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# Danish Geotechnical Society Seminar

**Tuesday 24th September, 10.00 – 21.00**

Ørsted A/S  
Nesa Allé 1, Gentofte, 2820

## **Geotechnical aspects of cyclic loading for offshore wind – the next frontier** From current practice to state-of-the-art research

Ørsted is hosting a one-day conference for the Danish Geotechnical Society as well as international high-profile academics and key players in the geotechnical industry.

Topics during the day will address the response of soils and foundations to cyclic loading, with a focus on laterally loaded offshore wind foundation structures. This will include sessions which cover numerical methods for investigating the effects of lateral cyclic loading on the foundation response, current industry design practice and results from recent and ongoing state-of-the-art research. Presentations will be given by experts from across the industry with Professor Byron Byrne (Oxford University) to give a keynote lecture.

The fee for participation is DKK 1200, incl. VAT for members of the Danish Geotechnical Society and DKK 1700, for non-members. The price includes coffee, refreshments, lunch and a networking dinner to end the day.

Register for the seminar at [www.danskgeotekniskforening.dk](http://www.danskgeotekniskforening.dk) for members or by e-mail to [dgf@geo.dk](mailto:dgf@geo.dk) for non-members no later than Tuesday 17<sup>th</sup> September 2024.

### **PROGRAMME**

9.30 – 10.00	<b>Registration and coffee</b>	
10.00 – 10.15	<b>Welcome to DGF Seminar</b>	<i>Avi Shonberg (Ørsted)</i> <i>Morten A. Liingaard (DGF/ Ørsted)</i>
10.15 – 11.00	<b>Keynote address</b>	<i>Byron Byrne (Oxford University)</i>
11.00 – 11.30	<b>Coffee break</b>	
11.30 – 12.45	<b>Theoretical/numerical modelling</b>	
	Theoretical modelling of cycling using HARM	<i>Guy Houlby (Oxford University)</i>
	From advanced to simplified cyclic modelling of monopiles using implicit bounding surface plasticity	<i>Federico Pisano (NGI/TU Delft)</i>

	A design methodology for monopiles in sand and clays accounting for effects of cyclic loading	<i>Hans Petter Jostad (NGI)</i>
	Prediction of long-term deformations of offshore wind turbine foundations with a high-cycle accumulation model	<i>Felipe Prada (Aarhus University)</i>
12.45 – 13.45	<b>Light Lunch and Networking</b>	
13.45 – 14.45	<b>Physical testing</b>	
	Behavior of monopiles in sand under cyclic lateral loading – Results of 1g model tests	<i>Martin Achmus (Leibnitz University Hannover)</i>
	Monopiles in sand under cyclic loading: the impact of stress-level and loading directionality	<i>Iona Richards (Wood Thilsted)</i>
	ALPACA: Lateral cyclic field testing	<i>Ross McAdam (Ørsted),</i>
14.45 – 15.15	<b>Coffee Break</b>	
15.15 – 16.15	<b>Lateral loading in practice 1</b>	
	Addressing the Effects of Cyclic Loading in Monopile Design: Bridging Research and Practice	<i>Ana Page (NGI)</i>
	Estimating the permanent deformation of a monopile as a result of a cyclic loading event	<i>Felix Schroeder (GCG)</i>
	Cyclic Monopile Design at Ørsted: Current Practices and Future Directions	<i>Toby Balaam (Ørsted)</i>
16.15 – 16.30	<b>Short break</b>	
16.30 – 17.15	<b>Lateral loading in practice 1</b>	
	Cyclic Loading of Monopiles: Engineering Challenges and Insights from Rambøll's Experience	<i>Marco d'Ignazio (Ramboll)</i>
	An investigation on load re-distribution and partial drainage strategies for cyclic degradation of monopile based on cyclic soil contour diagrams	<i>Majid Goodarzi (COWI)</i>
17.15 – 17.30	<b>Closure</b>	
17.30 – 21.00	<b>Dinner and Networking</b>	

## Directions

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### Bus

- 150 S Nørreport - Kokkedal. Stops at Brogårdsvej / Lyngbyvej. 5 mins. time to Hagedornsvej 4.
- 169 Lyngby - Hellerup. Stops at Jægersborg station. 15 min. walk to Nesa Alle.
- 176 Emdrup Square - Gentofte st. Stops at Egebjerg nursing homes. 2 min. walk to Hagedornsvej 4.
- 179 Hellerup - Lyngby. Stops at Jægersborg station. 15 min. Walk to Nesa Alle.
- 184 Nørreport. - Holte st. Stops at Brogårdsvej / Lyngbyvej and on Lyngbyvej opposite Ørsted.
- 196 Lyngby st. - Hellerup st. Stops at Egebjerg nursing homes.

### S train

S train line E goes to Gentofte and Jægersborg st.

### Car

Helsingør motorway exit 5, both in south and northbound direction.  
Motorring 3 northbound exit 18th

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