



2009 - 2010

January Meeting Notice

Minnesota Geotechnical Society

**An Explanation of Glaciotectonic Landforms with Minnesota Examples.
You can't Afford to Ignore Them.**

Dr. Carrie Jennings, Ph.D., Minnesota Geological Survey

Glaciotectonic features are structures and landforms produced by deformation and dislocation of soft bedrock and glacial sediment masses as a direct result of glacier-ice movement. They are usually located immediately in front of the ice. The normal stress gradient that results from a thinning, parabolic surface profile at the ice front can be translated to horizontal compressive stresses on the order of 900 kPa. More typical basal shear stresses imparted by the moving ice range from 50-100 kPa. Glaciotectonic features are produced where these stresses exceed the cohesion or strength of the bed material. Cohesion may be temporarily compromised by short-duration, glacial events that lead to higher pore water pressure locally.

Identification of glaciotectonic features is simply by the presence of recognizable masses of pre-existing drift or bedrock and glacially induced deformation within those masses such as folding and faulting. The style of glacier movement associated with these features was common in Minnesota during the last glaciation. Relatively fast ice flow of the ice lobes led to high subglacial water pressure that, although eventually relieved through large discharge events that created tunnel valleys, temporarily created the conditions required for pro-glacial thrusting. The St. Croix moraine has several prominent areas comprised of thrust sediment as well as Cretaceous bedrock.

Date: Wednesday, January 13, 2010
Location: Rose Vine Hall (downstairs at Grumpy's Bar & Grill)
2801 Snelling Ave. N., Roseville, MN

Time: 6:00 Social Hour, Sponsored by Braun Intertec

- 7:00** Dinner & Dessert: 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
 2. Feta Cheese and Sun-Dried Tomato Stuffed Walleye - Served over white cheddar mashed potatoes with a drizzle of lemon thyme butter sauce.
 3. Seared Chicken Parmesan - Tender chicken breast crusted with aged Parmesan cheese and rapidly seared until golden brown. Served over white cheddar mashed potatoes and a sautéed vegetable medley.
 4. Manicotti – Fresh Pasta tubes filled with ricotta, mozzarella and parmesan cheeses. Baked in marinara sauce and finished with melted mozzarella.

8:00 Presentation – Carrie Jennings, Ph.D., Minnesota Geological Survey
(One professional development hour toward continuing education requirements for Professional Engineers is available).

Cost: \$25.00 members, \$30.00 non-members, and \$5.00 Full-time students, payable to MGS at the door.

Reservations: Requested by 12 Noon, Friday, January 8, 2010
Please register via the website at <http://www.mngeotechnicalsociety.com/eventsmpls.asp>

President	Vice President	Secretary	Treasurer	Program Chair	ASCE Chair	Past President
Paul Martin	Mike Haggerty	Kurt Heckendorf	Mark Osborn	Travis Rengstorf	Joe Bentler	Gregory Norris
651-487-7084	952-832-2944	651-290-5411	507-645-0964	651-789-4667	651-603-6616	763-428-2242

<http://www.mngeotechnicalsociety.com>