodinger Equation with Symmetric Nonvanishing Boundary Conditions
11:45 – 12:10 Jeremy Upsal: Real Lax spectrum implies stability

10:30 – 12:10 SESSION 17, Room D: Nonlinear Dynamics of Mathematical Models in Neuroscience – Part II/II

Chair: Pamela B. Pyzza

10:30 – 10:55 Paulina Volosov and Gregor Kovacic: Network Reconstruction: Architectural and Functional Connectivity in the Cerebral Cortex
10:55 – 11:20 Duane Nykamp and Brittany Baker: Network Microstructure Dominates Global Network Connectivity in Synchronous Event Initiation
11:20 – 11:45 Pamela Pyzza, Katie Newhall, Douglas Zhou, Gregor Kovacic and David Cai: Idealized Models of Insect Olfaction
11:45 – 12:10 Alexei Cheviakov and Jason Gilbert: The narrow-capture problem in a unit sphere: global optimization of volume trap arrangements.

12:10 – 1:40 LUNCH on your own

1:40 – 3:20 SESSION 7, Masterss Hall: Stability and traveling waves – Part V/IX

Chairs: Bernard Deconinck, Anna Ghazaryan, Mat Johnson, Stephane Lafortune, Yuri Latushkin, Jeremy Upsal, Samuel Walsh

1:40 – 2:05 Graham Cox: A Maslov index for non-Hamiltonian systems
2:05 – 2:30 Claire Kiers: A Bifurcation Analysis of Standing Pulses and the Maslov Index
2:30 – 2:55 Selim Sukhtaie: Localization for Anderson Models on Tree Graphs
2:55 – 3:20 Mariana Haragus: Dynamics of frequency combs modeled by the Lugiato-Lefever equation

1:40 – 3:20 SESSION 05, Room F/G: Evolution Equations and Integrable Systems – PART IV/V

Chair: Alex Himonas, Curtis Holliman & Dionyssia Mantzavinos

1:40 – 2:05 Natalie Sheils: Revivals and Fractalisation in the Linear Free Space Schrödinger Equation
2:05 – 2:30 David Smith: Unified transform method with moving interfaces
2:30 – 2:55 Fangchi Yan: Well-posedness of initial-boundary value problems for dispersive equations via the Fokas method
2:55 – 3:20 Maria Christina van der Weele: Integrable Systems in 4+2 Dimensions and their Reduction to 3+1 Dimensions

1:40 – 3:20 SESSION 08, Room Y/Z: Dispersive Wave Equations and their Soliton Interactions: Theory and Applications – PART II/V

Chair: Avraham Soffer, Gang Zhao, S. Gustafson

1:40 – 2:05 Marius Beceanu, Juerg Froehlich and Avy Soffer: Semi-linear Schroedinger's equation with random time-dependent potentials
2:05 – 2:30 Minh Binh and Avy Soffer: On the energy cascade of acoustic wave turbulence: Beyond Kolmogorov-Zakharov solutions
2:30 – 2:55 Matthew Rosenzweig: Global Well-Posedness and Scattering for the Davey-Stewartson System at Critical Regularity

1:40 – 3:20 SESSION 25, Room E: Nonlinear waves, singularities, vortices, and turbulence in hydrodynamics, physical, and biological systems – PART V/VII

Chair: Alexander O. Korotkevich and Pavel Lushnikov

1:40 – 2:05 Evgeny Kuznetsov, Maxim Kagan and Andrey Turlapov: Expansion of the strongly interacting superfluid Fermi gas: symmetry and self-similar regimes
2:05 – 2:30 Joseph Zaleski, Philip Zaleski, and Yuri Lvov: Excitation of interfacial waves via near-resonant surface-interfacial wave interactions
2:30 – 2:55 Sergey Dyachenko, Alexander Dyachenko, Pavel Lushnikov and Vladimir Zakharov: Singularities in the 2D Fluids with Free Surface
2:55 – 3:20 Israel Michael Sigal: On Density Functional Theory

