

# 2016-2017 ASCE-GI Cross-USA Lecture

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GEO-INSTITUTE  
CHAPTERS



## Professor George Filz, Ph.D., PE

Virginia Polytechnic Institute and State University

**When: March 8<sup>th</sup>, 2017**

**Where: Steven's Steakhouse**

(5332 Stevens Place, City of Commerce; Southwest Corner of I-5 & Atlantic Boulevard)

**Schedule: 5pm- 6pm: Social Hour, 6:30 pm: Dinner, 7:30 pm: Lecture**

**Costs: \$45 with advanced reservations (until Tuesday, March 7<sup>th</sup> @ noon)**

\$50 at the door; Free for students with valid ID & advanced reservation

**Reservations and online payment possible at: <http://lageoinstitute.com/register/>**

**Question and Contact: Anne Lemnitzer (alemnitz@uci.edu)**

### Deep Mixing Method for Support of Embankments



The deep mixing method increases the strength and decreases the compressibility of soft ground, and thereby improves stability and reduces settlement of embankments, including transportation embankments, MSE retaining walls, levees, and dams. Continuous shear panels oriented perpendicular to the embankment alignment are more efficient for stability than isolated columns because shear panels are not subject to the same

type of bending failure that isolated columns can experience. Even when continuous shear panels are used, they must be designed to resist multiple failure modes. Furthermore, the strength of deep mixed ground is typically more variable than the strength of naturally occurring clay deposits. Variability can be rationally incorporated in design and specifications to permit economical and reliable application of the deep mixing method. This presentation outlines analysis and design procedures, QC/QA activities, and key specification provisions. Several example applications of deep mixing are discussed.

## About the Speaker:



George Filz is the Charles E. Via Professor of Civil Engineering at Virginia Tech, where he has been teaching and conducting research in geotechnical engineering for 27 years. Before this, he worked in private engineering practice for 8 years. His bachelor's and master's degrees are from Oregon State University, and his doctoral degree is from Virginia Tech. Professor Filz's teaching, research, and practice interests include foundation engineering, soil-structure interaction, ground improvement, and seepage barriers. He has been recognized with several awards from the American Society of Civil Engineers, including: the Middlebrooks Award, the Croes Medal, the Florida Project-of-the-Year Award, and the Wallace Hayward Baker Award. He is the 2016-2017 Cross-USA Lecturer for the ASCE Geo-Institute.

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Prof. Filz will be giving an additional lecture at UC Irvine on March 7<sup>th</sup>, 2017

### Geotechnical Engineering at Kennedy Space Center

NASA is renovating the infrastructure at Kennedy Space Center to accommodate a new generation of heavy lift space vehicles that will exceed the demonstrated capacity of existing infrastructure components. This presentation focuses on overall stability of the transporter that carries heavy lift vehicles along the crawlerway from the Vehicle Assembly Building to the launch pads, crawlerway surface treatment for track-mounted and rubber-tired transporters, Vehicle Assembly Building foundations, and stabilization of slope protection slabs to resist shaking from rocket blasts.



**When:** March 7<sup>th</sup>, 2017

**Where:** UCI Irvine, SSH 100 (Building 200 on the campus map; see link below)

**Time:** 6:30 pm- 8:00 pm (Lecture will start at 6:45pm)

**Costs:** Parking only (\$2 per hour – use Anteater parking structure APS)  
Complimentary refreshments will be served

**Campus Map:** [https://communications.uci.edu/documents/pdf/UCI\\_16\\_map\\_campus.pdf](https://communications.uci.edu/documents/pdf/UCI_16_map_campus.pdf)

**Question and Contact:** Anne Lemnitzer ([alemnitz@uci.edu](mailto:alemnitz@uci.edu)) – (310) 986 5255

*This lecture is part of Prof. Filz' official lecture series and will be given to senior undergraduate and graduate students. We invite all local engineers interested in the lecture to join. The lecture content will NOT be adjusted for student levels, but given at its original level of technicality.*