



1st International Symposium on Fiber Reinforced Shotcrete for Underground Mining

Final Program

Sunday, October 1st, 2023

13:00 – 13:45: Registration

13:45 – 14:00: Opening Ceremony

Session I: Introduction to Underground Shotcrete – Chairman: Marc Jolin

14:00 – 14:45: Charles Hanskat – ASA Introduction to Underground Shotcrete

14:45 – 15:30: Tom Melbye – Sustainable Solution for Sprayed Concrete in Underground Projects – A Holistic Approach

15:30 – 16:15: Tarcisio Celestino – Characteristics of Sprayed Concrete for Optimum Underground Support

Coffee Break (16:15 – 16:45)

Session II: Introduction to Fiber Reinforced Shotcrete – Chairman: Barzin Mobasher

16:45 – 17:30: Cassio Luiz Abeid Moura – Practical Aspects of Fiber-Reinforced Shotcrete

17:30 -18:15: Marc Jolin – Doing More and Doing Better with Fiber-Reinforced Shotcrete

18:15 – 19:00: Lühan Arda Bayraktaroğlu - Use of Synthetic Fibre Reinforced Shotcrete as Support System

19:30: ***Welcoming cocktail*** (at Maguje Restaurant – Rua Jardim Botânico, 1003 - <https://maguje.com/>)

Monday, October 2nd, 2023

8:00 – 8:30: Registration

SESSION III: Quality Control I – Chairman: Daniel Cardoso

8:30 – 9:15 – Antonio Figueiredo – Integrated Approach to the Control of Fiber Reinforced Shotcrete

9:15 – 10:00 – Luis Segura - Montevideo Test – A Robust and Simple Test for Sprayed FRC Characterization

10:00-10:30 (coffee break)

SESSION IV: Quality Control II – Chairman: Pierre Rossi

10:30 – 11:15 – Roberto Dakuzaku – Experiences in Sprayed Concrete Technological Control in Road and Subway Tunnels: a Parallel With The Current Demands for Technological Control in Mining Tunnels

11:15 – 12:00 – Zander Pontes Ferreira – Reduction in the re-entry time at Nexa Resources Vazante Zinc Mine Brazil Through Fiber Reinforced Shotcrete Improvements

12:00-13:30 (Lunch)

SESSION V: Design – Chairman: Tarcisio Celestino

13:30-14:15: Barzin Mobasher – Serviceability Based Design of Shotcrete with Fiber Reinforced Concrete

14:15-15:00: Pierre Rossi – Design of Structural Fiber Reinforced Shotcrete: French Practice Today and Tomorrow

15:00 – 15:45: Marcello Congro - Design of fiber-reinforced shotcrete for tunnel linings using ANN and numerical models

15:45 - 16:15 (coffee break)

Session VI: Sustainability I – Chairman: Renan Salvador

16:15-17:00: Alun Thomas – Improving the Sustainability of Sprayed Concrete Lined Tunnels

17:00-17:45: Juan Alvarado – Evaluation of Mesh and Fiber Reinforced Sprayed Concrete Behavior and Its Impact on Support System Optimization and Sustainability

17:45-18:30 - Kyong-Ku Yun – Applications of Cellular Sprayed Concrete with Natural Fiber

Tuesday, October 3rd, 2023

SESSION VII: Sustainability II – Chairman: Charles Hanskat

8:30-9:15: Stuart Manning – Low Carbon Shotcrete

9:15 – 10:00: Silvia Vieira – Green Cements as a Tool to Lower the Ecological Footprint of Sprayed Concretes

10:00 – 10:30 (coffee break)

Session VIII: Applications I – Chairman: Luis Segura

10:30 – 11:15: Renan Pícolo Salvador – Cement-Accelerator Interaction and Its Influence on the Development of Mechanical Strength of Sprayed Concrete

11:15 – 12:00: Ignacio Contreras – Shotcrete in mining, the contribution of additive and fiber technology for underground development

12:00-1:30 (Lunch)

SESSION IX: Applications II – Chairman: Antonio Figueiredo

13:30-14:15: Bruna Souza – Application of Fiber Reinforced Shotcrete as Initial Squeezing Environments

14:15-15:00: Carlos de Sá Alves - Use of Microsilica in Shotcrete for the Ipueira/Ferbasa Underground Mine

15:00 – 15:45: Welton Gomes – Use of Mining Tailings to Produce Fiber Reinforced Shotcrete

15:45 - 16:15 (coffee break)

SESSION X: Applications III – Chairman: Flávio Silva

16:15-17:00: Michael Mett - State-of-the art 3D Tunnel Inspection with Photogrammetric and Hybrid Scanning Systems

17:00-17:45: Enrique Vega Leon: Geospatial Technologies Applied on Underground Excavations and Structures

19:30 **Banquet Dinner** (at Maguje Restaurant – Rua Jardim Botânico, 1003 - <https://maguje.com/>)

Wednesday, October 4th, 2023

LAB Visits

8:30 – 10:00: Laboratory Tour at the Structural and Materials Lab

Short-Courses

10:00 – 12:00: Prof. Antonio Figueiredo e Prof. Renan Salvador - Brazilian standards and recommended guidelines for fiber-reinforced sprayed concrete | Normas e práticas brasileiras recomendadas para concreto projetado reforçado com fibras

12:00 – 14:00 - Lunch

14:00-15:30: Charles Hanskat (American Shotcrete Association) - Shotcrete in concrete codes and standards

15:30-16:00 (Coffee Break)

16:00-17:30: Charles Hanskat (American Shotcrete Association) - ACI Shotcrete Nozzleman and Inspector Certification

Information on restaurants at PUC-Rio

During the InFUM Symposium the organizing committee suggests the following restaurants located inside the University Campus:

Couve-flor restaurant

Self-service restaurant with a very nice salad bar, Fresh vegetables and typical Brazilian food. Distinct options of steak, chicken and fish.



Kitchen-cafe restaurant

Brazilian style a la carte menu restaurant with several options available each day, including vegetarian, steaks, pasta, salads and Brazilian food in general.

More information at: <https://www.instagram.com/kitchencafe.rj/>
<https://www.instagram.com/kitchencafe.rj/>



Organized by:



Master sponsors:



Diamond sponsors:



Gold sponsors:



Bronze sponsors:



Supporters:

