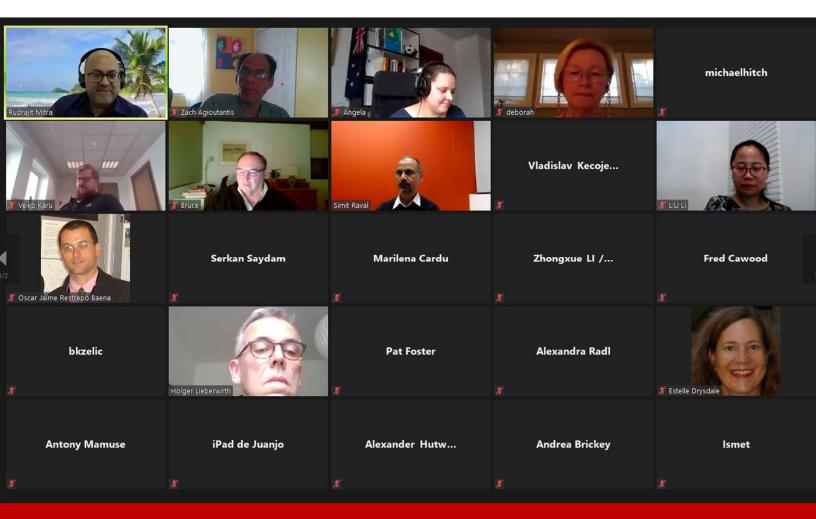


Society of Mining Professors Societät der Bergbaukunde

Email: info@mineprofs.com; Web: www.mineprofs.org

SOMP Newsletter

Number 52, December 2020



2020: Year of COVID-19

THE COUNCIL

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Members for Asia: **Zhongxue Li**, University of Science & Technology Beijing, China; **Nga Nguyen**, Hanoi University of Mining and Geology, Vietnam

Member for North America: **Zach Agioutantis**, University of Kentucky, USA

Members for Europe: Jürgen Kretschmann, TH Georg Agricola, Bochum, Germany; Marilena Cardu, Politecnico di Torino, Torino, Italy



SOMP Educational Webinar



Oscar Jaime Restrepo Baena 2019-2021 SOMP President

A word from our SOMP President

Dear colleagues and friends,

It has been a different and complex year and has been a real challenge for all of us. All countries have experienced the consequences of the COVID-19 pandemic in different ways. And yet, despite all the difficulties and complex situations, we have been able to pull through and not give up.

This year began with many expectations; after the 30th Annual Meeting of our Society was held in July 2019 in Bochum, Germany under the leadership of Professor Jürgen Kretschmann, the level of excitement had been very high and therefore we had prepared a very full agenda for the 31st Annual Meeting that would have taken place in the city of Medellín, Colombia. Our Secretary General, Professor Vladislav Kecojevic, had visited our city at the end of 2019, and in January 2020 we had already built a very promising agenda, which we adjusted in its academic details while in the city of Phoenix during the SME Annual Meeting and Expo. At that very same time, the pandemic was lurking and manifesting itself all across the globe, before officially confining us all in the month of March 2020. We had to postpone the annual meeting until 2021, as that was the most responsible action we could take.

Since then, we have all had to change our perspective. Now in-person classes do not exist at many universities, and we have had to perform our activities from a distance, online and sometimes with very little attendance; this is just what is necessary to ensure that academic activities can be still performed.

But virtuality has also strengthened us, and this is how we have been able to maintain our dynamics; although we do not see each other physically, we have multiplied our activities in the SOMP in the digital world. In almost every month since March, including this December, we have fostered communication and a lot of activities. We have held seminars, meetings, conferences, workshops, and talks - and we have increased the number of members of our society, which is very good news.

Now we are preparing the 2021 SOMP Annual Meeting in the city of Medellín and we want it to be a success; it could be in-person, or it could be hybrid (in-person and online). We want to be sure that all attendees can attend in a healthy and safe way, and we know that we are going to achieve it. We are going to be very attentive to the way the pandemic develops and how we can defeat it through vaccination, which has already begun in several countries.

