

IWLSC technical programme

Sunday, 11 June 2017

17:00-20:00 Registration and ice breaker
Location: *Geotechnical Group, Department of Civil and Environmental Engineering, Hogskoleringen 7a, Gloschaugen, NTNU*

Monday, 12 June 2017

Location: Auditorium S6, ground floor, Central Building 2, Gloschaugen, NTNU

08:00 -09:00 Registration
Location: *In front of Auditorium S6*

09:00-09:30 Opening ceremony
Vikas Thakur, Chair, 2nd IWLSC

09:30-10:00 **Keynote lecture by Professor Guy Lefebvre**
"Sensitive clays of Eastern Canada: from geology to slope stability"

Facilitator : Jean Sébastien L'Heureux (NGI)

10:00-10:30 Tea/Coffee break

10:30-12:00 **Session-1: Characterization of sensitive clays**
Facilitators:
Steinar Nordal (NTNU)
Anders Gylland (Multiconsult)

10:30-10:48 Chemistry: An essential key to understanding high-sensitivity and quick clays and to addressing landslide risk

J. Kenneth Torrance

10:48-11:00 Improving the post-failure properties in quick clays by treatment with potassium chloride

T.E. Helle, P. Aagaard, S. Nordal

11:00-11:12 CPTU classification diagrams for identification of sensitive clays

A.S. Gylland, R. Sandven, A. Montafia, A.A. Pfaffhuber, K. Kåsin, M. Long

11:12-11:24 Relationships between shear wave velocity and geotechnical parameters for Norwegian and Swedish sensitive clays

M. Long, T. Wood, J.S. L'Heureux

11:24-11 :36 Geophysical and geotechnical characterization of a sensitive clay deposit in Brownsburg, Quebec

K. Bélanger, A. Locat, R. Fortier, D. Demers

11:36-11:48	Investigating how the changes in geotechnical properties of sensitive clays influence their geophysical properties <i>S. Gribben, S. Bazin, S. Donohue, V. Sivakumar, J.S. L'Heureux</i>
11:48-12:00	Determination of remoulding energy of sensitive clays <i>V. Thakur, S. A. Degago, J. Selänpää, T. Länsivaara</i>
12:00-13:00	Lunch <i>Location: Canteen Hangaren, Central Building 1</i>
13:00-14:15	Session-1 (cont.): Characterization of sensitive clays Facilitators: <i>Minna Karstunen (Chalmers University of Technology)</i> <i>Tonje Eide Helle (NTNU)</i>
13:00-13:12	Problems related to field vane testing in soft soil conditions and improved reliability of measurements using an innovative field vane device <i>J. Selänpää, B. Di Buò, T. Länsivaara, M. D'Ignazio</i>
13:12-13:24	A new laboratory procedure to study stress relief in soil samples <i>H. A. Amundsen, H. Dang, M. Adamson, A. Emdal, V. Thakur</i>
13:24-13:36	Sample disturbance in deep clay samples <i>A.B. Lundberg</i>
13:36-13:48	Effects of sample disturbance in the determination of soil parameters for advanced finite element modelling of sensitive clays <i>M. D'Ignazio, H. P. Jostad, T. Länsivaara, V. Lehtonen, J. Mansikkamäki, C. Meehan</i>
13:48-14:00	Viscometric tests of sensitive clay from Byneset, Norway, and fit to the Herschel–Bulkley model <i>R.H. Grue, D. Issler, J.S. L'Heureux, V. Thakur</i>
14:00-14:12	Dynamic properties of a sensitive clay deposit <i>S. Bouchard, H. Ali, D. LeBoeuf, S. Leroueil, G. Cascante</i>
14:15-15:05	Session-2: Pre-failure and failure stages of sensitive clays Facilitators: <i>Tim Länsivaara (Tampere University of Technology)</i> <i>Ville Lehtonen (Tampere University of Technology)</i>
14:15-14:27	The role of instability and shear band localisation in triggering landslides in sensitive clays <i>L. Andresen, H.P. Jostad</i>
14:27-14:39	Vibratory roller influence zone near slopes with vibration susceptible soils <i>J. Johansson, S. Bouchard, J.-S. L'Heureux</i>
14:39-14:51	Bayesian updating of uncertainties in the stability analysis of natural slopes in sensitive clays <i>I. Depina, C. Ulmke, D. Boumezerane, V. Thakur</i>

14:51-15:03	Potential landsliding at the North Spur, Churchill River Valley <i>D. Leahy, R. Bouchard, S. Leroueil</i>
15:05 -15:30	Short break
15:30-16:30	Session-2: Pre-failure and failure stages of sensitive clays Facilitators: <i>Samson Degago (NPRA)</i> <i>Ivan Depina (SINTEF)</i>
15:30-15:42	Correction factors for undrained LE analyses of sensitive clays P. Fornes, H. P. Jostad
15:42-15:54	Advances in determining Δu and s_u for limit equilibrium analyses V. Lehtonen, T. Lämsivaara
15:54-16:06	Recommended practice for the use of strength anisotropy factors in stability calculations V. Thakur, V. Gjelsvik, O.A. Fauskerud, S. Christensen, F. Oset, M. Viklund, S.A. Strand
16:06-16:18	On the benefits of incorporating anisotropy in stability analyses in sensitive clays M. Karlsson, M. Karstunen
16:18-16:30	Development and application of a regional slope stability assessment screening tool B.D. Carlton, K. Price, M. Vanneste, C.F. Forsberg
16:30-17:00	Plenum-1: Behaviour of sensitive clays Discussion leaders: Dr. Hans Petter Jostad (NGI) Prof. Serge Leroueil (Laval University)
19:00-19:30	Social event – Nidaros Cathedral (Nidarosdomen)
19:30-20:30	Reception at Café to Taarn (Sponsored by NGI)

