



TWIND Short Course

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17-20 October 2022



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 857631

TU Delft

- University founded 180 years ago
- 28,000 students
- 6,500 staff



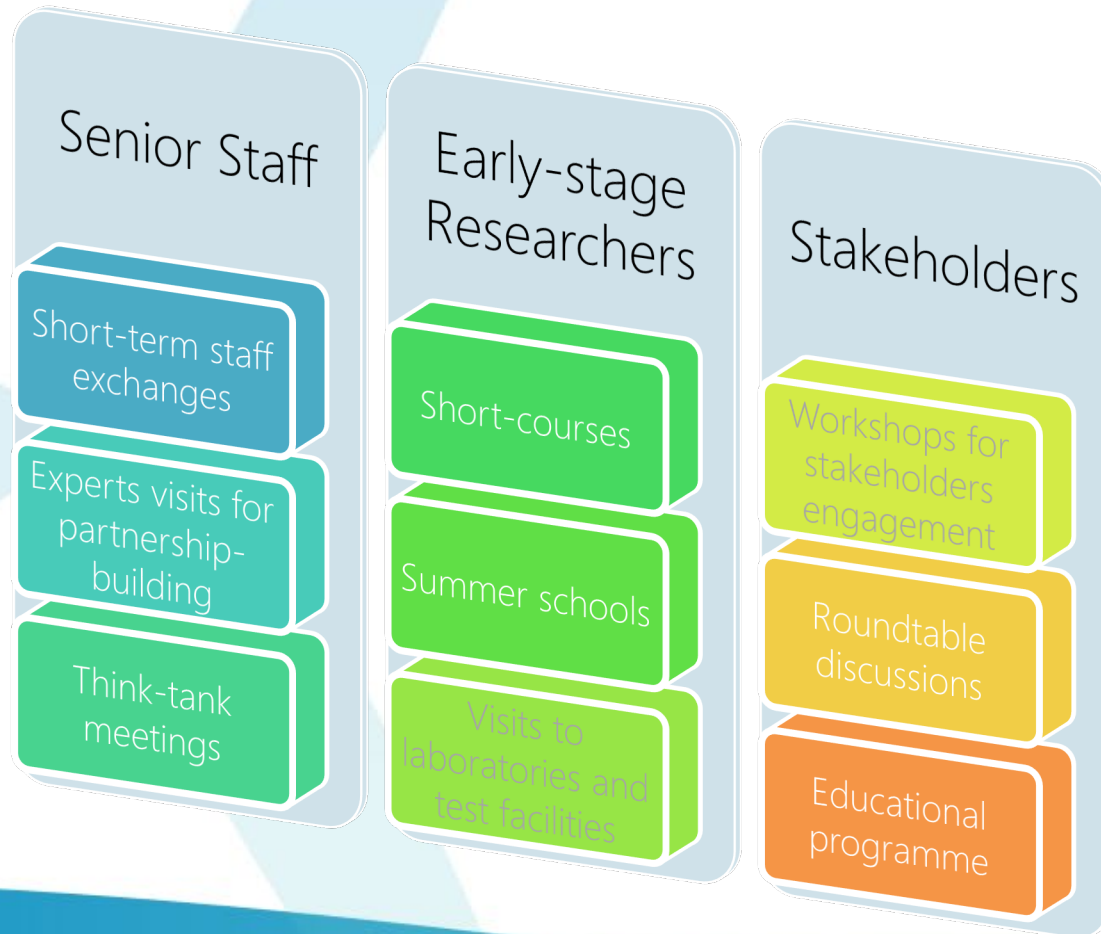
TWIND project

Twinning for an Offshore Wind Energy Partnership

- July 2019 – Dec 2022
- Enhance networking activities between research institutions of the **Widening countries** and **internationally-leading counterparts** at EU level



Target groups and activities



Short course

- Design of offshore wind turbines and farms
- Aspects of both fixed and floating wind

TWIND course - Design and testing of offshore wind turbines and farms					
	Monday 17/10 - Meeting room 1 (LR)	Tuesday 18/10 - Meeting room 1 (LR)	Wednesday 19/10 - Meeting room 1 (LR)	Thursday 20/10 - Fellowship (instruction room 5)	Friday 21/10 - Fellowship (instruction room 5)
9:30-9:45	Welcome coffee				
9:45-10:00	Welcome and course introduction (Axelle Viré)				
10:00-10:45	Trends in wind energy: future needs and challenges (Axelle Viré)	Atmospheric phenomena I (Dries Allaerts)	Floating support structures and moorings (Sebastian Schreier)		THINK TANK I2@Sea (separate registration required)
10:45-11:00	Coffee break				
11:00-11:45	Wind turbine rotor design I (drivers, objectives, process) (Dominic von Terzi)	Atmospheric phenomena II (Dries Allaerts)	Floating support structures and moorings (Sebastian Schreier)	Wind loads (Wim Bierbooms)	THINK TANK I2@Sea (separate registration required)
11:45-12:15	Discussions				
12:15-13:15	Lunch				
13:15-14:00	Wind turbine rotor design II (drivers, objectives, process) (Dominic von Terzi)	Offshore resource I (George Lavidas)	Control - fixed turbines (Jan-Willem van Wingerden)	Wind farm maintenance (Donatella Zappalá)	THINK TANK I2@Sea (separate registration required)
14:00-14:30	Discussions				
14:30-15:15	Wind farm design I (Michiel Zaaier)	Offshore resource II (George Lavidas)	Control - floating turbines (Jan-Willem van Wingerden)	Dynamics and loads I (Pim van der Male)	
15:15-15:45	Coffee break				
15:45-16:30	Wind farm design II (Michiel Zaaier)	Electrical Infrastructure (Bart Ummels)		Dynamics and loads II (Pim van der Male)	
16:30-17:00	Discussions				
Evening				Dinner	