1:40 – 3:20 SESSION 01, Room J: Nonlinear Waves – PART I/II

Chair: Jerry Bona

1:40 – 2:05 Guillaume Fenger: Strong error order of time-discretization of the stochastic gBBM equation
2:05 – 2:30 Min Chen: Mathematical analysis of Bump to Bucket problem
2:30 – 2:55 Olivier Goubet: Wave equations with infinite memory

2:55 – 3:20 Bongsuk Kwon: Small Debye length limit for Euler-Poisson system

1:40 – 3:20 SESSION 12, Room V/W: Dispersive shocks, semiclassical limits and applications – PART III/III

Chair: Gino Biondini

1:40 – 2:05 Mark Hoefer: Evolution of Broad Initial Profiles—Solitary Wave Fission and Solitary Wave Phase Shift

2:05 – 2:30 Antonio Moro: Dispersive shocks dynamics of phase diagrams

2:30 – 2:55 Jeffrey Oregero: Semiclassical Lax spectrum of Zakharov-Shabat systems with periodic potentials

2:55 – 3:20 Bingying Lu: The universality of the semi-classical sine-Gordon equation at the gradient catastrophe

1:40 – 3:20 SESSION 26, Room K: Physical Applied Mathematics – PART I/II

Chairs: Ziad Musslimani, Matthew Russo

1:40 – 2:05 Nick Moore: Anomalous waves induced by abrupt changes in topography

2:05 – 2:30 Adam Binswanger: Oblique Dispersive Shock Waves in Steady Shallow Water Flows

2:30 – 2:55 Justin Cole: Solitons and Psuedo-solitons in the Korteweg-de-Vries equation with step-up boundary conditions

2:55 – 3:20 Sathyanarayanan Chandramouli: Spectral Renormalization algorithm applied to solving Initial-Boundary value problems

1:40 – 2:05 SESSION 02, Room L: Novel Challenges in Nonlinear Waves and Integrable Systems – PART II/II

Chairs: Barbara Prinari, Alyssa K. Ortiz

1:40 – 2:05 Annalisa Calini: Integrable Evolutions of Twisted Polygons in Centro-Affine Space

2:05 – 2:30 Brenton LeMesurier: Studying DNA transcription pulses with refinements of a [Discrete] Sine-Gordon approximation

2:30 – 2:55 Deniz Bilman: Extreme Superposition: Rogue Waves of Infinite Order and the Painlevé-III Hierarchy

2:55 – 3:20 Alyssa K. Ortiz: Soliton Solutions of Certain Reductions of the Matrix Nonlinear Schrodinger Equation with Non-zero Boundary Conditions

1:40 - 3:20 SESSION 20, V/W: Dynamical Systems and integrability – Part II/II

Chairs: Nalini Joshi and Nobutaka Nakazono

1:40 – 2:05 Y. Ohta: Two dimensional stationary vorticity distribution and integrable system

2:05 – 2:30 Claire Gilson: Quasi-Pfaffians and Noncommutative Integrable Systems

2:30 – 2:55 Masato Shinjo and Koichi Kondo: A discrete analogue of the Toda hierarchy and its some properties

2:55 – 3:20 Giorgio Gubbiotti: On the inverse problem of the discrete calculus of variations

3:20 - 3:50 COFEE BREAK

3:50 – 5:55 SESSION 07, Masters Hall: Stability and traveling waves – Part VI/IX

Chairs: Bernard Deconinck, Anna Ghazaryan, Mat Johnson, Stephane Lafortune, Yuri Latushkin, Jeremy Upsal, Samuel Walsh

3:50 – 4:15 Mat Johnson: Modulational Dynamics of Spectrally Stable Lugiato-Lefever Periodic Waves

4:15 – 4:40 Chongchun Zeng: Steady concentrated vorticity and its stability of the 2-dim Euler equation on bounded domains

4:40 – 5:05 Dmitry Pelinovsky: Double-periodic waves of the focusing NLS equation and rogue waves on the periodic background

5:05 – 5:30 Keith Promislow: Bulk versus Surface Diffusion in Highly Amphiphilic Polymer Networks

