Tailings and Mine Waste 2020
Listing of Accepted Papers and Presentations
Last Updated: October 5, 2020

**Keynote Abstracts**

Tailings Dam Safety - Have We Resolved the Crisis?
*Norbert R. Morgenstern*

Global Ramifications of the Brumadinho Tailings Dam I Failure
*David Williams*

**Theme: Design and Operation**

A Comparative Study of Methods used to Determine the Factor of Safety
*Hugo Brandão, Rodrigo de Oliveira, Luiza Almeida, & Guilherme Pinto*

Stability Assessment of a Tailings Dam with Frozen Tailings
*Paul Bedell, Maria “Mavi” Sanin, & Chris Hiemstra*

Deformation and Cracking of an Upstream Gold TSF Embankment Due to Yielding of Underlying
*Rynier Shields, Martin Rust, Danie Brink*

Internal Erosion Assessment for Existing Mining Dams
*Cori Creba, Fatemeh Yazdandoust, & Chris Johns*

Modeling Slope Instability Due to Undrained Creep
*Ross Boulanger & Tyler Oathes*

Dynamic Effective Stress Analysis of a Centerline Tailings Dam – Case Study
*Paola Torres, Jorge Macedo, & Solange Paihua*

Seismic Stability Assessment of Upstream Raised TSF on the African Rift Belt
*Michelle Theron*

Numerical Modelling of a Mine Waste Dump-heap Leach Pad with Different Constitutive Models
*Myzael Valdivia, Roberto Quispe, Jesus Negrón, Renzo Ayala & Denys Parra*

Field Water Release and Consolidation Performance of XUR Treated Fluid Fine Tailings
*S. Jeeravipoolvarn, E.J. Wu, S.A. Proskin, A. Junaid & G. Freeman*

Consolidation Modeling for Design of Complex In-pit Tailings Storage Facility
*Sudhir Tripathi, Jordan Scheremeta, Jeff Coffin, & Jason Reiva*
Calibration of Tailing Consolidation Parameters using Field Measurements
_Nicholas Brink & Zygi Zurakowski_

Sand Capping Trial on Frozen Centrifuged Tailings Deposit
_E.J. Wu, S. Jeeravipoolvarn, S.A. Proskin, A. Junaid & G. Freeman_

Hydrographs for Tailings Dam Breach Analysis – A Review of Common Estimation Methodologies
_Mark G. Walden & Nicholas T. Rocco_

An Overview on Methodologies for Tailings Dam Breach Study
_Shielan Liu & Michael Henderson_

Effect of Different Tailings Dam Environments and Conditions on Phreatic Conditions
_Luke Clarkson, Todd Armstrong, & David J. Williams_

Lupin Mine – A Case Study in Adaptive Tailings Management
_Alvin Tong, James McKinley, & Karyn Lewis_

**Theme: Filtered Tailings**

The Impact of Thickening on Fast Filtration of Tailings
_Kenneth Rahal & Todd Wisdom_

Filtered Tailings Facilities and Upset Conditions
_Nicholas Kent & Mary-Jane Piggott_

Enhancing Vacuum Belt Filter Dewatering to Adapt to Finer Tailings Grind – A Case Study
_O. Whatnall, K. Barber & P. Robinson_

Decoupling the Effects of Ultrafine Solids and Residual Bitumen on the Filterability of Oil Sands Tailings
_Dong Wang, Hongbiao Tao, Kaipeng Wang, Xiaoli Tan & Qi Liu_

**Theme: Geochemistry**

Geochemical Characterization of Sulfurized Tailings and Waste Rock of a Graphite Mine
_Veronik Lord, Benoit Plante, Isabelle Demers, & Martine Paradis_

Innovative Leachate Treatment using Passive Biochemical Reactors
_Jamie Robinson, Jason Dodd, Ian Andrews, James Gusek, L. Josslyn & Eric Clarke_

Innovative Field Characterization Method for Self-heating Potential of Sulphidic Paste Backfill
_Bret Timmis, Valerie Bertrand, David Brown, Chris Lee, & Matthew Stewart_

Large-scale Instrumented Column Test to Assess Oxidation and Leachate
_Chennming Zhang, David J. Williams, Ximing Lei, Sebastian Quintero & Tony Ferguson_
**Theme: Geosynthetics and Liners**