This difficult situation is not going to stop us, and we will do our best to continue growing and developing our work in support of mining, as well as the growth of our countries through our students and our Society.

I wish you a Merry Christmas and happy New Year and that 2021 arrives full of many achievements for all. I hope you are safe and healthy.

My best wishes from Medellín, Colombia.



From the desk of the SOMP Secretary-General



Vladislav Kecojevic SOMP Secretary-General

Dear SOMP Members,

Greetings from Morgantown, West Virginia, and welcome to the 52nd Newsletter from the Society of Mining Professors (SOMP) / Societät der Bergbaukunde! I am writing this note in late December—my thoughts and prayers are with my SOMP friends and colleagues, and I do hope you are all staying safe and healthy.

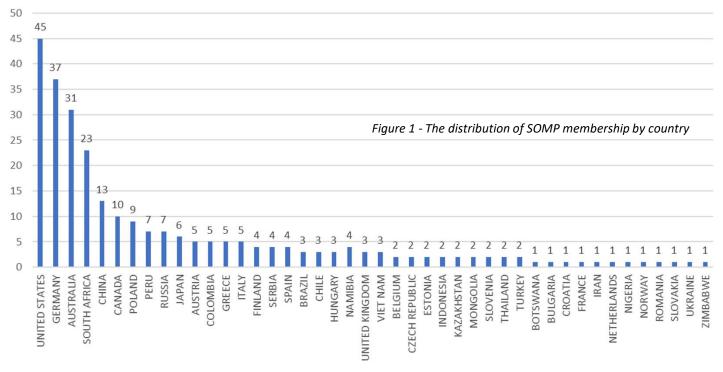
What an unprecedented year it was for all of us! 2020 brought significant and unexpected challenges and disruptions in our lives. We switched to online class delivery almost overnight, the SOMP Council made the decision to postpone the 2020 Annual General Meeting (AGM) originally scheduled for June 30 – July 3 in Medellin, Colombia, and we all learned to adjust to strict COVID-19 rules and guidelines issued by our respective institutions and medical authorities. However, we did not retreat; we adapted and responded to these new circumstances. We see the light at the end of tunnel in the fight against COVID-19, and I am confident that we will prevail.

Currently, our Society membership is at 274, with 232 male and 42 female members, representing 115 institutions in 44 countries. There are 216 full, 17 emeritus, 27 junior, and 14 retired members. Figure 1 shows the distribution of SOMP membership by each country. It can be noted that the highest number of SOMP members are in the United States (45), followed by Germany (37), Australia (34), South Africa (23), and China (13).

This year, we have celebrated the 30th Anniversary (1990-2020) of our Society. This milestone offered a wonderful opportunity to reflect upon the history of our Society and the legacy it has made to our profession since its inception in 1990, during a special inaugural meeting of 20 professors hosted by the Montanuniversität in Leoben, Austria. At its beginning, the Society functioned primarily as a European entity of senior academics in the mining engineering discipline. Today, we are truly a diverse and inclusive Society, welcoming to those from around the globe. To that extent, we published a comprehensive and special brochure which reflects upon the road we took over the last three decades. This brochure can be accessed at the following link: https://www.miningprofs.org/media/default/page/2020_SOMP_30year_Anniv_June.pdf

As we mark this anniversary, we have every reason to be proud of the Society's past and hopeful about its future. Those of us with more years than we want to acknowledge should not give up hope about the legacy we will leave, and I am confident that our Society will continue to make a difference for many years to come.

We have organized several SOMP online webinars, adopted a new SOMP Anthem, signed the Memorandum of Understanding with the International Journal of Mining Science and Technology published by Elsevier, organized the SOMP session at the 2020 SME Annual Meeting and Expo in Phoenix, AZ, USA in February, and were also able to keep the SOMP on stable financial ground. There were so many achievements and accomplishments from our members in 2020. I do hope that you will enjoy reading about them in this newsletter.