5:30 – 5:55 Doug Wright: Generalized solitary wave solutions of the capillary-gravity Whitham equation

3:50 – 5:55 SESSION 05, Room F/G: Evolution Equations and Integrable Systems – PART V/V

Chairs: Alex Himonas, Curtis Holliman & Dionyssios Mantzavinos

3:50 – 4:15 Dionyssios Mantzavinos: Analysis of nonlinear evolution equations in domains with a boundary

4:15 – 4:40 Feride Tiglay: Non-uniform dependence of the data-to-solution map for the Hunter--Saxton equation in Besov spaces

4:40 – 5:05 Rafael Barostichi: The Cauchy problem for the "good" Boussinesq equation with analytic and Gevrey initial data

5:05 – 5:30 Renata Figueira: Gevrey regularity in time variable for solutions to the "good" Boussinesq equation.

5:30 – 5:55 Alex Himonas: The Cauchy problems for evolution equations with analytic data

3:50 – 5:55 SESSION 08, Room Y/Z: Dispersive Wave Equations and their Soliton Interactions: Theory and Applications – PART III/V

Chairs: Avraham Soffer, Gang Zhao, S. Gustafson

3:50 – 4:15 Stefanos Aretakis: Conservation laws and asymptotics for the wave equation

4:15 – 4:40 Jonas Luhrmann: Local smoothing estimates for Schrodinger equations on hyperbolic space and applications

4:40 – 5:05 Hao Jia: Quantization of energy of blow up for wave maps

5:05 – 5:30 Baoping Liu: Long time dynamics for nonlinear dispersive equations

5:30 – 5:55 Qingquan Deng: Soliton Potential Interaction of NLS in \mathbb{R}^3

3:50 – 5:55 SESSION 18, Room E: Negative flows, peakons, integrable systems, and their applications – PART IV/IV

Chairs: Stephen Anco, Stephane Lafortune

3:50 – 4:15 Daniel Kraus: Hamiltonian structure of peakons as weak solutions for the modified Camassa-Holm equation

4:15 – 4:40 Wenhao Liu: Some new exact solutions for the extended (3+1)-dimensional Jimbo-Miwa equation

4:40 – 5:05 Vesselin Vatchev: Some Properties of Wronskian Solutions of Nonlinear Differential Equations

3:50 – 5:55 SESSION 01, Room J: Nonlinear Waves – PART II/II

Chairs: Min Chen

3:50 – 4:15 Douglas Svensson Seth: Three-dimensional steady water waves with vorticity

4:15 – 4:40 Shenghao Li: Lower regularity solutions of non-homogeneous boundary value problems of the sixth order Boussinesq equation in a quarter plane

4:40 – 5:05 Hongqiu Chen: Well-posedness for a higher-order, nonlinear, dispersive equation: new approach

5:05 – 5:30 Shu-Ming Sun: Solitary-wave solutions for some BBM-type of equations with inhomogeneous nonlinearity

3:50 – 5:55 SESSION 22, Room V/W: Modern Methods for Dispersive Wave Equations – PART II/II

Chairs: Robert Buckingham and Peter Miller

3:50 – 4:15 Rowan Killip: KdV is well-posed in H^{-1}

4:15 – 4:40 Jiaqi Liu: Long time asymptotics of the defocussing Manakov system in weighted Sobolev space

4:40 – 5:05 Donatius DeMarco: Asymptotics of rational solutions of the defocusing nonlinear Schrodinger equation

5:05 – 5:30 Bob Jenkins: Semiclassical soliton ensembles and the three-wave resonant interaction (TWRI) equations

3:50 – 5:55 SESSION 26, Room K: Physical Applied Mathematics – PART II/II

Chairs: Ziad Musslimani, Matthew Russo

3:50 – 4:15 Abdullah Aurko: Time-dependent spectral renormalization method applied to Conservative PDEs

4:15 – 4:40 Constance Schober: Linear Instability of the Peregrine Breather: Numerical and Analytical Investigation

