



Society of Mining Professors
Societät der Bergbaukunde

2021 SOMP Annual Meeting and Conference
Medellin, Colombia
September 21st - 24th 2021



UNIVERSIDAD
NACIONAL
DE COLOMBIA



Society of Mining Professors
Societät der Bergbaukunde

31st SOMP Annual Meeting and Conference Hybrid (In-person and On line)



September 21st ~ 24th, 2021

Dear SOMP Members,

It is with great pleasure and excitement that I invite you to the Society of Mining Professors/Societät der Bergbaukunde Hybrid (In-person and On line) Annual Meeting and Conference in Medellín, the industrial city of Colombia. The SOMP Annual Meeting and Conference is co-hosted by School of Mines at Universidad Nacional de Colombia and AIMC (Asociación de Profesionales del Sector Minero Colombiano – Colombian Mining Sector Professionals), under the guidance of our Secretary-General Professor Vlad Kecojevic, from West Virginia University, USA. The SOMP has set a very ambitious Strategic Plan towards the next decade, therefore, we have planned several open and interactive sessions and workshops that will help us reach the goals set in our strategic plan and help our society excel in the future.

I hope that the next Annual Meeting that we will hold in the city of Medellín, Colombia, will be tremendously beneficial and fun for all members. That it is not just another international conference, but rather an unforgettable experience, accompanied by a strong technical content integrated with informative and practical forums and discussion panels, which cover our areas of greatest interest for future educational



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needs, research opportunities collaborative, member development and capacity development for new mining programs in different parts of the world. Finally, a great opportunity to establish contacts and develop long-term professional relationships.

Due to the conditions that we have experienced with the COVID-19 pandemic, we have decided to present the option for members to attend in-person in the city of Medellin or virtually (online) from the comfort of their places of origin. We will have a different registration fees for those who attend one way or the other, but everyone will have the opportunity to attend the meeting.

Preliminary Meeting and Conference Program

SOMP Annual General Meeting 2021

Meeting and Conference Program: Preliminary (March 2020)

Saturday, September 18th 2021

8:00 am - 5:00 pm	Registration
8:00 am - 5:00 pm	Optional Pre-conference technical tour - Visit to Continental Gold mine

Sunday, September 19th 2021

8:00 am - 5:00 pm	Registration
8:00 am - 5:00 pm	Optional Pre-conference tour. Medellin city tour

Monday, September 20th 2021

8:00 am - 5:00 pm	Registration
8:00 am - 5:00 pm	Optional Pre-conference tour. Guatape tour

Tuesday, September 21st 2021

8:00 am - 5:00 pm	Registration
Morning	Working Session No. 1: Academic tour
8:30 am - 12:00 am	Academic visit to School of Mines
11:00:00 am - 11:15 am	SOMP Group photo. School of Mines
Afternoon	Working Session No. 2: Committees Meeting
1:45 pm – 3:45 pm	Council Meeting
4:00 pm – 5:30 pm	Education Committee Meeting
4:00 pm – 5:30 pm	Research Committee Meeting
4:00 pm – 5:30 pm	Members Development Committee Meeting
4:00 pm – 5:30 pm	Capacity Building Committee Meeting
Night	Welcome
6:30 pm – 9:00 pm	Welcome Cocktail



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Wednesday, September 22 nd 2021	
Morning	Working Session No. 3
Section I	Opening
8:00 am – 8:15 am	Welcome: Prof. Oscar Jaime Restrepo Baena, 2019-2021 SOMP President, Universidad Nacional de Colombia, School of Mines
8:15 am – 8:25 am	Welcome: Prof. Juan Camilo Restrepo Vice Cancellor Universidad Nacional de Colombia - Medellin.
8:25 am – 8:30 am	Welcome: Prof. Veronica Botero. Dean School of Mines Universidad Nacional de Colombia
8:30 am – 8:45 am	Welcome Address: Particular conditions of Mining activities in Colombia and Latin America: Andres Restrepo CEO Mineros S. A.
8:45 am – 9:00 am	Tributes
9:00 am - 9:15 am	Coffee/Tea Break
Section II	SOMP Bussiness session
9:15 am – 10:45 am	SOMP Business Session: Prof. Vlad Kecojevic. SOMP Secretary-General. West Virginia University, United States
10:45 am – 11:05 am	Ethic in Engineering: Roberto Castañeda. AIMC. Universidad Nacional de Colombia
11:05 am – 12:15 pm	Poster presentations
12:15 - 1:25 pm	Lunch
Afternoon	Working Session No. 4
Section III	Educational Session I
1:30 pm – 1:35 pm	Education: Chair – Dr. Rudrajit Mitra
1:35 pm – 2:00 pm	Industry 4.0 in Mining: <i>John Willian Branch. School of Mines Universidad Nacional de Colombia</i>
2:00 pm - 2:20 pm	Why students don't study mining engineering in Australia. <i>Prof Ismet Canbulat, Prof Bruce Hebblewhite, Prof Paul Hagan and Prof Serkan Saydam. School of Minerals and Energy Resources Engineering, UNSW Sydney</i>
2:20 pm - 2:40 pm	Entrepreneurship, entrepreneurs, intrapreneurs and mining engineers of the future. <i>Prof Michael Hitch (WASM, Perth, Australia) and Associate Prof Veiko Karu. Tallinn University of Technology (TalTech), Tallinn</i>



