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MÜHENDİSLİK VE MİMARLIK
FAKÜLTESİ

e-bülten

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MÜHENDİSLİK VE MİMARLIK FAKÜLTESİ

e-bülten

İş birlikleri

Dekan Hocamız Prof. Dr. Galip CANSEVER, Pakistan Bahria Üniversitesi ile “International Conference on Recent Advancement in Computer and Engineering Technologies (ICRACE'24)” isimli konferansın hazırlıkları için toplantı düzenlemiştir. Bu yıl 26-27 Aralık 2024 tarihlerinde gerçekleşmesi planlanan ICRACE'24, Islamabad'daki Bahria Üniversitesi ve Altınbaş Üniversitesi'nde eş zamanlı oturumlar düzenlenerek karma bir formatta düzenlenecek.



YAYIN KURULU

Prof. Dr. Çağrı
ERHAN
(Rektör)

Prof. Dr. Galip
Cansever
(Mühendislik ve
Mimarlık Fakültesi
Dekanı)

Prof. Dr. Yasa
EKŞİOĞLU ÖZOK

Doç. Dr. Hakan
KAYGUSUZ

YAYINA HAZIRLAYAN

Arş. Gör. Burcu ORHAN

Öğr. Gör. Merve ÇİLTAS

Yayınlar

Dr. Öğr. Üyesi Mohsen SEYEDI'nin "A Numerical Assessment of the Efficiency of Partial Saturation as a Countermeasure Against Liquefaction-Induced Uplift of Tunnels" başlıklı makalesi SCI ve Q2 olan Journal of Earthquake Engineering dergisinde yayımlanmıştır.

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A Numerical Assessment of the Efficiency of Partial Saturation as a Countermeasure Against Liquefaction-Induced Uplift of Tunnels

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ABSTRACT

Tunnels located in liquefiable soils are prone to flotation following earthquakes. When the shaking-induced pore water pressure buildup continues, saturated soil surrounding the tunnels liquefies, flotation occurs and the soil loses its shear resistance against the uplift force from the buoyancy of the tunnel. Mitigation of liquefaction-induced uplift of tunnels is one of the concerns of geotechnical engineers. This article aims to investigate the efficacy of the available mitigation techniques using a finite element program with an emphasis on the prediction of excess pore water pressures in the surrounding soil and the uplift of the tunnel. In addition to the conventional techniques, a newly developed technique "Partial Saturation" was modeled to examine its effect on the reduction of the tunnel uplift. A parametric study was done to compare the effectiveness of partial saturation with other mitigation techniques. Results showed that the partial saturation technique would effectively dissipate the excess pore water pressure in the soil around the tunnels. It also performs well in the reduction of the uplift of the tunnel. The most appealing advantage of this technique against the other available mitigation techniques is that it can be employed easily without disturbing the soil around the tunnels. A new methodology to numerically simulate the partially saturated sands was described in this paper.

ARTICLE HISTORY

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Kutlamalar

- Temel Bilimler Bölümü öğretim üyesi Doç. Dr. Hakan KAYGUSUZ hocamız Piri Reis Üniversitesi'nde gerçekleşecek olan 27. Sıvı Hal Kongresi'nin düzenleme komitesine üye olmuştur. Hocamızı tebrik ederiz.
- Temel Bilimler Bölümü Dr. Öğr. Üyesi Merve BULUT YILGÖR hocamız İTÜ Bilgi Güvenliği Mühendisliği ve Kriptoloji Doktora programında gerçekleşecek olan doktora yeterlilik sınavları için jüri olarak seçilmiştir. Hocamızı tebrik ederiz.