

See discussions, stats, and author profiles for this publication at: <https://www.researchgate.net/publication/328118714>

# Experimental Investigation of Single Batter Pile Behaviour Subjected to Lateral Soil Movement

Conference Paper · October 2018

CITATIONS

0

READS

62

4 authors:



**Osamah Salim Al-Salih**  
University of Basrah

9 PUBLICATIONS 21 CITATIONS

[SEE PROFILE](#)



**Tahsin Sabbagh**  
University of Salford

17 PUBLICATIONS 53 CITATIONS

[SEE PROFILE](#)



**Ihsan Al-abboodi**  
University of Basrah

18 PUBLICATIONS 60 CITATIONS

[SEE PROFILE](#)



**Wisam Alawadi**  
University of Basrah

10 PUBLICATIONS 11 CITATIONS

[SEE PROFILE](#)

Some of the authors of this publication are also working on these related projects:



Application of the Shiono and Knight Model in Asymmetric Compound Channels with Smooth and Rough Narrow Floodplains [View project](#)



Effect of Confinement on the Bearing Capacity and Settlement of Spread Foundations [View project](#)

# Session 4

**Tips: The schedule for each presentation is for reference only. In order not to miss your presentation, we strongly suggest you attend the whole session.**

**Afternoon, September 27, 2018 (Thursday)**

**Time: 16:00~18:00**

**Venue: *post-degree classroom* (Building 5)**

**Session 4: 8 presentations- Topic: “Civil and Structural Engineering”**

**Session Chair: Assoc. Prof. Marina Rynkovskaya**

S0001 Presentation 1 (16:00~16:15)

Experimental Investigation of Single Batter Pile Behaviour Subjected to Lateral Soil Movement

**Osamah Alsalih**, Tahsin Toma-Sabbagh, Ihsan Al-Abboodi and Wisam Alawadi

University of Salford, UK

*Abstract*—A series of laboratory tests on single batter model pile embedded in sand under lateral soil movement were performed. This study concerned with investigating the effect of key parameters on the behaviour of the batter pile. These parameters include batter angle, pile head boundary conditions, pile diameter, sand density, profile of lateral soil movement and thickness of moving soil mass. The effect of these parameters on the lateral response of such piles was examined in terms of lateral displacement and rotations at the pile head as well as bending moment, shear force and deflection measured along pile length. The test results show that, regardless of the shape of the soil movement profile, the maximum bending moment increases as the pile diameter and the sand density increase. Moreover, it was found that the maximum bending moment significantly relies on pile batter angle. The magnitude and the shape of the bending moment profiles induced along the pile length depend on the pile head fixity condition and the ratio of the depth of moving to stable soil layers.