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2:40 pm - 3:00 pm	University-company cathedra, a model of adaptation of the academy to the needs of the new mining. <i>Prof. Mario Cedrón - Algel Tobar. Pontificia Universidad Católica del Perú</i>
3:00 pm - 3:20 pm	Lifelong learning in the mining industry: implementation of practical training courses on-site. <i>George Barakos, TU Bergakademie Freiberg, Germany, Kirsi Luolavirta, University of Oulu, Finland, Marcos de Paiva Bueno, University of Oulu, Finland, Maria Sinche Gonzalez, University of Oulu, Finland Helmut Mischo, TU Bergakademie Freiberg, Germany, Saija Luukkanen, University of Oulu, Finland</i>
3:20 pm - 3:40 pm	Lessons learned from mining engineering education at the Politecnico di Torino. <i>Marilena Cardu DIATI Politecnico; IGG CNR, Torino – Italy</i>
3:40 pm - 4:00 pm	Coffee/Tea Break
4:00 pm - 4:20 pm	Addressing diversity aspects in mining engineering education. <i>Binder, Angela; Hutwalker, Alexander; Langefeld, Oliver. Clausthal University of Technology, Institute of Mining, Department of Underground Mining Methods and Machinery</i>
4:20 pm - 4:40 pm	Current educational challenges in mineral processing courses and programs. <i>Menéndez Aguado, Juan M.; Restrepo Baena, O.J.; Díaz, Andrea; Coello Velázquez, Alfredo L. Universidad de Oviedo, Spain, Universidad Nacional de Colombia.</i>
4:40 pm - 5:00 pm	Students' major recognition on mining engineering of Chongqing University in China. <i>Li Liu, Junzhu Tian, Zhengyu Zhang, Deyi Jiang, Yong Li, Chongqing University, China</i>
5:00 pm - 5:45 pm	Michael Karmis SOMP PhD Fellowship Award Lecture
Night	Group gathering
7:00 pm - 10:00 pm	Social event

Thursday, September 23rd 2021	
Morning	Working Session No. 5
Section III	Educational Session II
8:00 am – 8:05 am	Education Chair – <i>Prof. Oliver Langefeld</i>
8:05 am – 8:25 am	Slope stability monitoring – a course for mine surveyors and geotechnical engineers to address risk mitigation. <i>Thomas H and Mitra R School of Mining Engineering, University of the Witwatersrand, South Africa</i>
8:25 am – 8:45 am	Early experiences in online teaching. <i>Sakshi Hazuria Anderson, Amy J. Richins, Michael G. Nelson. Mining Engineering Department. University of Utah. Salt Lake City, Utah, U.S.A.</i>



