



2017 WISE meeting
14-18 May 2017
University of Victoria, Victoria, B.C., Canada



Sponsored by:

Ocean Networks Canada

ASL Environmental Sciences

Rockland Scientific



Agenda

Sunday, 14 May 2017

17:30 – 21:00 **Ice Breaker Reception and BBQ at “The Grad House”**
(Halpern Centre for Graduate Studies, UVic campus)

All lectures are in the Bob Wright Centre, room A104

Monday, 15 May 2017

08.45 – 09.00 **Johannes Gemmrich**
Welcome - logistical information

Modelling – Chair: William Perrie

- 09.00 – 09.30 **Fabrice Ardhuin, Sarah T. Gille, Dimitris Menemenlis, Cesar B. Rocha², Jean Bidlot, Yves Quilfen, Bertrand Chapron, Jonathan Gula, Jeroen Molemaker**
Small scale variation of wave heights: effects of currents and winds, and available measurements
- 09.30 – 10.00 **Jean-Raymond Bidlot**
Impact of different parameterizations for wind wave input and dissipation in ECMWF Earth System model
- 10.00 – 10.30 **Jesica Meixner, Bin Liu, Hyun-Sook Kim, Arun Chawla, Avichal Mehra, Brandon Reichl, Isaac Ginis, Tetsu Hara**
Impacts of three-way coupled atmosphere-wave-ocean models during hurricane forecasts

10.30– 11.00 *Coffee Break*

Physics – Chair: Sergei Badulin

11.00 – 11.30 **Nobuhiro Suzuki and Fabrice Ardhuin**

Physical mechanisms of wave momentum and energy transfer to a vertically-sheared mean current

11.30 – 12.00 **A. Iafrati, F. De Vita, and R. Verzicco**

Numerical investigation of the effects of the wind on the breaking generated by modulational instability

12.00 – 12.30 **T. Vrecicsa and Y.Toledo**

Numerical Infra-gravity waves generation in deep water – a new triad resonance mechanism in growing seas

12.30 – 14.00 *Lunch Break*

14.00 – 14.30 **Y.Yevnin, R.Soffer, T.Vrecica, E.Kit, and Y.Toledo**

Infra-gravity waves generation, evolution and reflection – an attempt to acquire a more wholesome understanding from theoretical, modelling and field measurement perspective

14.30 – 15:00 **Takehiko Nose, Alexander Babanin, and Kevin Ewans**

Directional spreading and spectral modelling of infragravity waves

15.00 – 15.30 **TBA**

15.30 – 16.30 *Coffee Break and Poster Session*

Measurements – Chair: Peter Sutherland

16.30 – 17.00 **Filippo Bergamasco, Andrea Torsello, Mauro Sclavo, Alvise Benetazzo**

WASS: an open source pipeline for the stereo reconstruction of ocean waves

17.00 – 17.30 special lecture: **watching the sea**

Tuesday, 16 May 2017

Physics– Chair: Yaron Toledo

08.30 – 09.00 **David M. Kouskoulas and Yaron Toledo**

Effects of dual wavenumber dispersion solutions on a nonlinear monochromatic wave-current field

09.00 – 09.30 **Mark Donelan**
On the saturation/decrease of the drag coefficient in high winds

09.30 – 10.00 **Luigi Cavaleri and Luciana Bertotti**
Raining on the waves

10.00 – 11.00 *Coffee Break and Poster Session*

Ice – Chair: Jane Smith

11.00 – 11.30 **Will Perrie, Bash Toulany, Mike Meylan, Yongcun Hu, and Mike Casey**
Propagation and directional scattering of ocean waves in the marginal ice zone and neighbouring seas

11.30 – 12.00 **Peter Sutherland**
Wave forcing and ice formation in marginal ice zones

12.00 – 12.30 **Justin E. Stopa, Peter Sutherland, and Fabrice Ardhuin**
Waves in the Southern Ocean as observed by Sentinel 1 synthetic aperture radars

12.30 – 14.00 *Lunch Break*

14.30 – 17:30 *Field Trip – the boat leaves from the Inner Harbour*

Wednesday, 17 May 2017

Physics – Chair: Johannes Gemmrich

08.30 – 09.00 **Vladimir Zakharov, Donald Resio, and Andrei Pushkarev**
On ZRP wind input term consistency in Hasselmann equation

