

2010

PASTE

**13TH INTERNATIONAL
SEMINAR ON PASTE
AND THICKENED TAILINGS
TORONTO, CANADA
MAY 3-6, 2010**

Paste and Thickened Tailings
Seminars Founding Body:

Paste 2010 Host
and Organizer:



Preliminary Program - Registration Information

This form can be used for general registration as well as to register for the various functions being conducted as part of the 13th International Seminar on Paste and Thickened Tailings including:

**Dinner Cruise, Short Courses,
Extra-Curricular Tours and Mine Tour.**

Please view the pages below for preliminary program
and registration information.

Our Goal

The goal of the Paste 2010 seminar is to provide a thought-provoking forum which allows professionals from diverse industries to discuss and understand the application of best available paste technology practices, how these applications can enhance their operations and, ultimately, how paste technology can improve our world.

Please join us and participate in our short courses, keynote presentations, technical paper sessions, a dinner cruise and optional events for guests including:

**A Tour of the famous Toronto Distillery District and Art Gallery of Ontario
A Tour of our Niagara Region and the Spectacular Niagara Falls
Enjoy a day of fishing on one of our many Salmon Fishing Charters**

Accommodations

A block of rooms has been secured for Paste 2010 attendees at the special room rate of \$169.00 (CDN) per night. To book your room, contact the Delta Chelsea Hotel at 1-800-CHELSEA and state that you are attending Paste 2010 or access their website at:

www.deltachelsea.com/grspaste

Click the link below for main conference pricing and to register.

[Register for the Conference Online](#)

The 2010 International Seminar on Paste and Thickened Tailings will focus on discussing how the scientific advances made in the application of paste technology can improve the ability of various industries, in addition to mining, to manage their mineral waste streams.

The 2010 seminar will bring together practitioners, researchers, educators, operators and suppliers from Mining, Oil and Gas, Power Generation, Land Development and Finance.

For full details on optional activities, registration pricing, exhibitors, sponsors and more visit us at:

www.paste2010.com

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Preliminary Program - Short Course Information

Monday May 3 - Short Courses

Three short courses are being offered. The short courses are being conducted concurrently on Monday, May 3 from 8:30 am until 5:30 pm. Pre-registration is required as space is limited.

Short Course # 1 - Post-deposition Behaviour of Surface Deposited Thickened Tailings

This short course will provide course participants with a summary of experience and research regarding the behaviour of thickened tailings following their deposition from the pipeline.

The topics of discussion will include:

- Managing beach geometry
- Understanding the effect of deposition planning on void ratio, cyclic strength, and long-term geochemical performance
- Measurement of key in-situ properties and how these properties can be used with modelling tools to optimize deposition

The developers and facilitators of this short course include:

Paul Simms, P. Eng. / Assistant Professor / Department of Civil and Environmental Engineering / Carleton University / Ottawa, Ontario, Canada

John Molson, ing. Ph.D. / Canada Research Chair: Quantitative Hydrogeology of Fractured Porous Media Département de géologie et de génie géologique / Université Laval / Québec, Canada

Michel Aubertin, ing. Ph.D., / Prof. Chaire industrielle CRSNG Polytechnique-UQAT, Industrial NSERC Polytechnique-UQAT Chair / École Polytechnique, Université de Montréal / Montreal, Québec, Canada

Mostafa Benzaazoua, Ph.D. / Prof. Chaire de recherche du Canada en Gestion intégrée des rejets miniers, Canada Research Chair on Integrated Mine Waste Management / Université du Québec en Abitibi-Témiscamingue / Québec, Canada

Bruno Bussière, ing. Ph.D. / Prof. Chaire industrielle CRSNG Polytechnique-UQAT, Industrial NSERC Polytechnique-UQAT Chair / Université du Québec en Abitibi-Témiscamingue, Rouyn-Noranda / Québec, Canada

Ward Wilson, P.Eng., P.Geo. / Professor and Chair of Mining and the Environment / Norman B. Keevil Institute of Mining Engineering, University of British Columbia / Vancouver, B.C., Canada

John Wates, Pr Eng., MSc Eng., MBA / Director Strategic Projects / Fraser Alexander / South Africa

Short Course # 2 - Design of Paste Backfill Systems

This short course will address many of the emerging design tools, guidelines, and models that can be used for practical engineering of paste backfill systems.

