



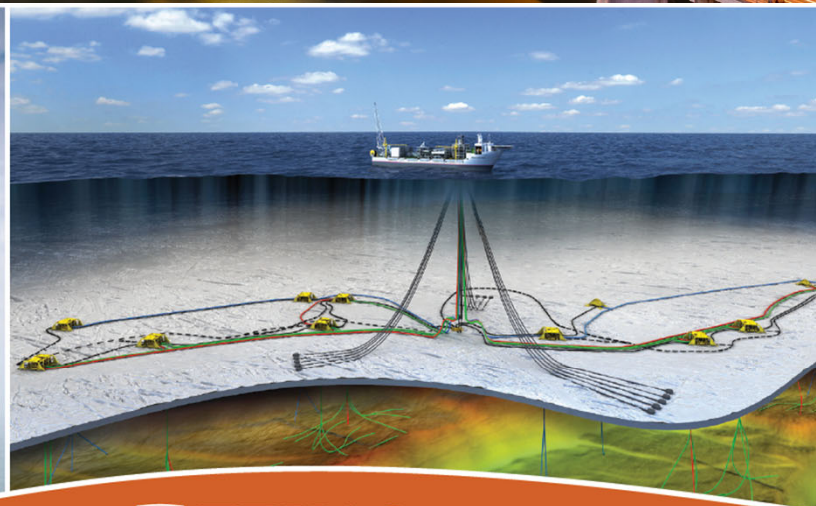
Austin, Texas, USA | ~~August 16-19, 2020~~ | November 8-11, 2021

4th International Symposium on Frontiers in Offshore Geotechnics

PROCEEDINGS

Editor: Zack Westgate

Issued on August 16, 2020



Hosted by  **TEXAS**
The University of Texas at Austin

www.isfog2020.org

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Preface

The Fourth International Symposium on Frontiers in Offshore Geotechnics, ISFOG 2020, hosted by The University of Texas at Austin, follows the success of the previous three symposia hosted by the Norwegian Geotechnical Institute in Oslo, Norway in 2015 and by the Center for Offshore Foundation System at the University of Western Australia in Perth, Australia in 2005 and 2010.

We are very excited about the ISFOG 2020 proceedings. They represent the fantastic passion and energy of the offshore geotechnics community and provide guidance and knowledge that will push the frontiers and advance our profession. We have modernized how the proceedings are issued such that they are available only in electronic format, which improves sustainability and facilitates sharing and data mining.

The classic themes of the previous symposia are still included as they remain relevant to the offshore oil & gas and renewable energy sectors. They include axial and lateral pile responses, foundation installation and extraction, geohazards and integrated studies, in situ and laboratory testing, pipelines, risers, and cables, risk and reliability, shallow foundations, site characterization, soil behavior and modelling, and spudcans. They form the bulk of these proceedings and are addressed in keynote lectures on whole-life design, axial pile capacity in sands, and sediment transports and scour in the ocean environment. Furthermore, in a truly special keynote lecture, Prof. Mark Randolph shares his career reflections and lessons learned through his lifetime of offshore geotechnics.

We also look to the future and realize the emerging and soon-to-be ubiquitous place that data science and machine learning have taken in engineering globally and in offshore geotechnics in particular. This theme is represented for the first time in ISFOG proceedings and is the focus of a keynote lecture on data science applications in geo-intelligence. The lecture summarizes the outcome of a machine learning prediction event where 61 teams applied these techniques to 114 pile driving records.

We also recognize the accelerated pace of the world's energy transition towards a carbon-neutral environment and the need to transfer and apply the geotechnical skills used to develop traditional oil and gas projects to serve the needs of the offshore wind industry. This theme is well covered in the proceedings with an increased number of papers documenting the performance of offshore wind turbines and is the focus of a keynote lecture which describes how to bridge knowledge between "old and new energy projects."

In addition, ISFOG 2020 has the privilege of hosting the Fifth McClelland Lecture, which is organized by the International Society of Soil Mechanics and Geotechnical Engineering and its Technical Committee 209 on Offshore Geotechnics. The lecture, to be delivered by Dr. Ed Clukey, focuses on the role of physical modeling in offshore geotechnical engineering.

In total, these proceedings include the 5th McClelland lecture, 6 technical keynote lectures, and 196 general peer-reviewed papers from 22 different countries. Each paper was reviewed by at least two of the 208 reviewers to whom we are grateful for sparing their time to ensure the continuation of the high standard for which ISFOG has become recognized.

As we write these lines, we should be looking forward to seeing you all in person soon in Austin, Texas for the symposium. Unfortunately, the COVID-19 pandemic has forced us to delay the in-person conference to give us the best chance of having a safe gathering. ISFOG 2020, originally planned for August 16-19, 2020, has now been rescheduled for November 8-11, 2021, at the same venue, the AT&T Conference Center on the campus of The University of Texas at Austin. ISFOG 2020 will take place in 2021.

Despite the daunting challenges we faced with the pandemic, we wanted to honor our commitment to the authors of the general papers and keynote lectures that their work would be published in 2020. We therefore have worked determinedly to issue these proceedings so that the papers can be shared and referenced as per the original schedule.

We would like to recognize the leadership, dedication, and enthusiasm of the entire Organizing Committee and highlight the tremendous efforts of Dr. Zack Westgate in his role as Chair of the Technical Program and Editor of these proceedings.

We are grateful for the financial support from our sponsors and the International Society for Soil Mechanics and Geotechnical Engineering, under whose auspices this symposium is held.

We look forward to seeing you in Austin in November 2021!

Bob Gilbert and Philippe Jeanjean

August 2020



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