09.00 – 09.30 **Peter Janssen**
Ocean waves and extreme waves

09.30 – 10.00 **Alvise Benetazzo, Fabrice Ardhuin, Filippo Bergamasco, Luigi Cavaleri, Michael Schwendeman, Mauro Sclavo, and Jim Thomson**
On the shape and likelihood of oceanic rogue waves

10.00 – 10.30 *Coffee Break*

10.30 – 11.00 **Lev Shemer and Andrey Zavadsky**
On distinct stages in temporal evolution of water waves excited by impulsive wind forcing

11.00 – 11.30 **Gerbrant van Vledder**

A scalable method for computing quadruplet wave-wave interactions

Modelling – Chair: Jean Bidlot

11.30 – 12.00 **Jesús Portilla-Yandún, and Luigi Cavaleri**

The global signature of ocean wave spectra

12.00 – 13.30 *Lunch Break*

13.30 – 14.00 **Alex Babanin and Haoyu Jiang**

Ocean swell, how well is it modelled

14.00 – 14.30 **Jane McKee Smith, Spicer Bak, and Tyler Hesser**

Evaluation of bathymetry inversion input to a nearshore wave model

14.30 – 15.00 **Andre van der Westhuysen, Gregory Dusek, Joseph Long, Roberto Padilla-Hernandez, Michael Churma, and Jung-Sun Im**

Prediction of rip currents and erosion/overwash using high-resolution unstructured PuNSWAN

15.00 – 16.00 *Coffee Break and Poster Session*

Measurements – Chair: Alvise Benetazzo

16.00 – 16.30 **Ian Young**

Global trends in wind speed and wave height

16.30 – 17.00 **Angela Pomaro, Luciana Bertotti, Luigi Cavaleri, Piero Lionello, Jesus Portilla-Yandun**

Long-term wave measurements in a climate change perspective.

Dinner at “LURE Restaurant & Bar” starts at 19.30

Thursday, 18 May 2017

Physics – Chair: Erick Rogers

08.30 – 09.00 **Sergei I. Badulin, Vladimir V. Geogjaev, and Vladimir E. Zakharov**

Bi-modality as an inherent feature of ocean swell

09.00 – 09.30 **Nick Pizzo and Ken Melville**

Surfing surface gravity waves

09.30 – 10.00 **Luigi Cavaleri, Luciana Bertotti, Sabique Langodan, and Paolo Pezzutto**

Grasp your chance: what a sudden shower reveals about wind wave generation

10.00 –11.00 *Coffee Break and Poster Session*

Measurements – Chair: Robert Jensen

11.00 – 11.30 **Guoqiang Liu and William Perrie**

Underwater glider measurements and simulations of storm-induced abrupt upper ocean mixing

11.30 –12.00 **Remi Chemin, Christopher Lineau, and Guillemette Caulliez**

Space-time measurements of breaking wind wave slopes

12.00 –12.30 **Seth Zippel and Jim Thomson**

Wave breaking over vertically sheared currents

12.30 – 14.00 *Lunch Break*

Measurements and Remote Sensing – Chair: Jim Thomson

14.00 –14.30 **R.E.Jensen, T.J.Hesser, and V.Swail**

What every wave measurement user should know

14.30 – 15.00 **Nelson Violante-Carvalho, Cristhian Valladares, and Jesús Portilla-Yandún**

A hybrid physical-statistical algorithm for SAR wave spectra quality Improvement

15.00 – 15.30 **Susanne Lehner**

Short Ocean Waves in variable conditions measured by SAR

15.30 – 16.00 *Coffee Break*

16.00 – 17.00 **Alessandro Toffoli**

The Antarctic adventure

17.00 - *Meeting Closed*

Posters (listed in alphabetical order)

L.Aouf, S.Law-Chune, A.Dalphine, and H.Giordani

Swell influence on ocean/wave coupling watched by SAR spectra from Sentinel-1

F.Barbariol, J.H.G.M.Alves, A.Benetazzo, J.Gemrich, M.Sclavo, A.Chawla, R.Campos, J.Thomson, and L.Cavaleri

WAVEWATCH III global simulations of space-time extreme waves: a preliminary study

F.Barbariol, J.Portilla, A.Benetazzo, L.Cavaleri, M.Sclavo, and S.Carniel

Statistical approaches for studying the wave climate of crossing-sea states

A.Benetazzo, F.Serafino, F.Bergamasco, F.Barbariol, G.Ludeno, S.Carniel, and M.Sclavo

Stereo and X-band radar observations of sea surface waves: a comparison towards an integrated system

J.-V.Bjorkvist, K.K.Kahma, H.Pettersson, H.Jokinen, and T.Roine

Classifying shapes of wave spectra in archipelagos

A.Brown, and J.Thomson

Histograms of buoy motion as a metric for wave breaking

M.A.Bryant, and R.E.Jensen

Accurately measuring surface gravity waves: do size and composition matter?

