

List of Publications

Journal publications

- {1} Vyzikas T, Stagonas D., Maisondieu C, Greaves D. (2021). Intercomparison of Three Open-Source Numerical Flumes for the Surface Dynamics of Steep Focused Wave Groups. *Fluids*, 6(1):9.
- {2} Higuera P., Buldakov, E. and Stagonas D. (2021). Simulation of Steep Waves Interacting with a Cylinder by Coupling CFD and Lagrangian Models. *International Journal of Offshore and Polar Engineering*. Vol. 31, Issue 01, 87-94.
- {3} V Sriram, Shagun Agarwal, Shiqiang Yan, Zhihua Xie, Shaswat Saincher,..., Stagonas D., Santiago Martelo Lopez, Aristos Christou, Pengzhi Lin, Yanyan Li, Jinshu Lu, Sa Young Hong... Guangnian Li. (2021) A Comparative Study on the Nonlinear Interaction Between a Focusing Wave and Cylinder Using State-of-the-art Solvers: Part A. *International Journal of Offshore and Polar Engineering*. Vol. 31, Issue 01, 1-10.
- {4} Esandi J.M., Buldakov E., Simons R., Stagonas D. (2020) An experimental study on wave forces on a vertical cylinder due to spilling breaking and near-breaking wave groups, *Coastal Engineering*, Vol. 162, 103778, ISSN 0378-3839.
- {5} Huang L., Tuhkuri J., I Grec B., Li M., Stagonas D., Toffoli A., Cardiff P., Thomas G. (2020) Shipping in floating ice floes: computational modelling and resistance analyses. *Marine Structures*. Vol. 74. 102817.
- {6} Stagonas D., Ravindar R., Venkatachalam S., Schimmels S. (2020) Experimental Evidence of the Influence of Recurves on Wave Loads at Vertical Seawalls Water 2020, 12, 889; doi:10.3390/w12030889.
- {7} Steer J., Borthwick A., Stagonas D., Buldakov E., van den Bremer T. (2019) Experimental study of dispersion and modulation instability of surface gravity waves on constant vorticity currents. *Journal of Fluid Mechanics*, 884, A40. doi:10.1017/jfm.2019.951.
- {8} Buldakov E., Higuera P., Stagonas D. (2019) Numerical models for the evolution of extreme wave groups. *Applied Ocean Research*. Vol. 89, Pages 128-140.
- {9} Chen L., Stagonas D., Santo H., Buldakov E., Taylor P.H., Zang J. (2019) Numerical modelling of the interaction of a surface piercing cylinder with waves on sheared currents. *Coastal Engineering*. Vol. 145, Pages 65-83.
- {10} Ransley E., S. Yan, S. Brown, T. Mai, D. Graham, Q. Ma, P.-H. Musiedlak, A. P. Engsig-Karup, C. Eskilsson, Qian Li, J. Wang, Z. Xie, V. Sriram, H. Jasak, V. Vukcevic', S. Downie, P. Higuera, E. Buldakov, D. Stagonas, Q. Chen, J. Zang, D. Greaves (2019). A blind comparative study of focused wave interactions with a fixed FPSO-like structure (CCP-WSI Blind Test Series 1). *International Journal of Offshore and Polar Engineering (IJOPE)*. ISSN 1053-5381.
- {11} Stagonas D., Buldakov E. & Simons R. (2018) On the experimental generation of focusing wave groups on following and adverse sheared currents in a wave-current flume. *Journal of Hydraulic Engineering*, Vol. 144, Issue 5, 04018016-1-11.
- {12} Vyzikas T., Stagonas D., Buldakov, E. and Greaves D. (2018). Nonlinear contributions during dispersive focusing of unidirectional wave groups in a RANS two-phase model and laboratory tests. *Coastal Engineering*, Vol. 132, Pages 95-109.
- {13} Marzeddu A., Stagonas D., Cironella X.F., Arcilla S.A. (2018). On the set-up and calibration of a pressure mapping system for measuring wave impact induced pressures. *Ocean Engineering*, 151:115 - 126.
- {14} Stagonas D., Higuera P. Buldakov E. (2017) Simulating breaking focused waves in CFD: a methodology for controlled generation to 1st and 2nd order. *Journal of waterways port coastal and ocean engineering*, Vol. 144, Issue 2, Pages 1-8.
- {15} Santo H., Stagonas D., Buldakov E. & Taylor P.H. (2017) Current blockage in sheared flow: Experiments and numerical modelling of regular waves and strongly sheared current through a space-frame structure. *Journal of Fluids and Structures*, vol. 70, 374-389

- {16} Buldakov D., Stagonas, D. & Simons R. (2017): Extreme Wave Groups in a Wave Flume: Controlled Generation and Breaking Onset. *Coastal Engineering*. Vol. 128, 75–83.
- {17} Ravindar R., Schimmels S., Venkatachalam S., & Stagonas D. (2017) Characterization of breaking wave impact on vertical walls with wave recurves. *ISH Journal of Hydraulic Engineering*, pages 1-9.
- {18} Stagonas D., Marzeddu A., Cironella X.F., Arcilla S.A. (2016) Measuring wave impact induced pressures with a pressure mapping system. *Coastal Engineering*, Volume 112, 44–56.
- {19} Buccino M., Stagonas D., & Vicinanza D. (2015) Development of a composite sea wall wave energy converter system. *Renewable Energy*, vol. 81, 509-522.
- {20} Stagonas D., Warbrick D., Muller G. & D. Magagna (2011), Surface tension effects on energy dissipation by small scale, experimental breaking waves, *Coastal Engineering*, 58(9), 826 – 836.
- {21} Simons R., A.H. Brampton, T.A. Adcock, R. Briganti, B. Carroll, F. Milne, Stagonas D.(2010), Briefing: Young Coastal Scientist and Engineers, *Proceedings of the Institution of Civil Engineers - Maritime Engineering*.
- {22} Stagonas D. & Muller G. (2007), Wave field mapping with particle image velocimetry (PIV), *Ocean engineering*, vol. 34, 1781-1785.