The topics of discussion will include:

- Selection of binder type and concentration
- Assessing the potential for continuous pour
- Predicting stress development within the stope and at fill barricades
 - Selecting barricade type and optimizing design
 - Managing risks associated with rockbursts
- Determining curing times for continued nearby mining
 - Instrumentation and QA/QC procedures
- Assessing design options in the context of the mining cycle
 - Backfill production and delivery
- Geo-environmental implications of paste backfill

Short Course #2 continued on next page

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Preliminary Program - Short Course Information

Monday May 3 - Short Courses

The developers and facilitators of this short course include:

Murray Grabinsky, Ph.D., P.Eng. / Associate Professor / Department of Civil Engineering, University of Toronto / Toronto, Ontario, Canada

Will Bawden, Ph.D., P.Eng. / Pierre Lassonde Chair in Mining Engineering / Department of Civil Engineering, University of Toronto / Toronto, Ontario, Canada

Michel Aubertin, ing. Ph.D., / Prof. Chaire industrielle CRSNG Polytechnique-UQAT, Industrial NSERC Polytechnique-UQAT Chair / École Polytechnique, Université de Montréal / Montreal, Québec, Canada

Mostafa Benzaazoua, Ph.D. / Prof. Chaire de recherche du Canada en Gestion intégrée des rejets miniers, Canada Research Chair on Integrated Mine Waste Management / Université du Québec en Abitibi-Témiscamingue / Québec, Canada

Ben Thompson, Ph.D. / Post Doctoral Research Fellow / Department of Civil Engineering, University of Toronto / Toronto, Ontario, Canada

Short Course # 3 - Rheology of Paste and Thickened Tailings

This short course will introduce the fundamentals of rheology with an emphasis on high concentration mineral slurries. It will also demonstrate how the information can be applied to the design and operation of paste or thickened slurry systems (i.e., slurry preparation, transportation, and distribution).

The topics of discussion will include:

- Rheological models
- Testing methods
- Physical causes of non-Newtonian behaviour
- Application of rheological concepts in engineering situations

A primer will be distributed to all of those planning to attend the course to provide basic background information (e.g., Newtonian fluid mechanics, mechanics of materials, etc).

The developers and facilitators of this short course include:

Bern Klein, Ph.D., P.Eng. / Associate Professor / Norman B. Keevil Institute of Mining Engineering, University of British Columbia / Vancouver, B.C., Canada

Donald Hallbom, Ph.D., P.Eng. / P.E. / Adjunct Professor / Norman B. Keevil Institute of Mining Engineering, University of British Columbia / Vancouver, B.C., Canada

Click on the following link to register for a short course

[Register for Short Course](#)

The banner features a background image of a person's face in profile, looking towards the right. The text '2010' is in white, and 'PASTE' is in large, bold, black letters. To the right, 'Preliminary Program - Schedule' is written in white.

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Preliminary Program - Schedule

Monday May 3

8:30 am - 5:30 pm

Short Courses (See previous page)

7:00 pm - 8:00 pm

Opening Reception

Welcoming Remarks

Paste 2010 General Presentation

Chairman Address

Tuesday May 4

8:00 am - 5:00 pm

Presentation of Technical Papers

Technical paper presentations will be conducted throughout the day. The final schedule of the technical presentations will be available soon. Please refer to the Paste 2010 website located at www.paste2010.com for regular updates.

Keynote Topics & Speakers Scheduled for Tuesday

In Situ Monitoring for Groundtruthing Paste Backfill Designs

Optimized geomechanical design of cemented paste backfill systems requires feedback on the actual field performance of paste fills and their barricades during filling, subsequent curing, and exposure to ongoing mining activities. A comprehensive monitoring strategy is described and its application is demonstrated for several stopes in three different mining operations. Important information is revealed about several poorly understood phenomena including stress arching within the fill mass, barricade pressure reduction with increasing setback from the stope, temperature induced stresses, and liquefaction potential of paste fill due to production blasting and rockbursts. Consideration is given to optimized monitoring procedures that other engineers could use to investigate similar phenomena at their mines.

Murray W. Grabinsky, Ph.D., P.Eng, Associate Professor, University of Toronto

Surface Disposal of Paste - Hydrogeochemical Considerations and Potential Environmental Benefits

In most countries in the world today, disposal of tailings in traditional form (i.e., as a slurry) has come under increasing scrutiny due to the perceived risks associated with environmental impacts and dam safety. These pressures are forcing the mining industry to seek innovative alternatives for disposal of tailings that will incorporate less risk and address the rising environmental and social concerns, such as use of thickened tailings or paste. This presentation describes potential environmental benefits of surface paste disposal, including the reduction in seepage volumes and contaminant migration, as well as considerations related to prevention of sulphide oxidation and acid generation through controlled paste placement and cover design. The potential benefits will be illustrated using case histories.

Rens Verburg, Ph.D., P.Geo. L.G., Principal Geochemist, Golder Associates Inc.

5:00 pm

Adjourn

Delegates Free Evening

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Preliminary Program - Schedule

Wednesday May 5

8:00 am - 5:00 pm

Presentation of Technical Papers

Technical paper presentations will be conducted throughout the day. The final schedule of the technical presentations will be available soon. Please refer to the Paste 2010 website located at www.paste2010.com for regular updates.