4:40 – 5:05 Ryan Roopnarain: Various Dynamical Regimes, and Transitions from Homogeneous to Inhomogeneous Steady States in Oscillators with Delays and Diverse Couplings

5:05 – 5:30 Michail Todorov and Vladimir Gerdjikov: On N-soliton interactions: Effects of local and non-local potentials

3:50 – 4:15 SESSION 04, Room L: Fractional Differential Equations – PART II/III

Chair: Andrei Ludu

3:50 – 4:15 Gavriil Shchedrin, Nathanael Smith, Anastasia Gladkina and Lincoln Carr: Generalized Euler's integral transform

4:15 – 4:40 Aghalaya Vatsala: One Dimensional Sub-Hyperbolic Equation via Sequential Caputo Fractional Derivative

4:40 – 5:05 Christina Nevshehir: The Gravity of Light Travel: Riding the Fractional Wave of a Visible Universe from h to c -squared

5:05 – 5:30 Haret Rosu and Stefan Mancas: The Factorization Method for Fractional Quantum Oscillators
5:30 – 5:55 Timothy Burns and Bert Rust: Closed-Form Projection Method for Regularizing a Function Defined by a Discrete Set of Noisy Data and for Estimating its Derivative and Fractional Derivative

3:50 – 5:55 SESSION 23, Room D: Nonlinear waves in optics, fluids and plasma – PART I/II

Chairs: Sergey Dyachenko, Katelyn Leisman, Denis Silantyev

3:50 – 4:15 Jeffrey Banks and Andre Ganesini Odu: High-Order Accurate Conservative Finite Differences for Vlasov Equations in 2D+2V

4:15 – 4:40 Pavel M Lushnikov, Vladimir E Zakharov and Nikolay M. Zubarev: Non-Canonical Hamiltonian Structure and Integrability for 2D Fluid Surface Dynamics

4:40 – 5:05 Jolene Britton and Yulong Xing: Well-balanced discontinuous Galerkin methods for blood flow simulation with moving equilibrium

5:05 – 5:30 Yulong Xing: Invariant conserving local discontinuous Galerkin methods for the modified Camassa-Holm equation

5:00 – 7:00 POSTERS: Pecan Tree Galleria

#20: Lucas Schauer and Geng Chen: Shock Formation in Finite Time for the 1-D Compressible Euler Equations

#30: Taylor Paskett and Blake Barker: Stability of Traveling Waves in Compressible Navier-Stokes

#285: Alexei Cheviakov and Caylin Lee: Nonlinear Wave Equations of Shear Radial Wave Propagation in Fiber-Reinforced Cylindrically Symmetric Media

#337: Ryan Marizza, Jessica Harris, Michelle Maiden and Mark Hoefer: Theory and Observation of Interacting Linear Waves and Nonlinear Mean Flows in a Viscous Fluid Conduit

7:00- 9:00 BANQUET

Speaker: TBA

Thiab Taha: Presentation of best Student Paper Awards

FRIDAY, April 19, 2019

7:30 – 9:30 REGISTRATION

8:00 – 9:00 KEYNOTE LECTURE 3, Masters Hall

Stefano Trillo: Nonlinear PDEs describing real experiments: recurrences, solitons, and shock waves

Chair: Gino Biondini

9:10 – 10:00 SESSION 07, Masters Hall: Stability and traveling waves – Part VII/IX

Chairs: Bernard Deconinck, Anna Ghazaryan, Mat Johnson, Stephane Lafortune, Yuri Latushkin, Jeremy Upsal, Samuel Walsh

9:10 – 9:35 Dag Nilsson: Solitary wave solutions of a Whitham-Boussinesq system

9:35 – 10:00 Ola Maehlen: Solitary waves for weakly dispersive equations with inhomogeneous nonlinearities

9:10 – 10:00 SESSION 13, Room F/G: Recent Advances in Numerical Methods of PDEs and Applications in Life Science, Material Science – PART I/II

Chairs: Qi Wang and Xueping Zhao

9:10 – 9:35 Thomas Lewis: Approximating Nonlinear Reaction-Diffusion Problems with Multiple Solutions.

