



## Workshop on Nonlinear Water Waves and Related Topics

[http://murasige.sci.ibaraki.ac.jp/WS\\_Nonlinear\\_Water\\_Waves\\_Shonan\\_Village\\_Center\\_2023.html](http://murasige.sci.ibaraki.ac.jp/WS_Nonlinear_Water_Waves_Shonan_Village_Center_2023.html)

Date : November 6 (Mon) – 10 (Fri), 2023

Place : Shonan Village Center (Hayama, Kanagawa, Japan)

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### Program with title only

#### November 6 (Mon)

14:00-14:10 *Opening*

14:10-14:50 Hidetaka Houtani (University of Tokyo)  
**Pressure field evaluation beneath nonlinear waves using the higher-order spectral method and its application to ship response simulations**

14:50-15:30 Ricardo Barros (Loughborough University)  
**Mode-2 internal solitary waves in stratified fluids**

*Coffee break*

15:50-16:30 Nicholas Pizzo  
(Scripps Institution of Oceanography, UC San Diego)  
**The role of Lagrangian drift in the geometry, kinematics and dynamics of surface waves**

16:30-17:10 Wooyoung Choi (New Jersey Institute of Technology)  
**On resonant triad interactions between surface and internal waves**

## November 7 (Tue)

9:00-9:40 Christopher Curtis (San Diego State University)  
**Modeling and Analysing Nonlinear Wave Fields**

9:40-10:20 Naoto Yokoyama (Tokyo Denki University)  
**Anisotropic energy cascade in strongly stratified turbulence**

*Coffee break*

10:40-11:20 Mitsuhiro Tanaka (Gifu University)  
**Numerical Study of Breaking Phenomena in the Fornberg-Whitham Equation**

11:20-12:00 Takeshi Kataoka (Kobe University)  
**Exponential asymptotics and related wave phenomena**

*Lunch*

14:00-14:40 Zhan Wang (Chinese Academy of Sciences)  
**Interfacial waves under horizontal electric fields: Hamiltonian structure and bifurcation of solitary waves**

14:40-15:20 Paul Milewski (The Pennsylvania State University)  
**Resonant free-surface water waves in closed basins**

*Coffee break*

15:40-16:20 Roberto Camassa (University of North Carolina)  
**Fluid-boundary interaction: confinement effects, stratification and transport**

16:20-17:00 John Grue (University of Oslo)  
**Upstream influence**

## November 8 (Wed)

9:00-9:40 Taro Kakinuma (Kagoshima University)  
**A numerical study on water wave generation due to air pressure waves**

9:40-10:20 Amin Chabchoub (Kyoto University)  
**Modulation Instability in Standing Water Waves**

*Coffee break*

10:40-11:20 Takuji Waseda (University of Tokyo)  
**Nonlinear evolution of waves propagating under sea ice**

11:20-12:00 Emilian Părău (University of East Anglia)  
**The effect of vorticity and elasticity on the stability of travelling waves in deep water**

*Lunch*

14:00-14:40 Mats Ehrnström (Norwegian University of Science and Technology)  
**On two new constructions of solitary waves of the nonlinear and nonlocally dispersive Whitham equation**

14:40-15:20 Tetsu Mizumachi (Hiroshima University)  
**Linear stability of elastic 2-line solitons for the KP-II equation**

*Coffee break*

15:40-16:20 David Ambrose (Drexel University)  
**The Hilbert transform and Birkhoff-Rott integral for non-decaying vortex sheets**

16:20-17:00 Sarbarish Chakravarty (University of Colorado, Colorado Springs)  
**A class of rational solutions of KPI**

November 9 (Thu)

9:00-9:40 Theodoros Horikis (University of Ioannina)  
**Dark-bright soliton propagation under the perturbed Manakov system**

9:40-10:20 Mark Hoefer (University of Colorado, Boulder)  
**Modulation Theory and Shallow Water Wave Interaction Problems**

*Coffee break*

10:40-11:20 Yuji Kodama (Ohio State University)  
**On oblique interactions of KP solitons**

11:20-12:00 Nail Akhmediev (Australian National University)  
**Transformation of Plane waves into Periodic Waves**

*Group photograph*

*Lunch*

*Free discussion*

*Banquet*

November 10 (Fri)

10:00-10:40 Sunao Murashige (Ibaraki University)  
**A numerical study on energy-conserving gravity currents  
past an air cavity**

10:40-11:20 Ken-ichi Maruno (Waseda University)  
**Self-adaptive moving mesh schemes for nonlinear waves  
and numerical computations**

11:20-12:00 Yasuhiro Ohta (Kobe University)  
**On Airy function type solutions of KP equation**

*Lunch*

14:00-19:00 *Free discussion & Closing*