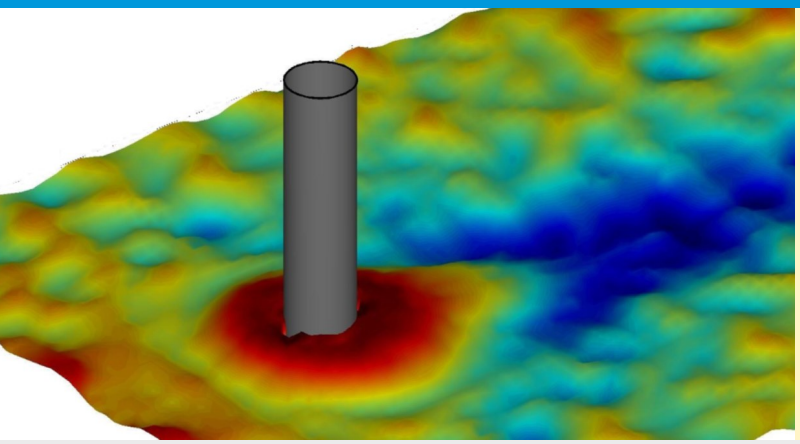
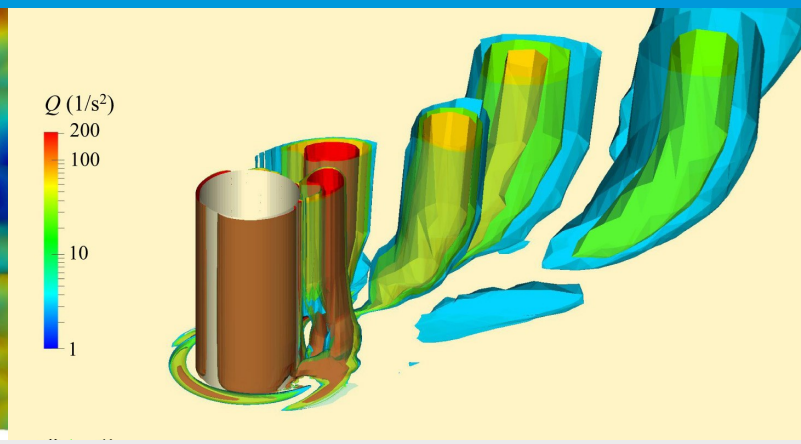
SHORT COURSE





SCOUR AROUND MARINE STRUCTURES

Dealing with scour related problems in water environments

This two-day course, jointly organised by BM SUMER Consultancy & Research and DHI, introduces you to the physics of scour and procedures of analyses related to assessing scour risk at marine structures. The focus is on scour processes in various flow environments with structures such as pipelines, piles, pile groups, breakwaters, etc.. There is particular emphasis on offshore wind turbine foundations, including on how to protect against or mitigate the scour formation by applying scour protection systems of, for instance, rock dump or mattresses. Upon completion of course the participant will be able to identify and define scour issues, assess the risk of scour and possible mitigation solutions for various types of marine structures, and obtain the recent knowledge gained over the last decade from significant development and research within the field of marine scour.

Scour is a well-known issue for hydraulic and marine engineering. Scour occurs when structures are placed on erodible beds and exposed to current and waves. The foundations of e.g. offshore wind turbines are often erected in harsh hydrodynamic environments, exposed to tidal currents and large waves individually or in combination. Therefore, it is essential to have a detailed understanding of how these hydrodynamic environments affect the structure as a whole, including the foundation and the interaction between flow, structure and sea bed to ensure short– and long–term stability.

COURSE TOPICS

- Basic concepts
- Scour under pipelines: piles/bridge piers, including large piles; pile groups/ complex structures; and breakwater and seawalls
- Numerical modelling of scour, using advanced CFD models; recent advances
- Transience in scour due to environmental forcing including long term changes, effect of migrating bed forms and seabed lowering
- Scour protection measures; static and dynamic designs of rock dump
- Dynamic responses of scour protections: (1) cover stones stability, (2) winnowing failure, and (3) Edge scour and falling apron behaviour
- Time-integrated design of scour and scour protections
- Scour assessment in MIKE21
- Various case studies
- Monitoring of scour

TARGET GROUP AND PREREQUISITES

Professionals in hydraulics, geotechnics or engineering and management, working with design, installation and commissioning of marine structures; researchers in coastal, ocean, and marine civil engineering; graduate and post-graduate students (for the latter target group, the academic workload is equivalent to 1.5 ECTS points with grades Pass/Fail).

