

**Alvise Benetazzo** received his PhD in Environmental Engineering (thesis “Measurement of water surface wave fields using a non-intrusive method based on a stereo-matching algorithm”) at the University of Padua and is currently Senior Scientist (‘Primo Ricercatore’) at the Institute of Marine Sciences (ISMAR) of the Italian National research Council (CNR) in Venice, Italy. Dr. Benetazzo participated as coordinator and partner at International and National research projects (success rate > 40%), dealing with the modelling and observations of extreme wave events, climatological analyses of the metocean climate, and air-sea interaction processes. Dr. Benetazzo has published over 73 papers in refereed journals and has been program chair of various international conferences.

#### **BIBLIOMETRIC INDICATORS (12 Oct 2021)**

- Google Scholar. Citations: 2412, H-index: 28
- Scopus. Citations: 1780, H-index: 25

#### **RESEARCH INTERESTS**

- Wind waves and their impact on ocean circulation and air-sea fluxes.
- Upper-ocean, lower-atmosphere dynamics, especially related to the formation of marine storms.
- Extreme events in the ocean-atmosphere coupled system, like Mediterranean hurricanes.
- Wave observations also with innovative measurement systems. Sensors’ development and assessment. Remote sensing of environment.
- Computer Vision image analysis: stereo reconstruction, image registration, large-scale PIV.

#### **FUND RAISING (Italian and International)**

- 2020-2022. Principal Investigator of the bi-lateral CNR/JSPS (Japan) project “Extreme oceanic waves during tropical, tropical-like, and bomb cyclones” (EOLO- 1).
- 2020. Principal Investigator of the project “Analysis of stereo wave data collected from the Ekofisk platform (StereoWaves)”, funded by the Norwegian Meteorological Institute.
- 2019-2022 Partner of the project Natural Environment Research Council (NERC) AWARD “Quantifying Oceanic Whitecap Energy Dissipation and Bubble-Mediated Air-Sea Fluxes”, coordinated by [REDACTED], Civil & Environmental Engineering, Imperial College of Science, Technology and Medicine, London, UK.
- 2019-2020. Co-Principal investigator of the project PELMO (PrevisionE nell’aLto adriatico del Moto Ondoso, Wave forecast in the northern Adriatic Sea), funded by the Municipality of Venice, Italy.
- 2019. Principal Investigator of the Project “ASTRO-WAVES: Analysis of stereo-wave data for the detection of maxima and rogue waves”, funded by the Korea Institute of Ocean Science and Technology (KIOST), Republic of Korea.
- 2018-2020. Principal Investigator of the Project “largest waves in marine environment: new products for wave model forecast (LATEMAR)” funded by the European Commission, Copernicus Marine Environment Monitoring Service (CMEMS).
- 2018. Principal Investigator of the Project “Analysis of stereo wave imaging data for the characterization of rogue waves during extreme wave conditions, including typhoons” funded by the Korea Institute of Ocean Science and Technology (KIOST), Republic of Korea.
- 2017. Principal Investigator of the Project “Design of a stereo wave imaging system to be installed at the Ieodo-ORS for space-time observation of oceanic waves” funded by the Korea Institute of Ocean Science and Technology (KIOST), Republic of Korea.
- 2017-2018. Coordination for ISMAR-CNR activities in the project LabexMER “WAVESCALE”. Call: Appel A Projets Sur Thematiques « Emergentes » Ou « Inter-

Axes ». Coordinator: L'Institut Français de Recherche pour l'Exploitation de la Mer (IFREMER).

- 2016. Principal Investigator of the Research Action “Sistemi evoluti di rilevazione onde estreme” (“Observational systems for the detection of oceanic extreme waves”) in the Flagship Project RITMARE - Italian Research for the Sea - coordinated by the Italian National Research Council and funded by the Italian Ministry of Education, University and Research within the National Research Program 2011–15.
- 2016. Co-Principal Investigator of the project “Expert assistance in relation to accident 30.12.2015”, funded by COSL Drilling Europe AS.
- 2015-2016. Co-Principal Investigator of the project “Adeguamento della via acqua alla Stazione passeggeri di Stazione Marittima di Venezia – Attività per valutazione di impatto ambientale” (“Assessment of the new waterway to the Venetian harbor”), funded by the Venice Port Authority, Italy.
- 2012-2015. Principal Investigator of the Research Action “Sviluppo di sistemi ottico-stereofotogrammetrici per la misura di spettri ondosi da piattaforme fisse e da navi” (“Development of stereo imaging systems for the observation of wave spectra from fixed and moving platforms”) in the Flagship Project RITMARE - Italian Research for the Sea - coordinated by the Italian National Research Council and funded by the Italian Ministry of Education, University and Research within the National Research Program 2011–15.
- 2012-2015. Principal Investigator of the Research Unit “Modellistica di supporto alle infrastrutture costiere e off-shore” (“Numerical modeling in support of the design of coastal and off-shore structures”) in the Flagship Project RITMARE - Italian Research for the Sea - coordinated by the Italian National Research Council and funded by the Italian Ministry of Education, University and Research within the National Research Program 2011–15.
- 2012-2014. Principal Investigator of the Italy-Israel bi-lateral project “A Novel Stereo Image Method For Determination Of Statistics, Spectra And Dissipation Rates Of Ocean Waves”, funded by the Italian Ministry of Foreign Affairs and the Israeli Ministry of Science and Technology.
- 2011. Principal Investigator of the project “WASS measurements of sea surface waves from a moving boat”, funded by L'Institut Français de Recherche pour l'Exploitation de la Mer (IFREMER).