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8:45 am – 9:05 am	The importance of the management and use of mining heritage in the future of mining engineering education. <i>Domingo J. Carvajal Gomez. University of Huelva, Spain</i>
9:05 am – 9:25 am	Teaching automation and data analytics as a recruiting tool for mining engineering departments. <i>Nino Ripepi, Richard Bishop, Juan J. Monsalve Valencia, Aman Soni. University: Virginia Tech, USA</i>
9:25 am – 9:40 am	Coffee/Tea Break
9:40 am – 10:00 am	Sustainability in raw materials production and the role of higher education. <i>Alexander Hutwalker, Angela Binder, Oliver Langefeld. Institute of Mining Clausthal University of Technology</i>
10:00 am – 10:20 am	Innovation through cooperative learning techniques applied to the subject of materials science in two different spanish engineering degrees. <i>Fernández Pérez B.; Ayala Espina J.; Menéndez Aguado, Juan M; Beatriz. Baragaño Coto, Diego; Ramajo Escalera Beatriz. Universidad de Oviedo, Spain</i>
10:20 am – 10:45 am	Creativity in Engineering. <i>Enrique Posada. Colombia</i>
10:45 am – 12:15 am	Panel on “Challenges facing mining engineering schools/programs” (Chaired by <i>Ismet Canbulat</i> : invited: <i>Christoph Dauber, Mario Cedrón, Ronny Webber-Youngman, Nguyen Nga, Michael Karmis</i>)
12:15 - 1:30 pm	Lunch
Afternoon	Working Session No. 6
Section IV	Membership Development Session
1:30 pm - 1:35 pm	Presentation: Membership Development Session
1:35 pm - 3:30 pm	Membership Development Workshop: Chaired by <i>Andrea Brickey and Emily Sarver</i>
3:30 pm - 3:45 pm	Coffee/Tea Break
Section V	Capacity Building Session
3:45 pm - 3:50 pm	Capacity Building: Chair - <i>Prof. Domingo Carvajal</i>
3:50 pm - 4:10 pm	A new school of mines in Queensland, Australia – 150 years in the making. <i>Steve Hall Central Queensland University Australia</i>
4:10 pm - 4:30 pm	Presentation of Colombian Commission on Resources and Reserves – CRIRSCO. <i>Wilfredo López AIMC. Colombia</i>
4:30 pm - 4:50 pm	Beneficiation of minerals in Namibia – challenges and opportunities for collaborative research. <i>H. Musiyarira and G. Dzinomwa Namibia University of Science and Technology</i>
4:50 pm - 5:10 pm	Toward un SDG 11: paths of mining cities sustainability as practiced in China <i>Zhongxue LI Yankai ZHANG Hongguang JI, University of Science and Technology Beijing, China</i>



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Night	Dinner
7:30 pm - 10:00 pm	SOMP Awards dinner
Friday, September 24 th 2021	
Morning	Working Session No. 7 at "Parque Arvi"
Section VI	Members Development and IT
7:15 am - 8:15 am	Trip to "Parque Arvi"
8:30 am - 9:00 am	Presentation of IT Committee and discussion. <i>Prof. Zach Agioutantis</i>
9:00 am - 9:20 am	Mining health and safety and the Importance of academic exchange programs for its improvement. <i>Nino Ripepi - Juan José Monsalve Virginia Tech, Juan E Monsalve Universidad Nacional de Colombia</i>
9:20 am - 9:40 am	Smart mining operation system and construction plan in China <i>Qingxiang Cai, Wei Zhou, Xiang Lu China University of Mining and Technology, Xuzhou, China</i>
9:40 am - 10:00 am	Coffee/Tea Break
Section VI	Research, Development and Industry Session
10:00 am - 11:00 am	Research, Development and Industry: Chair – <i>Prof. Kwame Awuah-Offei</i>
11:00 am - 11:20 am	Challenges in autonomous underground tramming operations <i>Z. Agioutantis, S. Schafrik, J. Sottile, and V. Androulakis University of Kentucky, Lexington, KY</i>
11:20 am - 11:40 pm	Methods for minimizing hazards during and after the closure of underground coal mines <i>Prof. Jan Palarski, Prof. SUT Violetta Sokoła-Szewiotoła, Silesian University of Technology, Poland</i>
11:40 pm - 12:00 m	Smart mining and law <i>Prof. Dr. jur. Walter Frenz, Maître en Droit Public, RWTH Aachen University</i>
Section VII	Future of SOMP
12:15 m - 1:00 pm	Discussion on Future of SOMP: <i>Prof. Vladislav Kecojevic</i>
1:00 pm - 1:15 pm	Presentation of the next regional conferences
1:15 pm - 1:30 pm	Presentation of the next SOMP annual conferences
Closing Ceremony	
1:30 pm - 1:45 pm	Closing speech
1:45 pm - 2:30 pm	Closing lunch
Afternoon	Closing activities
2:30 pm - 4:00 pm	Visit "Parque Arvi" and Cable
4:00 pm - 5:00 pm	Trip to School of Mines
5:00 pm - 8:00 pm	Cultural session at School of Mines



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Saturday, September 25th 2021

8:00 am - 5:00 pm

Optional Post conference Technical tour - By Plane

We look forward to greeting you in Medellin – Colombia. Best regards/Mit freundlichen Grüßen und Glückauf

Prof. Oscar Jaime Restrepo Baena 2019-2021 SOMP President

Prof. Vlad Kecojevic SOMP Secretary-General