Hydraulic Conductivity of Geosynthetic Clay Liners to Synthetic Mine Waste Leachates  
Anna Norris, Neelufar Aghazamani, Joel Conzelmann, Joseph Scalia, & Charles Shackelford

Successful Tailings Dewatering Design Using Multi-Linear Drainage Geocomposites  
Pascal Saunier, Jacek Mlynarek, Rob Stafford, & Andy Jung

New Lighter, Longer GCLs for Mining Applications  
Michael S. Donovan, Barbara Gebka, & Dennis Wind

**Theme: Geotechnical Engineering**

Variability in Sand Characteristics – A Case Study at LKAB Mine Tailings Facility in Sweden  
Karin Engström, Sara Töyrä, Sophie Danilov, & Roger Knutsson

TAILENG Mine Tailings Database  
Jorge Macedo, Jonathan Bray, Scott Olson, Chris Bareither, & Cody Arnold

Use of High Performance Fibres to Enhance Tailings  
Sebastian Quintero Olaya, Chenming Zhang, David J. Williams, Ximing Lei, Zicheng Zhao  
& Marcelo Llano-Serna

Specimens Size Effect on the Compressive Strength of Geopolymerized Mine Tailings  
Nan Zhang, Ahmadreza Hedayat, Linda Figueroa, Héctor Gelber Bolaños Sosa,  
Juan José González Cárdenas, Guido Edgard Salas Álvarez, Victor Benigno Ascuña Rivera

A Rapid Measurement Method to Determine Hydraulic Conductivity of Tailings Under Self-Weight Consolidation  
Yagmur Babaoglu & Paul H. Simms

Exploring the Effects of Side Wall Friction in a Slurry Consolidometer Test  
H.F.T. Barnard & V. Venter

Evolution of Shear Strength and Consolidation Behavior of Mine Tailings from a Slurry to a Soil State  
Kathy Tehrani, David J. Williams & Alexander Scheuermann

On the Performance of Two Advanced Constitutive Models in Capturing the Element Response of Tailings  
Renmin Pretell, Francisco Humire & Katerina Ziotopoulou

Managing the Liquefaction Potential of Compacted Tailings Sand at Suncor  
Ying Zhang, Ayman H. Abusaid, Gordon W. Pollock, Jason Rhee & Ryan Moore

Effect of Shear Strain Rate on Undrained Shearing Resistance of a Clean Silica Sand Measured in Direct Simple Shear Tests  
Jiarui Chen, Scott M. Olson, Soham Banerjee, & Mandar M. Dewoolkar
Assessment of Liquefaction Triggering for Upstream Tailings Dams Using Limiting Equilibrium Methods
Gordan Gjerapic and Dobroslav Znidarcic

3D DEM Undrained Tests to Elucidate Liquefaction Onset in Granular Media
Eduardo Martin, Colin Thornton, & Stefano Utili

**Theme: Imaging and Spatial Analysis**

EO4RM: Earth Observation best practices for the mining of Raw Materials
Ton Peters, Stephen Wheston, Margreet van Marle, Brendan Morris, & Zoltan Bartalis

Creating TSF Histories using Modern Commercial and Declassified Cold War Satellite Photos
Gerry Mitchell, Jim Turner, & Sam Rivett

**Theme: New Technologies**

Improving Behavior of Gold Mine Tailings using Microbes Compared with Adding Cement, for Closure of In-pit Tailings
Hernan Cifuentes & David J. Williams

Glass from Tailings
Priscilla P. Nelson, Katharina Pfaff, Seetharaman Sridhar, and D. Erik Spiller

Integrated Storage Facility – A New Concept for Mine Waste Storage
David Saiang, Martin Torovi, Robert D.Y. Warigen & Edward Wiruk

Nano Meso Inorganic Technology: Bind & Contain RCRA 8 Metals & Stabilize Mine Tailings
T.J. Brammer & M.A. Stone

**Theme: Reclamation and Remediation**

Geochemical and Hydrological Lags and Impact on Covers on PAG Mine Wastes
David J. Williams

Influence of Residual Sulfide Content and Mineralogical Composition of Desulfurized Tailings on Performance as Reclamation Cover
Isabelle Demers, Hamza Berrouch, Benoît Plante, & Thomas Pabst

Hydrologic Predictions of Water Content and Oxygen Concentration in a Geowaste Test Pile
Mohammad H. Gorakhki, Christopher A. Bareither, Joseph Scalia & Greg Butters

