

**3rd IMA Conference on Nonlinearity and Coherent Structures**  
**Wednesday 10 – Friday 12 July 2019**  
**Northumbria University, Newcastle upon Tyne, UK**

Wednesday, July 10	
08:50 - 09:20	Registration
09:20 - 09:30	Introduction and Welcome
09:30 - 10:30	<b>Barbara Prinari</b> <i>Inverse scattering transform and soliton solutions for certain matrix nonlinear Schrödinger equations</i>
10:30 - 11:00	Coffee Break
11:00 - 11:30	Yair Zarmi <i>A new view of old equations</i>
11:30 - 12:00	Sandra Carillo <i>Modified Korteweg-de Vries matrix equation: solution examples</i>
12:00 - 12:30	James Michael Christian <i>Spontaneous patterns in discrete nonlinear Schrödinger equations: spatial instabilities in periodic optical systems</i>
12:30 - 13:30	Lunch
13:30 - 14:00	<b>Visit of the laboratories</b>
14:00 - 14:30	Theodoros Horikis <i>Light meets water in nonlocal media</i>
14:30 - 15:00	Jingsong He <i>Velocity competition in solitary wave of KP I</i>
15:00 - 15:30	Anastasiia Vasylychenkova <i>Periodic Nonlinear Fourier transform for the optical fibre nonlinearity mitigation via solution of Riemann-Hilbert Problem</i>
15:30 - 16:00	Coffee Break
16:00 - 17:00	<b>Paul Milewski</b> <i>The Complex Dynamics of Faraday Pilot Waves: A Hydrodynamic Quantum Analogue</i>
17:00 - 17:30	Yiping Ma <i>Localized states in forced oscillatory systems: a zoo of exotic snakes</i>
17:30 - 18:00	David Snee <i>Generalised Coupled Nonlinear Schrödinger Equation and its Applications to Nonlinear Mechanical Topological Insulators</i>

Thursday, July 11	
09:00 - 10:00	<b>Ken McLaughlin</b> <i>An explicit Riemann-Hilbert characterization of periodic solutions of the KdV equation</i>
10:00 - 10:30	Coffee Break
10:30 - 11:00	Alfred Osborne <i>Integrable Turbulence in the World Ocean</i>
11:00 - 11:30	Petr Grinevich <i>Cauchy problem for anomalous waves periodic initial data for the focusing Nonlinear Schrödinger equation</i>
11:30 - 12:00	Agissilaos Athanassoulis <i>The Alber equation: strong solutions, nonlinear Landau damping and Rogue waves</i>
12:00 - 12:30	Giacomo Roberti <i>Early stage of integrable turbulence in 1D-NLS equation: the semi-classical approach to statistics</i>
12:30 - 13:30	Lunch
13:30 - 14:00	<b>Visit of the laboratories</b>

14:00 - 14:30	Marc Pradas <i>Oscillatory behaviour in two-pulse dynamics in active-dissipative systems</i>
14:30 - 15:00	Rodrigo Ledesma-Aguilar <i>Drop dynamics on ultra-smooth surfaces</i>
15:00 - 15:30	Jean-Marc Vanden-Broek <i>Asymmetric gravity-capillary waves and parasite waves</i>
15:30 - 16:00	Coffee Break
16:00 - 17:00	<b>Laurette Tuckerman</b> <i>Exotic patterns of Faraday waves</i>
17:00 - 17:30	Joseph Oloo <i>Bypass Laminar-Turbulent Transition in Weakly Stratified and Three-dimensional Boundary Layers</i>
17:30 - 18:00	Ndivhuwo Mariana Musehane <i>Response of Non-Inertial Thermal Boundary Layer on an Unsteady Translating Flat Plate</i>
18:00 - 18:45	<b>Poster Session and Wine Reception</b>
18:45 - 22:00	Conference Dinner

### Friday, July 12

09:00 - 10:00	<b>Karima Khusnutdinova</b> <i>On the Ostrovsky equation and zero-mass contradiction</i>
10:00 - 10:30	Coffee Break
10:30 - 11:00	Michael Shearer <i>Properties of the BBM Equation</i>
11:00 - 11:30	Costanza Benassi <i>Thermodynamic Limit and Dispersive Regularisation in Matrix Models</i>
11:30 - 12:00	Graziano Amati <i>Memory effects in the Fermi-Pasta-Ulam Model</i>
12:00 - 12:30	Christian G Boehmer <i>Chirality in the plane</i>
12:30 - 13:30	Lunch
13:30 - 14:00	Alexandr Chernyavskiy <i>A quadratic nonlinear Schrödinger equation from the PT-symmetric ferromagnet with spin torque transfer</i>
14:00 - 14:30	Alexey Samokhin <i>Reflection and refraction of solitons by the KdV-Burgers equation in nonhomogeneous dissipative media</i>
14:30 - 15:00	Matthew Ryan Tranter <i>Scattering of Nonlinear Waves in Layered Waveguides</i>
15:00 - 15:30	Thibault Congy <i>Wave-mean flow interaction in dispersive hydrodynamics</i>
15:30 - 16:00	Coffee Break
16:00 - 17:00	<b>Gennady El</b> <i>Generalised breather gas of the focusing nonlinear Schrödinger equation</i>
17:00 - 17:30	Benoit Huard <i>Amplitude variation in nonlinear dynamical systems with multiple delays with application to glucose dynamics</i>
17:30 - 18:00	Somveer Singh <i>Application of orthogonal polynomials for nonlinear integro partial differential equation</i>