Short course

- Design of offshore wind turbines and farms
- Aspects of both fixed and floating wind

	Monday	Tuesday	Wednesday	Thursday	Friday
9:30-9:45	Welcome coffee				
9:45-10:00	Welcome and course introduction (Axelle Viré)				
10:00-10:45	- Context (Axelle Viré)	- Wind (Dries Allaerts)	- Structure (Sebastian Schreier)	- Loads (Wim Bierbooms)	THINK TANK H2@Sea (separate registration required)
10:45-11:00	- Rotor (Dominic von Terzi)	- Waves (Dries Allaerts)	- Moorings (Sebastian Schreier)	- Dynamics (Wim Bierbooms)	THINK TANK H2@Sea (separate registration required)
11:00-11:45	- Farm (Dominic von Terzi)	- Electrical (George Lavidas)	- Control (Jan-Willem van Wingerden)	- Drive train (Wim Bierbooms)	THINK TANK H2@Sea (separate registration required)
11:45-12:15					
12:15-13:15			Lunch		
13:15-14:00			Control - fixed turbines (Jan-Willem van Wingerden)	- O&M (Donatella Zappala)	THINK TANK H2@Sea (separate registration required)
14:00-14:30					
14:30-15:15			Control - floating turbines (Jan-Willem van Wingerden)	Dynamics and loads I (Pim van der Male)	
15:15-15:45					
15:45-16:30				Dynamics and loads II (Pim van der Male)	
16:30-17:00					
Evening				Dinner	

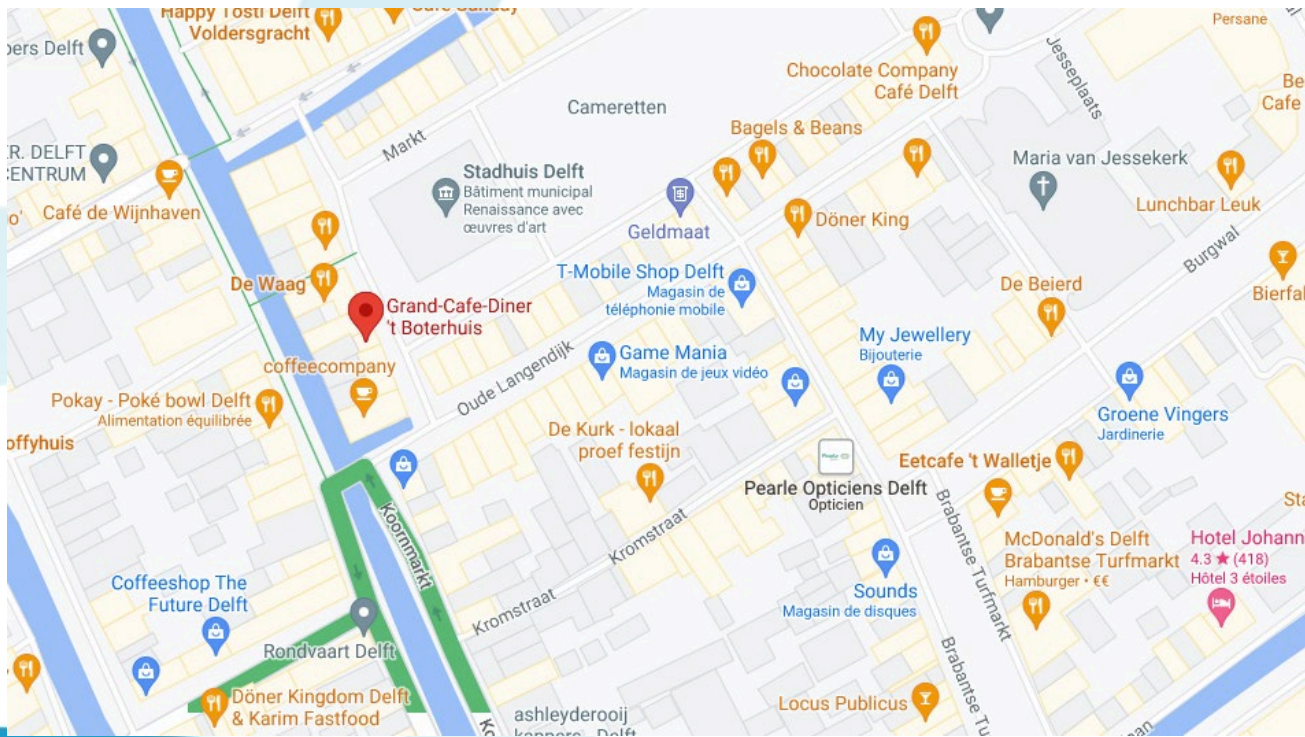
Logistics

- Lectures Monday – Wednesday
 - Meeting room 1, main building Aerospace Engineering
- Lectures Thursday
 - Fellowship building, instruction room 5 (1st floor)
- Think tank Friday
 - Fellowship building, instruction room 5 (1st floor)



Logistics

- Dinner Thursday evening: Het Boterhuis (from 19:00)



Logistics

- **Friday: think tank hydrogen with offshore wind**
 - Organised by ORE Catapult
 - Technology development
 - Modelling and simulation
 - Testin and research infrastructure
 - Best practice and sector activity



Enjoy the week!

