

# Mathematics of Sea Ice and Ice Sheets

## Technical Programme

Note that the times are local to Newcastle, NSW Australia which is GMT + 11.

### MONDAY 9TH NOVEMBER, 2020

EVENING	CHAIR: MICHAEL MEYLAN	
18:30 – 19:00	Extreme waves–in–ice during a polar cyclone	Alberto Alberello
19:00 – 19:30	A comparison of finite element and traditional finite difference schemes to resolve sea ice dynamics	Carolin Mehlmann
19:30 – 20:00	Sea ice forecasting with the neXtSIM-F platform	Timothy Williams
20:00 – 20:30	Viscoelastic effects in vertical impact on floating ice	Alexander Korobkin
20:30 – 21:00	Viscous-elastic properties of sea ice: experiments and models	Aleksey Marchenko
21:00 – 21:30	Wave generation at oscillations of a cylinder in a fluid under an ice sheet near a wall	Izolda Sturova
21:30 – 22:00	Hydroelastics of an array of circular floating porous elastic plates	Siming Zheng

### TUESDAY 10TH NOVEMBER, 2020

AFTERNOON	CHAIR: ALESSANDRO TOFFOLI	
14:00 –14:30	Modelling of Elastic plate over the arbitrary bottom topography	Amandeep Kaur
14:30 – 15:00	The effect of compressed ice-shelves on acoustic-gravity wave (AGW) propagation in an ocean having elastic floor	Santu Das
15:00 – 15:30	Characteristics of flexural gravity waves near blocking point in shallow water	Susam Boral
15:30 – 16:00	Characteristics of the eigensystems for wave-ice interaction problems in the context of blocking dynamics of flexural gravity waves	Trilochan Sahoo
16:00– 16:30	Scattering of water waves by flexible porous breakwater in the presence of an elastic plate	Sofia Singla
16:30–17:00	Water waves interaction with poroelastic plate floating over undulated bottom topography	Santanu Koley
17:00 –17:30	Flexural gravity wave propagation in two-layer viscous fluid flows	Harekrushna Behera
17:30 –18:00	Bragg scattering of long waves by a semi-infinite floating ice sheet in the presence of multiple seabed undulations	Prakash Kar

## WEDNESDAY 11TH NOVEMBER, 2020

AFTERNOON	CHAIR: YURY SEPANYANTS	
14:00 – 14:30	A Numerical Study on Dynamics of Flexible Floating Plates Using Smoothed Particle Hydrodynamics	Thien Tran-Duc
14:30 – 15:00	Vibrations of Ice Shelves	Balaje Kalyanaraman
15:00 – 15:30	Complex resonant ice shelf vibrations	Luke Bennetts
15:30 – 16:00	Experimental model of wave reflection and transmission by double floating plate	Filippo Nelli
16:00 – 16:30	Wave propagation in continuous sea ice: an experimental perspective	Giulio Passerotti
16:30 – 17:00	Waves in an ice channel with a lead	Ling-dong Zeng
17:00 – 17:30	Role of damped elastic foundation on the blocking dynamics of flexural gravity wave in shallow water	Smriti Nath
17:30 – 18:00	Eigenfunction expansion for velocity potential for flexural gravity waves during wave blocking	Sunil Chandra Barma

## THURSDAY 12TH NOVEMBER, 2020

MORNING	CHAIR: LUKE BENNETTS	
8:30 – 9:00	Estimates of spectral wave attenuation in Antarctic sea ice, using model/data inversion	Erick Rogers
9:00 – 9:30	Modeling the geometry of melt ponds on Arctic sea ice	Ken Golden
9:30 – 10:00	Measurement noise and the "rollover" of wave attenuation rates in sea ice	Jim Thomson
10:00 – 10:30	Ocean wave attenuation in the Ross Sea marginal ice zone	Fabien Montiel
10:30 – 11:00	Infragravity waves, edge wave modes and leaky waves under sea ice ... fact or fiction?	Vernon Squire
11:00– 11:30	Modelling ice shelf rifts with the extended finite element method	Martin Forbes
11:30 –12:00	A physical model for the sea ice drift imposed by ocean waves	Azam Dolatshah
12:00 –12:30	Rossby waves in the ocean covered by compressed ice	Yury Stepanyants
12:30 –13:00	New methods for observing sea ice fragmentation and wave-ice interactions using satellite altimetry	Chris Horvat