Journal publications: in review

Selected, recent Peer-reviewed conference papers (>37 in total, full list available on demand)

- {23} Ravindar, R., Sriram, V., Schimmels, S., & Stagonas, D. (2020). Large scale and small-scale effects in wave breaking interaction on vertical walls and recurves. *Coastal Engineering Proceedings*, (36v), papers.22.
- {24} Higuera P., Buldakov E., & Stagonas D. (2020) Simulation of steep waves interacting with a cylinder by coupling CFD and Lagrangian models. *ISOPE*, Oct. 2020, Shanghai, China.
- {25} van den Bremer, T., Steer, J., Stagonas, D., Buldakov, E., and Borthwick, A.: Experimental study of dispersion and modulational instability of surface gravity waves on constant vorticity currents, EGU General Assembly 2020, Online, 4–8 May 2020, EGU2020-2322, <https://doi.org/10.5194/egusphere-egu2020-2322>, 2020
- {26} Huang, L, Ryan, C, I Grec, B, Grech La Rosa, A, Stagonas, D., Thomas, G, Li, Z, Li, M, & Ringsberg, JW. (2020). Ship Resistance When Operating in Floating Ice Floes: A Derivation of Empirical Equations." *Proceedings of the ASME 2020 39th International Conference on Ocean, Offshore and Arctic Engineering*. Volume 7: Polar and Arctic Sciences and Technology. Virtual, Online. August 3–7, 2020. V007T07A021. ASME.
- {27} Huang L., Li M., I Grec B. Cardiff P. Stagonas D. Thomas, G (2019) Simulation of a ship advancing in floating ice floes. In: *Proceedings of the 25rd International Conference on Port and Ocean Engineering under Arctic Conditions*. *Port and Ocean Engineering under Arctic Conditions (POAC)*: Delft, The Netherlands.
- {28} Higuera P., Buldakov E., & Stagonas D. (2018) Numerical modelling of wave interaction with a FPSO using a combination of OpenFOAM and Lagrangian models. *CCP-WSI Blind Test Series ISOPE*, Sapporo, Japan. Winner the blind test competition.
- {29} Stamataki I., Zang J., Buldakov E., Kjeldsen T., Stagonas D. (2018) Study of dam break flow interaction with urban settlements over a sloping channel. *RiverFlow2018 – Lyon – Villeurbanne*, France, 5-8 Sept.
- {30} Chen L., Zang, J., Taylor, P.H., Stagonas, D., Buldakov, E. & Simons, R. (2016). Numerical investigation of unsteady hydrodynamic loads on a vertical cylinder in waves and sheared current. In: *The 31st International Workshop on Water Waves and Floating Bodies*, *IWWWFB*, Plymouth, Michigan, USA
- {31} Stagonas D., Buldakov, E. & Simons, R. (2015) Wave and current induced loads on vertical cylinders. *Proceedings of ISOPE-2015: 25th International Ocean and Polar Engineering Conference*, Kona, Hawaii
- {32} Buldakov E., Stagonas, D. & Simons, R. (2015) Lagrangian Numerical Wave-Current Flume; an extensive validation with focusing wave groups. *3^{0th} International Workshop on Water Waves and Floating Bodies*, *IWWWFB*, Bristol, UK

Scientific Reports

- {33} Ryan C., Thomas G., Stagonas D., (2020) Arctic shipping trends 2050. SEDNA: Safe maritime operations under extreme conditions: the Arctic case. Funding Scheme: H2020-MG-2016
- {34} Stagonas D., Thomas G., Ryan C. (2018) Future trends in Arctic Shipping. SEDNA: Safe maritime operations under extreme conditions: the Arctic case. Funding Scheme: H2020-MG-2016
- {35} Sutherland J., Donnai D., Clarke J., Jensen B., Hansen H.F., Kirkegaard J., Ramachandran K., Schimmels S., Marzeddu A., Gironella X., Sánchez-Arcilla A., Stagonas D., Evers K.-U., Ziemer G., Bechthold J. (2014) New techniques to assess the response of structures to waves and ice. Hydraulic Response of Structures. *EC Contract No. 261520 HYDRALAB IV*.
- {36} Stagonas D., Myers L.E., Bahaj A. (2011) Impacts upon marine energy stakeholders. *Equitable Testing and Evaluation of Marine Energy Extraction Devices in terms of Performance, Cost and Environmental Impact* (EquiMar), Grant Agreement number: 213380.
- {37} Stagonas D., Blanden L. & Bahaj A.S (2011) Carbon Footprinting and Modelling: The Key to the Low Carbon City: Report on approaches to city level carbon reduction policy initiatives. *Carbon Footprinting and Modelling: The Key to the Low Carbon City*.
- {38} Muller G. & Stagonas D. (2007) Integrated Coastal Defence: A laboratory investigation–Overview document 60p. *Prepared for RSS Consultancy*.