

2nd IMA Conference on Nonlinearity and Coherent Structures
Monday 19 – Wednesday 21 June 2017, UEA, Norwich, UK

PROGRAMME

Monday, June 19	
08:30	Registration (TEC Foyer)
09:15 - 09:25	Introduction and Welcome
09:25 - 09:50	Dane Grundy Decay of solitary waves, an asymptotic and numerical comparison
09:50- 10:15	Handan Borluk Stability of solitary waves of a generalized modified Korteweg-de Vries equation
10:15 - 10:45	Coffee Break (TEC Foyer)
10:45 - 11:45	Magda Carr Experimental and numerical modelling of internal solitary-like waves PLENARY LECTURE
11:45– 12:10	Yeunwoo Cho Experimental observation of gravity–capillary solitary waves generated by a moving air-suction
12:10 - 13:25	Lunch (TEC Foyer)
13:25 - 13:50	Hadi Susanto Homoclinic snaking in discrete systems
13:50 - 14:15	Rudy Kusdiantara Homoclinic snaking in Cavity Solitons with saturable nonlinearity
14:15 - 14:40	Natanael Karjanto Solitons in a chain of dimers with complex couplings as $\{PT\}$ -symmetric systems
14:40 - 15:05	Agissilaos Athanassoulis Penrose modes for the Nonlinear Schrödinger Equation and highly localized instabilities of irregular wavefields

15:05 - 15:30	Hideshi Yamane Asymptotics for the focusing integrable discrete nonlinear Schrodinger equation
15:30 –16:00	Coffee Break (TEC Foyer)
16:00 –17:00	Beatrice Pelloni The effect of boundary conditions on the integrability of PDEs PLENARY LECTURE
17:00 - 17:25	Vincent Caudrelier Towards a Hamiltonian approach to the Unified Method
17:25 - 17:50	Konstantinos Kalimeris A non-local formulation of water waves with moving boundaries
17:50 - 18:15	Anastasiia Vasylenkova Nonlinear Fourier Transformation: discrete spectrum methods analysis
18:20 - 20.00	Poster Session & Reception (TEC Foyer)

Tuesday, June 20	
09:00- 09:25	James Christian Ultrasharp Helmholtz solitons from nonlinear Maxwell's equations: the role of rotational covariance in oblique propagation problems
09:25 - 09:50	Alfred Osborne Integrable Turbulence for Soliton and Breather Gases Using Finite Gap Theory: Applications to Ocean Surface and Internal Waves
09:50- 10:15	Lucy Campbell Nonlinear dynamics of vortex Rossby waves in a cyclonic vortex
10:15 - 10:45	Coffee Break (TEC Foyer)
10:45 - 11:45	Jean-Luc Thiffeault Transport and mixing by viscous vortex rings PLENARY LECTURE
11:45– 12:10	Philip Hall Vortex-wave interactions in shear flows
12:10 - 13:25	Lunch (TEC Foyer)

13:25 - 13:50	Anna Kalogirou Interfacial instabilities in surfactant-laden two-fluid shear flows in the presence of inertia
13:50 - 14:15	Mark Blyth Solitary waves on a ferrofluid column
14:15 - 14:40	Michael Cornish Nonlinear Instabilities on an Axisymmetric Ferrofluid Jet
14:40 - 15:05	Dmitri Tseluiko Interfacial turbulence and regularisation in electrified falling films
15:05- 15:30	Radu Cimpeanu Nonlinear dynamics of inertia dominated multi-layer flows
15:30 – 16:00	Coffee Break (TEC Foyer)
16:00 – 17:00	Jean-Marc Vanden-Broeck Nonlinear water waves PLENARY LECTURE
17:00 - 17:25	Zhan Wang Stability and dynamics of capillary-gravity solitary waves
17:25 - 17:50	Prasun Ray Stability and nonlinear dynamics of gravity-driven viscoelastic film flows
17:50 - 18:15	Ruben Tomlin Control of three-dimensional waves on thin liquid films with blowing and suction
18:45 - 22.30	Conference Dinner (Sainsbury Centre for Visual Arts)

Wednesday, June 21	
09:00- 09:25	Tadas Telksnys Application of the generalized differential operator technique for the construction of analytical solutions to nonlinear ODEs and PDEs
09:25 - 09:50	Raluca Eftimie Pattern formation in nonlocal models in cell biology
09:50- 10:15	Heather Nelson On the Effect of Variability and Chain Length on Fermi, Pasta and Ulam Matrices

10:15 - 10:45	Coffee Break (TEC Foyer)
10:45 - 11:45	Arno Kuijlaars Critical phenomena in non-intersecting Brownian motions PLENARY LECTURE
11:45– 12:10	Federico Cornalba A nonlocal stochastic Cahn-Hilliard equation
12:10 - 13:25	Lunch (TEC Foyer)
13:25– 14:25	Mariana Haragus Transverse instability of capillary-gravity water waves PLENARY LECTURE
14:25 - 14:50	Anna Geyer Spectral stability of periodic waves in the generalized reduced Ostrovsky equation
14:50 – 15:15	Jack Keeler Forced solitary waves with algebraic decay at critical Froude number
15:15 – 15:40	Yair Zarmi Zooming in on spatially extended wave solutions of nonlinear evolution equations
15:40 – 16:00	Coffee Break (TEC Foyer)
16:00 - 16:25	Zhaosheng Feng Wave solutions to Kuramoto-Sivashinsky Equation
16:25 - 16:50	Evgenii Kochurin Nonlinear surface dynamics of a finite depth dielectric liquid in a strong tangential electric field
16:50 - 17:15	Colette Calmelet Invariant Surfactant Driven Flows
17:15 - 17:40	Jonah Reeger Three Dimensional Traveling Waves in Vortex Sheets
17:40 - 18:05	Roger Khayat Influence of slip on hydraulic jump formation
18:05 - 18:30	Giorgi Baghaturia Non-linear Versions of Hyperbolic Problems for the Second Order PDEs of Mixed Type

All the talks will take place in The Enterprise Centre Lecture Theatre (TEC-LT)

Posters:

1. James Christian. Dissipative solitons of space-time-symmetrized complex Ginzburg-Landau equations: generalized nonlinearity and pulse propagation
2. Yair Zarmi. A classical limit-cycle system that mimics the quantum-mechanical harmonic oscillator
3. Wedad Albalawi. Asymptotic behaviour of the ground state of quasilinear elliptic equation with a vanishing parameter
4. Robin Flohr. A splitting approach for freezing
5. Berry Bakker. Conservation laws in nonlocal equations
6. Aneet Narendranath. Nonlinear dynamics of liquid films: visualization through recurrence plots and stabilization strategy
7. Adam Yorkston. Steady solutions of an elastic cell in a fluid flow

in cooperation with the Society for Industrial and Applied Mathematics (SIAM)