## **NATIONAL AND INTERNATIONAL AWARDS AND PRIZES FOR RESEARCH ACTIVITIES**

- 2019-2020. EUROPEAN PARTNERS FUND Grant, Imperial College (London). Title “Using digital image-based remote sensing techniques to measure the geometric, kinematic and energetic properties of ocean waves”.
- “Best Paper of 2017 in the geoinformatics category” Journal Computers and Geosciences, for the paper Bergamasco et al., “WASS: An open-source pipeline for 3D stereo reconstruction of ocean waves.”

## **SCIENTIFIC RESPONSABILITIES AND ADVISORY BOARDS**

- 2018-present. Responsible for CNR-ISMAR of the scientific agreement between the “First Institute of Oceanography, Qingdao, China” and the “Institute of Marine Sciences of the Italian National Research Council, Venice, Italy”, for the executions of “Advanced experiments for a better scientific and practical definition of the wind stress at the atmosphere-ocean sea surface interface”.
- 2018-2020. Advisor to the project “DIME Dimensionnement et météocean: modélisation et observations des états de mer extrêmes déferlants pour les énergies marines renouvelables”. Coordinated by France Energy Marines.
- 2019. Advisor to the project "STORMLAMP" (SStructural behaviour Of Rock Mounted

Lighthouses At the Mercy of impulsive waves) 2016-2020, EPSRC grant number EP/N022947/". Coordinated by School of Engineering, University of Plymouth, UK. Prof. Alison Raby.

- 2017-2020. Responsible for CNR-ISMAR of the scientific agreement between CNR-ISMAR and the Emilia Romagna Region (Italy) Environmental service (ARPAE) for the "Collaboration and exchange of technical and scientific knowledge, observed data and modeling tools in the context of oceanographic and meteorological modeling, forecasting and monitoring activities of physical parameters in the Adriatic Sea".

#### **INVITED SEMINARS/TALKS (SELECTED)**

- 2019/10/16. METNorway (Bergen, Norway). Title "On The Shape And Likelihood Of Oceanic Rogue Waves".
- 2019/01/12. Benetazzo, A., Kim, S.-S., Bergamasco, F., Yoo, J., Barbariol, F., Cavaleri, L., 2019. Accurate space-time observation of oceanic extreme waves using stereo wave imaging systems. PAMS 2017, 19th Pacific Asian Marginal Seas Meeting, Jeju, Korea, 11-13 April 2017.
- 2017/02/22. UK Meteorological Office MetOffice (Exeter, UK). Title "(Space-Time) Rogue Waves - From observation to modeling".
- 2017/05/11. University di Washington (Seattle, USA). Title "Phase-resolving spatio-temporal wave measurements using stereo imaging for model and laboratory studies".

#### **EDITORIAL ACTIVITIES**

- 2020–present: Editorial Board Member for the "Journal of Marine Sciences and Engineering"
- 2020–present: Editorial Board Member for the Journal "Ocean".
- 2020: Guest Editor of the Special Issue "Spatially Distributed Sea Wave Measurements" for the "Journal of Marine Science and Engineering"
- 2021: Guest Editor of the Special Issue "Air-Sea Interaction Processes during Severe Atmospheric and Oceanic Events" for the "Atmosphere"

#### **FIELD CAMPAIGNS**

- 2014, 29 January-10 February. Chief Scientist of the oceanographic campaign CARPET (North Adriatic Sea), Research Vessel "Urania". Activities: CTD casts, water turbulence, wave measurements under strongly forced wind conditions.
- 2013, 11-22 April. Scientist of the oceanographic campaign DECALOGO13 (South Adriatic Sea), Research Vessel "Urania". Activities: CTD casts, water turbulence, wave measurements under strongly dense water formation events.

#### **PUBLICATIONS**

- [https://scholar.google.com/citations?hl=it&user=1B7xX2wAAAAJ&view\\_op=list\\_works&sortby=pubdate](https://scholar.google.com/citations?hl=it&user=1B7xX2wAAAAJ&view_op=list_works&sortby=pubdate)
- <https://www.researchgate.net/profile/Alvise-Benetazzo>