Keynote Topics & Speakers Scheduled for Wednesday

Oil Sands Tailings - Technology Development and Regulation

In response to the ever increasing volumes of fluid tailings, the Energy Resources Conservation Board of Alberta introduced (February 2009) a new regulation for tailings derived from oil sands mining. The regulation requires that 50% of the fines (defined as <44 µm) of the oil sands feed be disposed of permanently in Designated Disposal Areas (DDA). After one year, any tailings in the DDA which is not tracable must be remediated in place or removed. The paper reviews the technology development, need for the regulation, its implementation and effect on tailings practices in the oil sands industry.

E. Lord, Senior Tailings Consultant, British Columbia, Canada

R. Houlihan, Energy Resources Conservation Board, Alberta, Canada

H. Mian, Energy Resources Conservation Board, Alberta, Canada

Key Issues Related to Behaviour of Binders in Cemented Paste Backfilling

Backfilling practices become widely used by modern hard rock mines helping ore extraction as well as allowing a more integrated solid waste management. Among backfill types, cemented paste backfill is creating an increasing interest due to easy placement in the underground stopes and its capacity to use reactive sulfidic tailings. Various binder agents, including conventional manufactured cements and alternative additives, can be used in order to set the needed mechanical properties of the backfill during mining sequences. Due to the high price of binders and their sensitivity towards chemical properties of the backfill material, backfill recipe optimization becomes capital. The key note will focus on the various sources and compositions of the most common binders in paste backfilling. The discussion will contribute to an understanding of the binder hardening processes in cemented paste; focusing particularly on i) cement hydration, ii) water demand and water chemical interactions, iii) solid mineralogy, iv) sulfate and sulfide behaviour, v) temperature role, etc. The main short-and long-terms behaviour types of cemented paste backfill will be discussed (effects of drainage-consolidation, sulfate attacks, self-combustion potential, etc.). Finally, the pertinence of using binders within surface paste tailings disposal will be briefly presented.

Mostafa Benzaazoua, Ph.D. / Prof. Chaire de recherche du Canada en Gestion intégrée des rejets miniers, Canada Research Chair on Integrated Mine Waste Management / Université du Québec en Abitibi-Témiscamingue / Québec, Canada

5:15 pm

Adjourn

6:30 pm - 9:30 pm

Dinner Cruise (Pre-registration Mandatory)

Click on the following link for dinner cruise details.

[Click Here for Details](#)

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Preliminary Program - Schedule

Thursday May 6

8:00 am - 5:00 pm

Presentation of Technical Papers

Technical paper presentations will be conducted throughout the day. The final schedule of the technical presentations will be available soon. Please refer to the Paste 2010 website located at www.paste2010.com for regular updates.

Keynote Topics & Speakers Scheduled for Thursday

Thickening / Mud Stacking Technology -An Environmental Approach to Mineral Residue Management

Environmental pressures, economic consideration and "visual" preoccupations have imposed on industry the need to address the issue of the disposal of their process residues with much greater attention and in the respect of the neighbouring communities. Rio Tinto, Alcan, who has pioneered the development and the use of Deep Thickeners for the production of paste slurries since the early 70's, has over the year, taken a more global approach to the problem of thickening and disposal techniques and continues to undertake a very active R&D program on this subject. In designing a new paste system, or retro-fitting an existing sector of a plant, Rio Tinto, Alcan has realized that attention must be focused on feed material compatibility, operation simplicity, space optimization and of course capital cost. Approaches that address these key concerns have been developed and are being outlined. They include: dedicated evaluation program, specific design of thickening units and auxiliary equipment, control system, adapted removal and mud transfer system. The overall solution does include the operation and management of the mud disposal site. Some insights on future developments and directions will also be presented.

Jean Doucet, Consultant, Rio Tinto Alcan

5:15 pm - 5:45 pm

Presentation of Paste 2010 Closing Remarks & Introduction of Paste 2011

6:00 pm - 7:00 pm

Farewell Reception

Extra-Curricular Activities / Tours

Tuesday May 4th, 10:00 am until approximately 4:00 pm

The Distillery District & the Art Gallery of Ontario

Thursday May 6th, 9:00 am until approximately 4:00 pm

The Charm of the Niagara Region

[Click Here for Details](#)

May 1, May 5 and May 7

Salmon Fishing Charters

[Click Here for Details](#)

Friday May 7th, 7:00 am until approximately 7:00 pm

Mine Tour

Details regarding the mine tour will be posted soon. Click on the following link to stay updated.

[Click Here for Details](#)

Click the link below for main conference pricing and to register.

[Register for the Conference Online](#)

For more information contact us at: Paste@canavents.com

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Preliminary Program - Partners

Host & Organizing Body



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