

## JOURNAL OF

# **Engineering Mechanics**

JUNE 2017 · VOLUME 143 · ISSUE 6

# **Contents**

#### **PUBLICATIONS**

Bruce Gossett, Managing Director and Publisher

#### JOURNALS DEPARTMENT

Angela Cochran, Associate Publisher

Kelly Anderson, Managing Editor

Holly Koppel,

Managing Editor

Elizabeth Guertin, Manager, Journals Systems Administrator

Jennifer Chapman, Assistant Managing Editor

Taryn Dollings,
Editorial Coordinator

Candice G. Eccles,

Editorial Coordinator Laurie Hertneky,

Publications Coordinator

## PRODUCTION DEPARTMENT

Matt Boyle, Director

Michael Gentry, Workflow Manager

Rajashree Ranganathan, Senior Manager

Heather DiAngelis, Assistant Manager

Patricia Jones Kershaw, Senior Production Editor

DeAndréa Johnson, Production Editor

Hannah Patterson,

Production Editor
Katie Thacher,

Production Editor

Xi Van Fleet, Senior Manager, Information Services

#### SPECIAL COLLECTION ANNOUNCEMENT

The 60th Anniversary of the Journal of Engineering Mechanics Roberto Ballarini

#### **TECHNICAL PAPERS**

A Wiener Path Integral Solution Treatment and Effective Material Properties of a Class of One-Dimensional Stochastic Mechanics Problems

loannis A. Kougioumtzoglou

Modeling Load-Displacement Hysteresis Relationship of a Single-Shear Nail Connection 04017015
Hyungsuk Lim, Frank Lam, Ricardo O. Foschi, and Minghao Li

02017001

04017014

04017017

04017019

04017023

04017024

Poroelastic Dual-Porosity Dual-Permeability Simulation of Pressure Transmission 04017016
Test on Chemically Active Shale

Chao Liu, Son K. Hoang, Minh H. Tran, Younane N. Abousleiman, and Russell T. Ewy

Computationally Efficient Finite-Element Modeling of Braided Inflatable Structural Members with Axial Reinforcing

Andrew C. Young, William G. Davids, Andrew J. Goupee, and Joshua D. Clapp

Foundation Voiding in Jointed Plain Concrete Pavements

Changwei Xu and David Cebon

04017018

Postbuckling Snaking of Axially Loaded Infinite Beam on Nonlinear Foundation with Restabilizing Effects

Guotao Yang and Mark A. Bradford

Experimental Study of Crack Identification in Thick Beams with a Cracked Beam 04017020 Element Model

Chuanchuan Hou and Yong Lu

Solution of Liquid-Gas-Solid Coupled Equations for Porous Media Considering Dynamics 04017021 and Hysteretic Retention Behavior

Dorival M. Pedroso, Yunpeng Zhang, and Wolfgang Ehlers

Modeling and Mesoscale Simulation of Ice-Strengthened Mechanical Properties 04017022 of Concrete at Low Temperatures

Fuyuan Gong, Yi Wang, Tamon Ueda, and Dawei Zhang

Determination of Cation Exchange Capacity from Soil Water Retention Curve Morteza Khorshidi and Ning Lu

Bimoment Contribution to Buckling of Thin-Walled Beams with Different Boundary Conditions

A. Prokić, R. Mandić, and M. Bešević

Application of a Precoated Permeable Layer to a Pipeline Partially Buried 04017025 in a Porous Seabed

Hsin-Yu Chang, Liang-Hsiung Huang, Meng-Yu Lin, and Kao-Hao Chang

Exact Solution to Navier-Stokes Equation for Developed Radial Flow between Parallel Disks 04017026

Junke Guo, Haoyin Shan, Zhaoding Xie, Chen Li, Haijue Xu, and Jianmin Zhang

Comparison of the Rudnicki-Rice and Vermeer Bifurcation Criteria 04017027



**PUBLISHING OFFICE** 

Journals Department ASCE 1801 Alexander Bell Drive Reston, VA 20191-4382 Telephone: (703) 295-6290

E-mail: journal-services@asce.org



# JOURNAL OF

# **Engineering Mechanics**

JUNE 2017 • VOLUME 143 • ISSUE 6

|  |  |  | TES |
|--|--|--|-----|
|  |  |  |     |
|  |  |  |     |

Equivalence of Optimal Gain between  $H_2$  Norm Minimization and LQR Control of a Linear System

Sanjukta Chakraborty and Samit Ray-Chaudhuri

Active Vibration Control Design Method Based on Transfer Matrix Method for Multibody Systems

Guoping Wang, Xiaoting Rui, and Wenbing Tang

Modal Analysis of Multi-Degrees-of-Freedom Systems with Singular Matrices: Analytical

Dynamics Approach

Athanasios A. Pantelous and Antonina Pirrotta

06017003

06017004

06017005