M.Casas-Prat, X.L.Wang, and N.Swart

Possible future regional wave climate in the Arctic Ocean

G.Caulliez, and Remi Chemin

Laboratory observations of small-scale wind-driven wave roughness

P.Chernyshov, and Y.Toledo

Possibilities of shearing current profile reconstruction from X-band radar images

A.Chernyshova, and L.Shemer

Nonlinear spatial evolution of an initially narrow banded wave train

K.H.Christensen, A.Carrasco, J.-R.Bidlot, and O.Breivik

The “shallow-waterness” of the wave climate in European coastal regions

W.Fujimoto, and T.Waseda

Utilization of buoy record for estimation of observed freak waves

C.Gebhardt, J.-R.Bidlot, S.Jacobsen, and S.Lehner

Arctic sea states and wind observed by the TerraSAR-X satellite and comparison to model forecast

V.Geogiaev

The Hasselmann equation in action using families of quadruplet interactions to achieve performance in wind wave modeling

V.Grigorieva, and S.I.Badulin

Finding a balance between wave physics and wave data

T.Kim, and J.Lee

Directional wave spectrum analysis near the path of typhoon Bolaven

S.Kuznetov, and Y.Saprykina

Evolution of wave spectra with Benjamin Feir instability from deep to shallow water

S.Kuznetov, and Y.Saprykina

Multi-decadal fluctuations of storminess of Black Sea due to teleconnections patterns

A.M.Kuznetsova, A.S.Dosaev, G.A.Baydakov, V.V.Papko, D.A.Sergeev, and Yu.I.Troitskaya

Modeling of wind waves on the reservoir within adjusted WAVEWATCH III model

J.-G. Li

Arctic regional wave model on rotated spherical multiple-cell grid

Y.(Andy)Lin, D.B.Fissel, and E.Ross

Extreme wave events in Chatam Sound Inland Sea

G.Liu, and W.Perric

Underwater glider measurements and simulations of storm-induced abrupt upper ocean mixing

M.Markina, A.Gavrikov, S.K.Gulev, and N.Tilimina

A 25 year hindcast of the North-Atlantic Ocean

K.G.Parvathy, and P.K.Bhaskaran

Wind wave spectral characteristics for a mangrove dominated deltaic coast – a case study

A.Patra, and P.K.Bhaskaran

Numerical modeling of energy distribution due to non-linear wave-wave interaction over head Bay of Bengal

P.Pezzutto, and A.Saulter

Proposal of a composed skill for wave forecast verification based on spectral moments

H.Rapizo, and A.Babanin

Improvements in wave modeling in conditions of adverse currents

B.Robertson

A wave hindcast for British Columbia

L.Robles, F.J.Ocampo-Torres, and H.Branger

Total kinetic energy associated to wave and current evolution under accelerated wind conditions

W.E.Rogers

Mean square slope (and similar parameters) in SWAN

The SKIM team

New and future satellite mission: measuring waves and currents from space

E.Stanev, and S.Grashorn

Wave-current interactions and their impact in the regions of fresh water influence

J.E.Stopa, F.Ardhuin, M.Huchet, and M.Accensi

A consistent Climate Forecast System Reanalysis wave hindcast (1979-2016)

J.Thomson, J.Gemrich, and F.Ardhuin

Are wave groupier in partial ice cover?

A.Toffoli, K.Reichert, K.MacHutchon, L.Bennetts, S.Lehner, and A.Babanin

Sailing the Southern Ocean: the Antarctic circumnavigation expedition

A.Tubbs

Nearshore forecasting using spectral analysis

O.Vaha-Pikkio, J.-V.Bjorkqvist, L.Tuomi, and V.Alari

Comparing two spectral wave models with observations from a coastal archipelago

N.Violante-Carvalho

Satellite observations of swell diffraction

T.Waseda, A.Webb, J.Inoue, K.Sato, A.Kohout, B.Penrose, and S.Penrose

The open ocean wave observation in the Arctic in Summer 2016

Q.Zhang, J.Monbaliu, and E.Toorman

Towards spectral modeling of infragravity waves

B.Zhao, F.Qiao, L.Cavaleri, G.Wang, L.Bertotti, and L.Liu

Sensitivity of typhoon modeling to surface waves and rainfall