



2015-2016

October Meeting Notice

Minnesota Geotechnical Society

Using Midas GTS to Assess Stability of Pillars in Growing Chambers of an Underground Mine

Raul Velasquez, PE

Numerical modeling for assessing stability of geotechnical structures is currently common practice among professional engineers. Available methods to practitioners include, Finite Element Method (FEM), Finite Difference Method (FDM), and Finite Volume Method (FVM). Each numerical method has its advantages and disadvantages and their suitability depends on the geotechnical application.

The intent of this presentation is to highlight some advantages and disadvantages of the FEM for geotechnical engineering applications by presenting and discussing the results of the stability assessment related to rock pillar modification in a former underground mine. Midas GTS was selected as the FEM package for its intuitive and user-friendly 3D modeling capabilities. Lessons learned from the use of Midas GTS, including guidelines on how to troubleshoot a model when facing convergence issues, will be presented.

Date: Wednesday October 14, 2015

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

Time: 6:00 Social Hour – Sponsored by Soil Engineering Testing

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 – \$40.00
2. Chicken Marsala - A chicken breast lightly breaded and drizzled with marsala wine sauce, mushrooms and onions– \$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, Fat Free Ranch, Bleu Cheese, French, Fat Free French, Italian, Fat Free Italian, Balsamic Vinaigrette) – \$25.00

8:00 Presentation – Raul Velasquez

(One professional development hour toward continuing education requirements for Professional Engineers is available).

9:00 Coffee and Dessert – Sponsored by Barr Engineering

Cost: Paid 2015-2016 MGS Members receive a \$5 meeting discount on the meal costs listed above. The cost for full-time students is \$5, payable to MGS at the door.

Reservations: Requested by 12 Noon, Friday, October 9, 2015

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