ORGANISERS

This course is arranged jointly by BM SUMER Consultancy & Research, and DHI

DATE AND TIME

20-21 September 2018, 09:00-17:00.

LOCATION AND VENUE

Istanbul Technical University, ARI Teknokent, 34467 Sanyer, Istanbul.

FEES AND DISCOUNTS

Standard price: € 950
Discounts:

- 33% for 3rd and subsequent participants from the same company, university and academic institution
- 10% with valid Service Maintenance Agreement on MIKE Powered by DHI product
- For graduate students a limited number of scholarships are available. Your CV and a short letter of recommendation from your supervisor should be sent in

All prices are exclusive of VAT and taxes.

THE FEE INCLUDES

- Training material; hard copy of PowerPoint presentations of the lectures
- Book “The Mechanics of Scour in the Marine Environment”, by B. Mutlu Sumer and Jørgen Fredsøe, signed by Professor Sumer
- Lunch and refreshments
- Training Certificate

LANGUAGE

Lectures and training material are in English.

REGISTRATION

Registration closes 3 weeks before commencement of course. A minimum of participants are required for the course to proceed. The organisers reserve the right to reschedule the training course up to 3 weeks prior to course start.

CONTACT

Ozgur Kirca, BM SUMER Consultancy & Research
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BM SUMER
CONSULTANCY & RESEARCH

THE ACADEMY by DHI

RELATED COURSES

- BM SUMER Consultancy & Research offers an on-demand course "Liquefaction Around Marine Structures". (This course was held at the premises of BM SUMER Consultancy & Research with 19 participants from many countries on Sept. 21-22, 2017, https://goo.gl/3skE8U).

Related courses provided by DHI

- PHYSICAL MODELLING OF MARINE STRUCTURES - When, why and how!
- MIKE 21 Flow Model HD - 2D hydrodynamic modelling using 'classic' grid
- MIKE 21 Flow Model HD FM - 2D hydrodynamic modelling using flexible mesh
- MIKE 21 SW - Spectral wave modelling
- MIKE 21 BW - Wave disturbance modelling in ports
- MIKE 21 ST FM - Sand transport modelling using flexible mesh
- LITTORAL PROCESSES FM - Modelling longshore sediment transport and coastline evolution in 1D

Read more about
BM SUMER Consultancy & Research at:
www.bmsumer.com

Visit DHI's courses & events calendar for more courses:

www.theacademybydhi.com/courses-and-events-calendar

INSTRUCTORS

B. MUTLU SUMER

Mutlu Sumer was previously Professor at the Technical University of Denmark. He is the founder of BM SUMER Consultancy & Research.

He is one of the leading scientists in the world in seabed-structure interaction including scour, liquefaction, forces on and hydroelastic vibrations of cylindrical structures, and sediment transport.

Author of the book: "The Mechanics of Scour in the Marine Environment", World Scientific, by B. M. Sumer and J. Fredsøe

V.S. OZGUR KIRCA

V.S. Ozgur Kirca is an Associate Professor at Istanbul Technical University. He is the co-founder of BM SUMER Consultancy & Research. He has been actively involved in research and consultancy in different aspects of Coastal, Offshore, and Hydraulic Engineering.

THOR UGELVIG PETERSEN

Thor Ugelvig Petersen is Head of Department for Ports and Offshore Technology with DHI.

Thor is a specialist in scour and scour protection for marine, coastal and offshore structures and have been working with design, consultancy and research on the topics internationally for more than 8 years.

He has been involved in several research projects and product development for DHI in the world-leading marine modelling software MIKE.

"THE ACADEMY BY DHI" AND "BM SUMER CONSULTANCY & RESEARCH"

DHI and BM SUMER are both independent consultancy and development institutions that operate globally. DHI's core competences and expertise are water and environment. BM SUMER Consultancy & Research, located in Turkey, are at the forefront of fundamental and applied research in coastal, offshore, hydraulic, river, environmental, and marine civil engineering. Both institutions have strong links to academia, including universities and knowledge sharing institutions, and promotes relations between consultancy and research.

The goal of this joint course is to build capacity and develop knowledge. The course is targeted at engineers, mariners, water managers and other professionals as well as students and researchers.

Our instructors are experienced professionals, many of whom are recognised international experts within their fields. The use of highly skilled trainers guarantee the quality of our courses.

Learn more about THE ACADEMY on www.theacademybydhi.com and BM SUMER Consultancy & Research on www.bmsumer.com

PARTNER COORDINATES

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