I wish you all a safe, healthy, and happy New Year.

Welcome to New SOMP Members

We are very pleased to report that in the last 12 months, up to the beginning of December 2020, we have welcomed 29 new SOMP members. Congratulations and welcome to all of our new members! We look forward to meeting with you in the future and to your active participation in the Society. Thanks also to those members who encouraged and supported you through nomination. All members are once again reminded that membership is not restricted just to those of us who are full professors. Under the constitution of the Society, any person who is directly involved or affiliated with mining engineering education is eligible to join SOMP. We strongly encourage younger mining academics or faculty members who are just setting out on a mining academic career to consider joining SOMP to benefit from its ever-increasing international network of fellow mining academics. Current members, please encourage your younger colleagues to consider membership. This includes current PhD students or post-docs who may be considering an academic career in the future – they can apply to join SOMP as a Junior member, where they can gain access to all that the Society is doing in the international network of mining academics. Prospective new members should contact Zach Agioutantis (University of Kentucky) with any queries regarding the online membership application process (or any other website inquiries). His email address is: zach.agioutantis@uky.edu

Last Name	First Name	Institution	Country
Fan	Gangwei	China University of Mining and Technology	CHINA
Richins	Amy	University of Utah	UNITED STATES
Monsalve	Juan Eugenio	Universidad Nacional de Ingeniería	COLOMBIA
Moradi Afrapoli	Ali	University of Alberta	CANADA
Bustamante Rua	Mois Oswaldo	National University of Colombia	COLOMBIA
Fernández	Begoña	Universidad de Oviedo	SPAIN
Frenz	Walter	RWTH Aachen University	GERMANY
Preusse	Axel	RWTH Aachen University	GERMANY
Kortnik	Joze	University of Ljubljana	SLOVENIA
Hall	Robert	South Dakota School of Mines and Technology	UNITED STATES
Hu	Ке	TU Bergakademie Freiberg	GERMANY
McBrayer	Amy	South Dakota School of Mines and Technology	UNITED STATES
Nowosad	Sandra	TU Clausthal	GERMANY
Si	Guangyao	UNSW Sydney	AUSTRALIA
Tapia Cortez	Carlos	UNSW Sydney	AUSTRALIA
Afeni	Busuyi	The Federal University of Technology Akure	NIGERIA
Barriga Paria	Christ Jesus	Universidad Nacional de Moquegua	PERU
Romero	Alfonso	National University of San Marcos (UNMSM)	PERU
Uahengo	Foibe	NUST Namibia University of Science and Technology	NAMIBIA
Tajdus	Krzysztof	Strata Mechanics Research Institute, Polish Academy of Sciences	POLAND
Craynon	John	West Virginia University	UNITED STATES
Alvarez Paredes	Luis Ernesto	Universidad Santo Tomas	CHILE
Erdenetsoo	Baljinnyam	German-Mongolian Institute for Resources and Technology	MONGOLIA
van der Walt	Jennifer	University of Pretoria	SOUTH AFRICA
Philo	Keaton	University of Pretoria	SOUTH AFRICA
Casasbuenas Cabezas	Yamile Isabel	Colorado School of Mines	UNITED STATES
Alexander	Dan	West Virginia University	UNITED STATES
Li	Binghao	UNSW Sydney	AUSTRALIA
Lamei Ramandi	Hamed	UNSW Sydney	AUSTRALIA

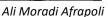


Amy McBrayer



Alfonso Romero







Amy Richins



Dan Alexander



Ke Hu







Yamile Isabel Casasbuenas Cabezas



Walter Frenz







Guangyao Si

FLUOR.