9:35 – 10:00 Shuang Liu and Xinfeng Liu: Efficient and stable numerical methods for a class of stiff reaction-diffusion systems with free boundaries.

9:10 – 10:00 SESSION 14, Room K: Nonlinear Kinetic self-Organized Plasma Dynamics Driven by Coherent, Intense Electromagnetic Fields session – PART I/II

Chairs: Bedros Afeyan, Shadwick Brad, Wilkening Jon

9:10 – 9:35 Jon Wilkening, Bedros Afeyan and Rockford Sison: Spectrally Accurate Methods for Kinetic Electron Plasma Wave Dynamics

9:35 – 10:00 Bedros Afeyan and Richard Sydora: Improving the Performance of Plasma Kinetic Simulations by Iteratively Learned Phase Space Tiling: Variational Constrained Optimization Meet Machine Learning

9:10 – 10:00 SESSION 25, Room V/W: Nonlinear waves, singularities, vortices, and turbulence in hydrodynamics, physical, and biological systems – PART VI/VII

Chairs: Alexander O. Korotkevich and Pavel Lushnikov

9:10 – 9:35 Avadh Saxena and Avinash Khare: Family of Potentials with Power-Law Kink Tails

9:35 – 10:00 Taras Lakoba and Jeffrey Jewell: Higher-order Runge--Kutta-type schemes based on the Method of Characteristics for hyperbolic equations with crossing characteristics

10:00 - 10:30 COFFEE BREAK

10:30 – 12:10 SESSION 07, Masters Hall: Stability and traveling waves – Part VIII/IX

Chairs: Bernard Deconinck, Anna Ghazaryan, Mat Johnson, Stephane Lafortune, Yuri Latushkin, Jeremy Upsal, Samuel Walsh

10:30 – 10:55 Miles Wheeler: Coriolis forces and particle trajectories for waves with stratification and vorticity

10:55 – 11:20 Kristoffer Varholm: On the stability of solitary water waves with a point vortex

11:20 – 11:45 David Ambrose: Periodic traveling hydroelastic waves

11:45 – 12:10 Robin Ming Chen: Asymptotic stability of the Novikov peakons

10:30 – 12:10 SESSION 13, Room F/G: Recent Advances in Numerical Methods of PDEs and Applications in Life Science, Material Science – PART II/II

Chairs: Qi Wang and Xueping Zhao

10:30 – 10:55 Yi Sun and Qi Wang: A hybrid model for simulating sprouting angiogenesis in biofabrication.

10:55 – 11:20 Paula Vasquez and Erik Palmer: A Parallel Approach to Kinetic Viscoelastic Modelling.

11:20 – 11:45 Xiaofeng Yang: Efficient schemes with unconditionally energy stabilities for anisotropic phase field models: S-IEQ and S-SAV.

11:45 – 12:10 Qi Wang and Xueping Zhao: A Second Order Fully-discrete Linear Energy Stable Scheme for a Binary Compressible Viscous Fluid Model.

10:30 – 12:10 SESSION 08, Room Y/Z: Dispersive Wave Equations and their Soliton Interactions: Theory and Applications – PART IV/V

Chairs: Avraham Soffer, Gang Zhao, S. Gustafson

10:30 – 10:55 Leonid Chaichenets: Dirk Hundertmark, Peer Kunstmann and Nikolaos Pattakos: Knocking out teeth in one-dimensional periodic NLS: Local and Global wellposedness results

10:55 – 11:20 Nikolai Leopold and Soeren Petrat: Derivation of the Schroedinger-Klein-Gordon Equations

11:20 – 11:45 Yifei Wu: Global well-posedness for mass-subcritical NLS in critical Sobolev space

10:30 – 12:10 SESSION 04, Room K: Fractional Differential Equations – PART III/III

Chairs: Dumitru Baleanu

10:30 – 10:55 Harihar Khanal: Variable Order Differential Equations, Solutions and Applications