Gas Transport Inside Co-disposal of Desulfurized Tailings and Sulfidic Waste Rocks
Cheng Huang, Liang Ma, Zhong-Sheng Liu, Eben Dy, Kidus Tufa, Elizabeth Fisher, Jianqin Zhou, Mireille Goulet, Kevin Morin & Martine Paradis
Theme: Regulations

All Hands on Deck! - A Semi-Quantitative Attempt to Characterize the Impending Qualified Tailings Professional Resource Shortage
Christopher N. Hatton, D. Louise Spencer, Christopher A. Bareither & Kelly J. Ward

Developing Trigger Action Response Plans (TARPS) in a Changing Regulatory Environment
Michael G. Davis

Preparation of an ISO Standard for Mine Closure and Reclamation Planning
Dirk Van Zyl, Michael Nahir & Ian Hutchison

Mineral Industry in Armenia: Management Issues and Perspectives for Tailings Retreatment
Vicken Aprahamian, Harutyun Movsisyan, Alexander Arakelyan & Alen Amirkhanian

Theme: Risk Informed Design

Risks of Dormancy: Reducing Tailings Risk after Operations, before Closure
Jeremy E.S. Boswell, John C. Sobkowicz & Amy K. Rentz

Reducing Long Term Risk at the Candelaria Tailings Storage Facility
Antonio Sotil, Victor Soto & Ken Brouwer

Risk-Based Prioritization of Improvement Plans for Critical Infrastructure
Karen M. Chovan, Michel R. Julien, Édouard Masengo, Édouardine-Pascale Ingabire, Michael James, Thomas Lépine & Pascal Lavoie

Improved Tailings Dam Design and Management through Smarter Modeling
Josh Moncrieff

The Factor of Safety and Probability of Failure Relationship
Franco Oboni & Cesar Oboni

Boosting a More Efficient Tailings Dam Risk Management Service through an Innovative IoT Ecosystem
Andrea Bartoli, Denis Guilhot, Xavier Vilajosana

Automated Hazard Mapping of Tailings Storage Facility Failures
Sally Innis, Negar Ghahramani, Nahyan M. Rana, Scott McDougall, Steven G. Evans, W. Andy Take & Nadja Kunz

The Effect of Assumed Residual Strength on Remediation Cost of a Typical Tailings Dam
E. Sarantonis, M. Etezad & M. Ghafghazi

Theme: Site Characterization and Monitoring

Variable Penetration Rate CPT Testing for Mine Tailings Characterization
J.T. DeJong & K.C. Green
Tailings Characterization using Cone Penetration Testing and Machine Learning
*Iman Entezari, Dallas McGowan & James Sharp*

CPT Dynamic Pore Water Pressure and Liquefaction Potential in Tailings Sand at Suncor
*Ayman H. Abusaid, Ying Zhang, Gordon W. Pollock, Ryan Moore & Jason Rhee*

Evaluation of Shear Wave Velocity and Void Ratio in Mine Tailings using the Field Velocity Resistivity Probe
*Iván A. Contreras, Jason W. Harvey, Mathew D. Walker, Jacob D. Sharpe & Aaron T. Grosser*

Tailings Dam Monitoring: Time for an Integrated System Approach
*Luciano Oliveira*

Permanent Geoelectrical Monitoring of Tailings Dams using the Autonomous G.RE.T.A. System
*G. Tresoldi, A. Hojat, Leopoldo Cordova & Luigi Zanzi*

Mine Tailings Surveying after the Brumadinho Dam Failure
*Gerry Mitchell, Jim Turner & Sam Rivett*

Recent Geotechnical Monitoring Results Reflect Operational Improvements at the Newmont Peñasquito
*Eduardo J. García Romero & Vianney V. Sosa Dávila*

**Theme: Water Management**

Tailings Dewatering – Analysis of Cases to Understand Trends in Capex and Opex
*Mark Wallgren, Jason Palmer & Elio Tomini*

Consideration of Polymers to Create a More Cost-Effective and Sustainable Approach to Contaminated River Sediment Remediation
*Raymond Guang & Doug Reid-Green*

Incorporating Lime Treatment as Part of Innovative Mine Water Treatment Strategies
*Kristina Minchow, Bridgette Hendricks & Ryan Schipper*