FREEP



Foibe Uahengo Juan Eugenio Monsalve Jennifer van der Walt



Robert Hall



Hamed Lamei Ramandi

Sandra Nowosad

Krzysztof Tajdus



Binghao Li

LLAR"

Joze Kortnik



Fan Gangwei

The SOMP Council and membership approved a new SOMP Anthem in 2020. This song was written and performed by the past SOMP President and the President of Georg Agricola University, Jürgen Kretschmann. This innovative and inspirational performance by Prof. Kretschmann can be seen at the following YouTube link

https://youtu.be/OeRfb3W3VYo

A DESCRIPTION OF

The full text of the song is included at the end of this newsletter.

Miners' Anthem Prof. Jürgen Kretschmann

SOMP at 2020 SME Annual Meeting and Expo

Andrea Brickey (South Dakota School of Mines and Technology) and George Barakos (TU Bergakademie Freiberg) chaired the SOMP session on "SOMP: Careers in Academia – Choosing the Best Path for You" at the 2020 SME Annual Meeting and Expo in Phoenix, AZ, USA. This session included an intro presentation on SOMP and its activities by Oscar Jaime Restrepo Baena and Vladislav Kecojevic, followed by presentations on "Career Power in Mining Engineering" by Priscilla Nelson (Colorado School of Mines); "Transitioning from Industry to Academia: Is the Grass Really Greener?" by Michael Hitch (Tallinn University of Technology); "Female Faculty Development in Southeast Asian Mining Schools" by Nga Nguyen (Hanoi University of Mining and Geology); and "How Teaching in the Mining Engineering Program at Clausthal University Changed My Career Goals" by Alex Hutwalker (Clausthal University of Technology). After the presentations, panelists Vladislav Kecojevic, Priscilla Nelson, Michael Hitch, Nga Nguyen, and Alexandar Hutwalker answered questions regarding the various paths to a successful and rewarding career in academia around the world. SOMP members also took part in the traditional Komatsu academic gathering for professors and students.

. Barako

Presentation by Alex Hutwalker at the 2020 SME Annual Meeting and Expo in Phoenix, AZ

FEMALE FACULTIES DEVELOPMENT IN SOUTHEAST ASIAN MINING SCHOOLS

SME Change

NGA NGUYEN HANOI UNIVERSITY OF MINING AND GEOLOGY, VIETNAM Nguyenthihoainga@humg.edu.vn

> Presentation by Nga Nguyen at the 2020 SME Annual Meeting and Expo in Phoenix, AZ

> > 7



Presentation by Michael Hitch at the 2020 SME Annual Meeting and Expo in Phoenix, AZ

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SOMP members at Komatsu academic gathering during the SME Annual Meeting and Expo in Phoenix, Arizona, US