10:55 – 11:20 Thiab Taha: IST Numerical Schemes for Solving Nonlinear Evolution Equations and their possible applications for solving time Fractional Differential Equations

10:30 – 12:10 SESSION 25, Room V/W: Nonlinear waves, singularities, vortices, and turbulence in hydrodynamics, physical, and biological systems – PART VII/VII

Chairs: Alexander O. Korotkevich and Pavel Lushnikov

10:30 – 10:55 Stephen Gustafson, Chiral magnetic skyrmions for 2D Landau-Lifshitz equations

10:55 – 11:20 Benno Rumpf, Clebsch variables for stratified compressible fluids

12:10 – 1:40 LUNCH on your own

1:40 – 3:20 SESSION 07, Masterss Hall: Stability and traveling waves – Part IX/IX

Chairs: Bernard Deconinck, Anna Ghazaryan, Mat Johnson, Stephane Lafortune, Yuri Latushkin, Jeremy Upsal, Samuel Walsh

1:40 – 2:05: Wesley Perkins: Modulational Instability of Viscous Fluid Conduit Periodic Waves

2:05 – 2:30: Hung Le: On the existence and instability of solitary water waves with a finite dipole

2:30 – 2:55: Peter Howard: Renormalized oscillation theory for linear Hamiltonian systems via the Maslov index

2:55 – 3:20: Jiayin Jin: Invariant Manifolds of Traveling Waves of the 3D Gross-Pitaevskii Equation in the Energy Space

1:40 – 3:20 SESSION 23, Room F/G: Nonlinear waves in optics, fluids and plasma – PART II/II

Chairs: Sergey Dyachenko, Katelyn Leisman, Denis Silantyev

1:40 – 2:05 Mimi Dai: Non-uniqueness of Leray-Hopf weak solutions for 3D Hall-MHD system

2:05 – 2:30 Ezio Iacocca: A hydrodynamic formulation for solid-state ferromagnetism

2:30 – 2:55 Alexander Korotkevich: Inverse cascade of gravity waves in the presence of condensate: numerical results and analytical explanation

2:55 – 3:20 Alexey Cheskidov and Xiaoyutao Luo: Weak solutions for the 3D Navier-Stokes equations with discontinuous energy

1:40 – 3:20 SESSION 08, Room Y/Z: Dispersive Wave Equations and their Soliton Interactions: Theory and Applications – PART V/V

Chairs: Avraham Soffer, Gang Zhao, S. Gustafson

1:40 – 2:05 Scott Strong and Lincoln Carr: Nonlinear Waves on Vortex Filaments in Quantum Liquids: A Geometric Perspective

2:05 – 2:30 Svetlana Roudenko, Anudeep Kumar Arora and Kai Yang: Stable blow-up dynamics in the generalized L^2 -critical Hartree equation

2:30 – 2:55 M. Burak Erdogan, William R. Green and Ebru Toprak: The effect of threshold energy obstructions on the $L^1 \rightarrow L^\infty$ dispersive estimates for some Schrodinger type equations

2:55 – 3:20 Yanqiu Guo and Edriss Titi: Backward behavior of a dissipative KdV equation

1:40 – 3:20 SESSION 14, Room K: Nonlinear Kinetic self-Organized Plasma Dynamics Driven by Coherent, Intense Electromagnetic Fields session – PART II/II

Chairs: Bedros Afeyan, Shadwick Brad, Wilkening Jon

1:40 – 2:05 B. A. Shadwick, Alexander Stamm and Bedros Afeyan: Nonlinear Instabilities due to Drifting Species and Magnetic Fields in High Energy Density Plasmas

2:05 – 2:30 Richard Sydora, Bedros Afeyan and Bradley A. Shadwick: Impact of Cyclotron Harmonic Wave Instabilities on Stability of Self-Organized Nonlinear Kinetic Plasma Structures

2:30 – 2:55 Frank Lee, Michael Allshouse, Harry Swinney and Philip Morrison: Internal wave energy flux from density perturbations

3:20 - 3:50 COFEE BREAK

THE END