Tuesday, 13 June 2017

Location: Auditorium S6, Central Building 2, Gloschaugen, NTNU

08:15-08:25	<i>Recap from day -1</i> <i>Ariane Locat (Laval University)</i>
08:25-09:00	Keynote lecture by Dr. Suzanne Lacasse "Reliability of slopes in sensitive clays" <i>Facilitator : Ariane Locat (Laval University)</i>
09:00-09:50	Session-3: Risk management <i>Facilitators:</i> <i>Lars Andresen (NGI)</i> <i>Stein-Are Strand (NVE)</i>
09:00-09:12	Natural hazards in a changing climate in Norway <i>B.K. Dolva, G. Petkovic</i>
09:12-09:24	Practicing hazard mitigation strategies for a construction on a sensitive clay slope <i>S. A. Degago, V. Thakur</i>
09:24-09:36	Mapping of landslide risks in a changing climate – Development of simplified methodology <i>K. Odén, K. Bergdahl, H. Löfroth, G. Göransson, Å. Jönsson, R. Kiilsgaard, M. Öberg</i>
09:36-09:48	Quick-clay hazard mapping in Norway <i>I. Havnen, H. B. Ottesen, E. D. Haugen, M. H. Frekhaug</i>
09:50-10:15	Tea/coffee break (sponsored by our gold sponsor; Multiconsult and Norconsult)
10:15-10:45	Plenum-2: Risk and Reliability approach in geotechnical engineering Discussion leaders: Suzanne Lacasse (NGI) Tim Länsivaara (Tampere University of Technology)
10:45-12:00	Session- 4: Post failure stage of sensitive clays <i>Facilitators:</i> <i>Vikas Thakur (NTNU)</i> <i>Bjørn Kristoffer Dolva (NPRA)</i>
10:45-10:57	Runout of landslides in sensitive clays <i>S.A. Strand, V. Thakur, J.S. L'Heureux, S. Lacasse, K. Karlsrud, T. Nyheim, K. Aunaas, H. Ottesen, V. Gjelsvik, O.A. Fauskerud, R. Sandven, A. Rosenquist af Åkershult</i>
10:57-11:09	Parametric analysis of the mobility of debris from flow slides in sensitive clays <i>D. Turmel, J. Locat, P. Locat, D. Demers</i>

11:09-11:21	Mapping quick clay hazard zones: Comparison of methods for the estimation of the retrogression distance <i>E.D. Haugen, M. Tveit, H. Heyerdahl</i>
11:21-11:33	Modelling of the quickness test of sensitive clays using the generalized interpolation material point method <i>Q. A. Tran, W. Solowski, V. Thakur, M. Karstunen</i>
11:33-11:45	Effect of strain softening behaviours on run-out distance of a sensitive clay landslide <i>P. Fornes, H. D. V. Khoa</i>
Lunch	
11:45-13:00	<i>Location: Canteen Hangaren, ground floor, Central Building 1</i>
13:00-14:00	Session- 5: Case records <i>Facilitators: Lars Grande (Norconsult)</i> <i>Margareta Viklund (BaneNor)</i>
13:00-13:12	Fv. 287 Strandgata – Kjøreplass bru. Road construction in quick clay <i>E. Pytten, T. Flobak, H. Ottesen</i>
13:12-13:24	Case study: Characterization of a thick sensitive clay deposit in the St. Lawrence River valley, slope stability analysis and preliminary assessment of permanent deformations <i>M. Limoges, M.D.Bonin, N.Pépin, M.Lemieux</i>
13:24-13:36	Revisiting the 1959 quick clay landslide at Sokkelvik, Norway <i>J.S. L'Heureux, S. Nordal, S.W. Austefjord</i>
13:36-13:48	Saguenay risk management <i>J. Potvin, R. Mompin, C. Thibault, D. Demers, C. Bilodeau, L. Desbiens</i>
13:50-14:20	Plenum-3: Post-failure stage of sensitive clays <i>Discussion leaders:</i> <i>J.S. L'Heureux (NGI)</i> <i>Dominique Turmel (Laval University)</i>
14:20-15:00	Short break
15:00-16:15	Session- 6: Identification and mapping of sensitive clays <i>Facilitators:</i> <i>Michael Long (University College Dublin)</i> <i>Inger-Lise Solberg (NGU)</i>
15:00-15:12	Development of a methodology for quick clay mapping <i>H. Löfroth, K. Lundström, L. Persson, M. Bastani, J. Ekström, C. Smith, J. Hedfors, D. Schälin</i>
15:12-15:24	Helicopter electromagnetic scanning as a first step in regional quick clay mapping <i>A. Lysdahl, A. A. Pfaffhuber, H. Anschütz, K. Kåsin, S. Bazin</i>

