Ionuț-Emanuel STROESCU

PhD · Structural & Coastal Engineer · Consultancy · Project Engineer

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PROFILE

More than ten years in offshore wind across industry and academic research: 7 years as project engineer on the design and on-site installation of **fixed offshore foundations** (suction caissons, monopiles), and since 2021 project engineering for **floating offshore wind** from feasibility to detailed design.

Industrial PhD on scour development around offshore foundations; interdisciplinary practice at the interface of coastal/hydrodynamic, structural and geotechnical engineering.

Experience ranges from analysis and design documentation to technical supervision on site, supplier control and support to project managers on planning and resources.

WORK EXPERIENCE

2019.10 – present

Independent Consultant – Project Engineer · Stroescu Ionuț-Emanuel PFA
Iași, RO — remote / hybrid (most of my work experience is in Denmark and Norway)

Floating offshore wind (2021.10 – present)

- Project engineering for feasibility studies, concept studies / Pre-FEED, FEED and detailed design of floating wind projects (semi-submersible foundations).
- Design basis for floating foundations; support to load-analysis documentation; follow-up of technical documentation and project-execution documentation for EPCI contracts; drafting.
- Site engineering for an R&D floating-wind foundation project: on-site engineering support and follow-up of outfitting, assembly and installation activities.
- Assessment of seabed-fixation solutions (anchors) and associated risks; environmental data evaluation; technical support on O&M, installation, technical safety and research programs.
- Resource and project planning, directly assisting project managers and study leads; development of workflow procedures, templates and digital tools aligned with ISO certification.

Fixed offshore wind (2019.10 – 2020.07)

- Scour development analysis, load analysis and on-site installation engineering for fixed foundations: design documents, risk assessment, root-cause analysis, client support and supplier control.
- Two offshore campaigns as installation operator/supervisor for R&D and demonstration projects.

Research & civil structural work (2020 – 2023)

- 2020.07 – 2021.10: laboratory research and journal article on scour at piles of different height under cyclic (tidal) flow, with Prof. R.J. Whitehouse (HR Wallingford), published in Coastal Engineering 2023.
- 2022.01 – 2023.07: structural design of composite concrete slabs and on-site supervision of steel-structure and composite-slab execution for civil projects.

2026.02 – present

Associated University Assistant · Technical University of Iași (TUIASI), Faculty of Civil Engineering, Dept. of Structural Mechanics

- Application classes (seminars) in Theory of Elasticity and Plasticity; development of teaching material and computational examples.

2013.07 – 2019.09

Project Engineer & Scour Specialist · Universal Foundation A/S, Aalborg, DK (preceded by an internship 2012.02 – 2013.06; industrial PhD candidate 2014.03 – 2018.09)

- Analysis and technical documentation in geotechnics, structural and coastal engineering for the Mono Bucket suction-caisson foundation in fixed offshore wind.
- Scour assessment for fixed foundations under current and wave action; scour survey/bathymetry interpretation (Horns Rev II, Dogger Bank met masts); review of third-party scour-protection designs.
- Technical support to clients and third-party suppliers; analysis of offshore recorded data; development of in-house analysis and design software and workflows toward ISO 9001 certification.
- Preparation of the Danish Industrial PhD project proposal; laboratory and field work; conference papers (ISOPE, ICSE, EWEA Offshore).

EDUCATION

2014 – 2018	**Industrial PhD, Coastal Engineering** · Aalborg University, DK (with Universal Foundation A/S) Thesis: *Scour Development around Mono Bucket Foundation*. Supervisors: Prof. Peter Frigaard (AAU), Søren A. Nielsen (company). Research stage at HR Wallingford, UK. Site survey and field-data analysis, laboratory experiments and numerical analysis; courses in advanced geotechnics and renewable energy.
2011 – 2013	**MSc, Structural & Civil Engineering** · Aalborg University, DK Thesis: *Feasibility assessment of scour development around bucket foundations and rigidity effects*. Laboratory work on harbor extension and on scour/seabed erosion; courses in structural engineering, geotechnics, hydraulics & hydrodynamics, statistics.
2010 – 2012	**MSc, Structural Engineering (English program)** · Technical University of Iași, RO — completed with exams and diploma in 2012.
2006 – 2010	**BSc, Civil Engineering (English program)** · Technical University of Iași, RO · Erasmus stage at University of Las Palmas de Gran Canaria (diploma project).

COURSES & CERTIFICATIONS

2022.02	**Motion assessment of service vessels at offshore wind farms** · THE ACADEMY by DHI (online) — MIKE 21 Mooring Analysis, Frequency Response Calculator.
2018.09	**Scour Around Marine Structures** · DHI Academy with Prof. B. Mutlu Sumer.
2019.01	**GWO Basic Safety Training** · WINDA no. IS235946RO *Note: currently expired / renewing in progress.*

PUBLICATIONS

2023	Whitehouse, R.J.S.; Stroescu, E.I. — Scour depth development at piles of different height under the action of cyclic (tidal) flow. Coastal Engineering 179. doi: 10.1016/j.coastaleng.2022.104225
2018	Schløer, S.; Garcia Castillo, L.; Fejerskov, M.; Stroescu, E.; Bredmose, H. — A model for quick load analysis for monopile-type offshore wind turbine substructures. Wind Energy Science 3. doi: 10.5194/wes-3-57-2018
2016	Stroescu, I.-E.; Sørensen, L.; Frigaard, P.; Fejerskov, M. — A stream function theory-based calculation of wave kinematics for very steep waves using a novel non-linear stretching technique. ISOPE 2016. onepetro.org
2016	Stroescu, I.-E.; Frigaard, P. — Scour properties of mono bucket foundation. ICSE 2016.
2016	Stroescu, I.-E.; Frigaard, P.; Fejerskov, M. — Scour Development Around Bucket Foundations. Int. J. Offshore and Polar Engineering. doi: 10.17736/ijope.2016.cg14
2015	Stroescu, I.-E.; Frigaard, P.; Fejerskov, M. — Scour Development Around Bucket Foundations. ISOPE 2015; poster PO.074, EWEA Offshore 2015 (Scour Behaviour of Bucket Foundations).

SKILLS

Engineering	Scour assessment & protection design (fixed and floating foundations, cables, pipelines); hydrodynamic loads from waves and currents; foundation design — monopile, suction caisson / bucket, semi-submersible with mooring and anchoring; structural and geotechnical interface; risk assessment, root-cause analysis; design basis and EPCI documentation. Mapping of procedures and workflows for project execution.
Analysis & programming	MATLAB, Python, VBA/Excel, Mathcad — custom tools for wave-load evaluation, semi-empirical scour development and metocean data evaluation; Star-CCM+ (CFD of fixed foundations), OpenFOAM (basic), Abaqus/Ansys (basic); Rhino 3D & Grasshopper parametric modeling; MS Office/Visio/Project, LaTeX, Adobe InDesign/Illustrator.
Field & laboratory	Offshore installation campaigns (operator/supervisor); laboratory scour experiments — problem statement, scaling, sensors and calibration, data collection and analysis.
Management	Assisting the project managers: resource planning and allocation, on-site organization, supervision of suppliers and laboratory work; client and supplier dialogue; communication and leadership courses.
Languages	Romanian (native), English (fluent).