



Expertise areas:

- Hydrodynamics around offshore wind turbine foundations (OWT), turbulence modeling
- Sediment transport around OWTs, scour and backfilling
- Wind and wave climate statistics

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Recent Projects:

EU-FP7 Project ASTARTE (Assessment, Strategy And Risk Reduction for Tsunamis in Europe). ENV-2013.604-3 Grant No. 603839 (01/11/2013 - 31/10/2016).

EU-FP7 Project CoCoNET: Towards COast to COast NETWORKS of marine protected areas (from the shore to the high and deep sea), coupled with sea-based wind energy potential, OCEAN.2011-4, Grant No. 287844 (01/02/2012 - 31/01/2016).

EU-FP7 Project MERMAID: Innovative Multi-purpose Offshore Platforms: Planning, Design and Operation, OCEAN.2011-1, Grant No: 288710, (01/01/2012 - 31/12/2015).

Recent Publications:

- Larsen, B. E., Fuhrman, D. R., Baykal, C., and Sumer, B. M., *Numerical simulation of tsunami-induced scour around monopile foundations*. (journal paper in preparation)
- Baykal, C., Sumer, B. M., Fuhrman, D. R., Jacobsen, N. G. and Fredsøe, J. *Numerical simulation of scour and backfilling processes around a circular pile in oscillatory wave flows*. (under review by Coastal Eng.).
- Baykal, C., Fuhrman, D. R., Sumer, B. M., Jacobsen, N. G. and Fredsøe, J. (2015). *Numerical investigation of flow and scour around a vertical circular cylinder*. Phil. Trans. R. Soc. A, Volume: 373, Issue: 2033, Article No: 20140104. doi:10.1098/rsta.2014.0104
- Sumer, B. M., Baykal, C., Fuhrman, D. R., Jacobsen, N. G. and Fredsøe, J. (2014). *Numerical calculation of backfilling of scour holes*. 7th Int. Conf. on Scour and Erosion, Perth, Western Australia, 2-4 December 2014. doi:10.1201/b17703-83.
- Baykal, C., Fuhrman, D. R., Sumer, B. M., Jacobsen, N. G. and Fredsøe, J. (2014). *Numerical Modeling of Backfilling Process around Monopiles*. 34th Int. Conf. on Coastal Engineering, Seoul, Korea, 15-20 June 2014. doi:10.9753/icce.v34.sediment.22.