



**2012 - 2013**

*October Meeting Notice*

## **Minnesota Geotechnical Society**

### **Prediction of Sand Aging Effects**

**Dr. David Saftner, Assistant Professor**

**Department of Civil Engineering, University of Minnesota Duluth**

This presentation describes field and laboratory geotechnical investigations of time-dependent increases in the strength of sand following disturbance, a phenomenon commonly called "sand aging." While numerous case histories documenting sand aging exist, it is not completely understood. Strength increases typically manifest themselves as changes to cone penetration test (CPT) tip resistance, standard penetration test (SPT) N-value, or shear wave velocity ( $V_s$ ) with time. Because in-situ test results are commonly used for quality assurance in soil improvement, understanding their time-dependence could prevent construction delays and decrease the amount of effort required to improve soil. As part of this project, three different instrumented soil improvements were conducted, including explosive compaction, GeoPier Impact Pier installation, and induction of liquefaction using a Network for Earthquake Engineering Simulation (NEES) mobile vibroseis system. Comparing the results from these field projects and laboratory tests isolated some of the proposed aging mechanisms and allowed for the development of a more detailed sand aging prediction method than was previously available.

**Date:** Wednesday, October 10, 2012

**Location:** Rose Vine Hall (downstairs at Grumpy's Bar & Grill)  
2801 Snelling Ave. N., Roseville, MN

**Time: 6:00** Social Hour, Sponsored by Engineering Partners

**7:00** Dinner: Salad, Rolls, Coffee/Soda and a choice of:

1. 10-Ounce Top Sirloin - Char-grilled and topped with bleu cheese garlic butter. Served with white cheddar mashed potatoes and a sautéed vegetable medley – \$35.00\*
2. Stuffed Pork Chops - Two char-grilled pork chops stuffed with golden raisins, cornbread and apples – \$35.00\*
3. Feta Cheese and Sun-Dried Tomato Stuffed Walleye - Served over white cheddar mashed potatoes with a drizzle of lemon thyme butter sauce – \$35.00\*
4. Chicken Fettuccine Alfredo - Fettuccine noodles, snow pea pods, and mushrooms tossed in an Alfredo cream sauce and topped with a grilled chicken breast and parmesan cheese – \$30.00\*
5. Cobb Salad - Iceberg topped with turkey, ham, bacon, hard cooked eggs, avocado, diced tomatoes, bleu cheese crumbles, and black olives with choice of dressing (Ranch, FF Ranch, Bleu Cheese, French, FF French, Italian FF Italian, Balsamic Vinaigrette) – \$25.00\* \*See Cost

**8:00** Presentation – Dr. David Saftner, University of Minnesota Duluth  
(One professional development hour toward continuing education requirements for Professional Engineers is available).

**Cost:** Paid 2012-2013 MGS Members receive a \$5 meeting discount on the meal costs listed above. The cost to Full-time students is \$5, payable to MGS at the door.

**Reservations:** Requested by 12 Noon, Friday, October 5, 2012

Please register via the website at <http://www.mngeotechnicalsociety.com/eventsmpls.asp>

Please print, fill out and bring the New Membership Application to the next meeting. The form is at: <http://www.mngeotechnicalsociety.com/aboutmembership.asp>

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