15:24-15:36	Developments in mapping and web presentation of fjord-marine deposit distributions for quick-clay related work in Norway <i>L. Hansen, I.L. Solberg, A. Jarna, B. Nordahl</i>
15:36-15:48	Analysis of ground geophysical, airborne TEM, and geotechnical data for mapping quick clays in Sweden <i>M. Bastani, L. Persson, H. Löfroth, C. A. Smith, D. Schälin</i>
15:48-16:00	Investigation of a sensitive clay landslide area using frequency domain helicopter-borne and ground geophysical methods <i>V.C. Baranwal, J.S. Rønning, I.L. Solberg, E. Dalsegg, J.F. Tønnesen, M. Long</i>
16:00-16:12	The Norwegian National Database for Ground investigations (NADAG) - a tool to assist in landslide hazard zonation and other quick-clay related issues <i>I.L. Solberg, B. Nordahl, L. Hansen, B.O. Grøtan, S. Gulbrandsen</i>
16:15-16:45	Plenum-4: Identification and mapping of sensitive clays <i>Discussion leaders:</i> <i>Sara Bazin (NGI)</i> <i>H. Löfroth (SGU)</i>
16:45-17:00	Some remarks on putting research into practice: Implementation challenges. <i>Speaker: Frode Oset, NPRA</i> <i>Facilitator: Vikas Thakur, Chair-2nd IWLSC</i>
17:00	Workshop summary and closure by Vikas Thakur (NTNU)
19:00	Gala Dinner at Ringve museum <i>Address: Lade Alle' 60, Trondheim</i> (separate registration required)

Wednesday, 14 June 2017

Field trip 09:00-16:00

Only for registered participants
(Supported by NVE and BaneNor)

The registered participants are requested to meet outside the Geotechnical Division, Department of Civil and Environmental Engineering, Hogskoleringen 7A, Gloschaugen at 08:30. The excursion is scheduled between 09:00 and 16:00 and two buses are arranged for the trip with guides. There will be five stops including catering. At the end of the trip, one of the buses will go directly to Trondheim airport, Værnes and it shall arrive before 17:00.

List of posters

Poster nr	Poster title
1	The use of LiDAR airborne data for retrogressive landslides inventory in sensitive clays, Québec, Canada <i>D. Demers, D. Robitaille, A. Lavoie, S. Paradis, A. Fortin, D. Ouellet</i>
2	Progressive Landslide Analysis with Bernander Finite Difference Method <i>Dury, Robin, Bernander, Stig, Laue, Jan, Knutsson, Sven, Pusch, Roland, Elfgrén, Lennart, Kullingsjö, Anders</i>
3	Progressive Landslide Analysis in Canadian Glacial Silts at North Spur in Churchill River <i>Bernander, Stig, Dury, Robin, Laue, Jan, Knutsson, Sven, Elfgrén, Lennart</i>
4	Bayesian kriging for the mapping of sensitive clay <i>Liu, Zhongqiang, Kalsnes, Bjørn, Nadim, Farrokh, Bazin, Sara, Lacasse, Suzanne, Abrahamsen, Petter</i>
5	Approach to analyse the slope stability in Leda clay Deposits using the mechanics of unsaturated soils <i>Yin, Penghai, Oh, Won Taek, Vanapalli, Sai</i>
6	Poupore 1903 <i>Therrien, Julie</i>
7	Sensitive clay landslides in Canada and Scandinavia <i>Locat, Ariane, Demers, Denis, Geertsema, Marten L'Heureux, Jean-Sébastien, Thakur, Vikas</i>
8	Development of a constant volume ring shear apparatus for sensitive clay <i>Michaud, Hubert, Locat, Ariane, Konrad, Jean-Marie</i>
9	Method for detecting quick clay with CPTu <i>Sigurður Már Valsson</i>
10	Back-calculation of the Byneset flow slide using the Voellmy rheology <i>A. L. Yifru, S. A. Degago, V. Thakur</i>
11	Geotechnical evaluation of a quick clay area in Trondheim, Norway <i>R. Sandven, K. Kalomoiris, T. Furuberg, A.S. Gylland</i>
12	Future strategy for soil investigations in quick clay areas <i>R. Sandven, A. S. Gylland, A. Montafia, A. A. Pfaffhuber, K. Kåsin, M. Long</i>
13	Development of a long term monitoring network of sensitive clay slopes in Québec in the context of climate change <i>C. Cloutier, P. Locat, D. Demers, A. Fortin, J. Locat, S. Leroueil, A. Locat, J. -M. Lemieux, C. Bilodeau</i>
14	The 1908 disaster of Notre-Dame-de-la-Salette, Québec, Canada: analysis of the landslide and tsunami <i>J. Locat, D. Turmel, P. Locat, J. Therrien, M. Létourneau</i>