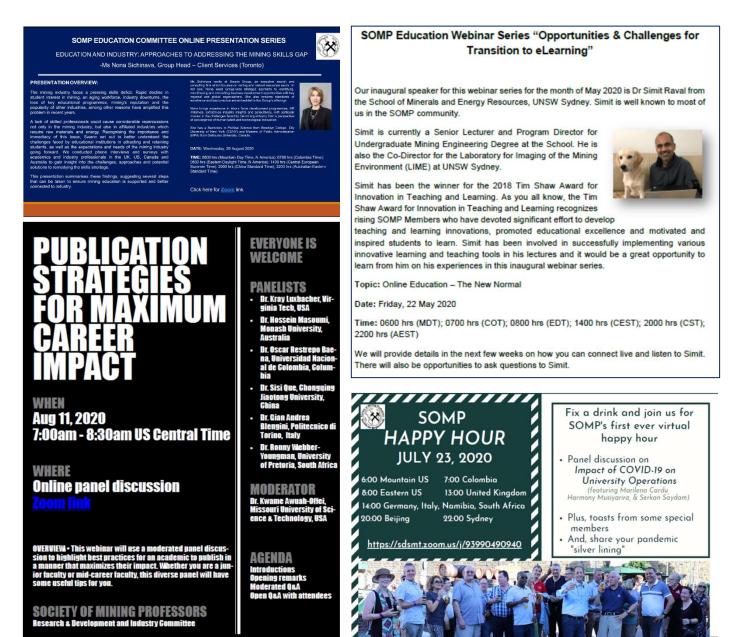
SOMP Webinars

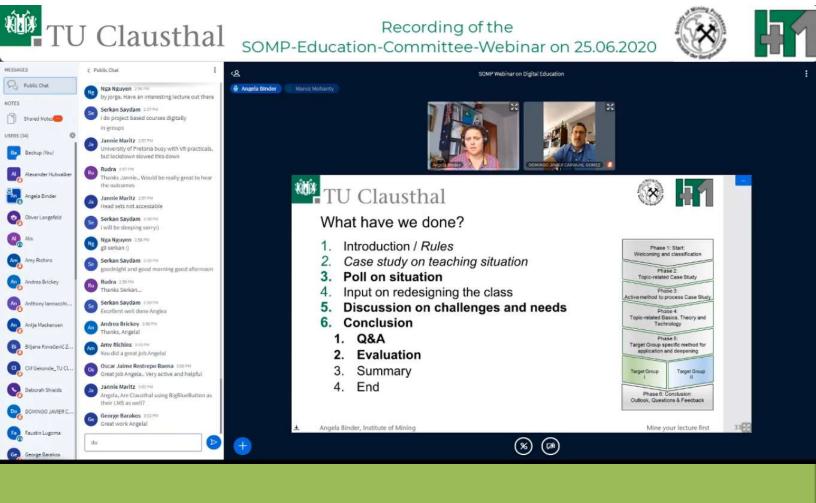
The SOMP Committees were very active in organizing online webinars in 2020.

The Education Committee, chaired by Rudrajit Mitra (RWTH Aachen), hosted an Education Webinar Series on "Opportunities & Challenges for Transition to eLearning". The inaugural speaker for this webinar series was Simit Raval (UNSW Sydney). Angela Binder (TU Clausthal) gave the presentation on "Mine your lecture first – Approach for a quick transition towards digital education", while Nona Sichinava (Swann Group) was speaking on "Education and Industry: Approaches to Addressing the Mining Skills Gap".

The Research & Development and Industry Committee, chaired by Kwame Awuah-Offei (Missouri University of Science and Technology), organized an online panel discussion on "Publication Strategies for Maximum Career Impact." The panelists included Kray Luxbacher (Virginia Tech), Hossein Masoumi (Monash University), Oscar Jaime Restrepo Baena (Universidad Nacional de Colombia), Sisi Que (Chongqing Jiaotong University), Gian Andrea Blengini (Politecnico di Torino), and Ronny Webber-Youngman (University of Pretoria).

The Membership Development Committee, chaired by Emily Sarver (Virginia Tech) and Andrea Brickey (South Dakota School of Mines and Technology), hosted the SOMP virtual happy hour with a panel discussion on "Impact of COVID-19 on University Operations" featuring Marilena Cardu (Politecnico di Torino), Harmony Musiyarira (Namibia University of Science and Technology), and Serkan Saydam (UNSW Sydney). This Committee also organized a special SOMP virtual session on "Integration of Sustainable Development into Mining Engineering Curricula" which included the following speakers: Jessica Smith (Colorado School of Mines), Emily Sarver (Virginia Tech), and Oscar Jaime Restrepo Baena (Universidad Nacional de Colombia).





SOMP Webinars

Integration of Sustainable Development into Mining Engineering Curricula



Dr. Jessica Smith Humanitarian Engineering Colorado School of Mines



Dr. Nicole Smith Mining Engineering Colorado School of Mines



Dr. Emily Sarver Mining & Minerals Engineering Virginia Tech



Dr. Oscar Jaime Restrepo Baena Mining and Metallurgy Engineering Universidad Nacional de Colombia

a virtual event hosted by the Society of Mining Professors

2020 Dec 3





COLLEGE OF ENGINEERING MINING AND MINERALS ENGINEERING VIRGINIA TECH.



Economic Management in Mineral Activities

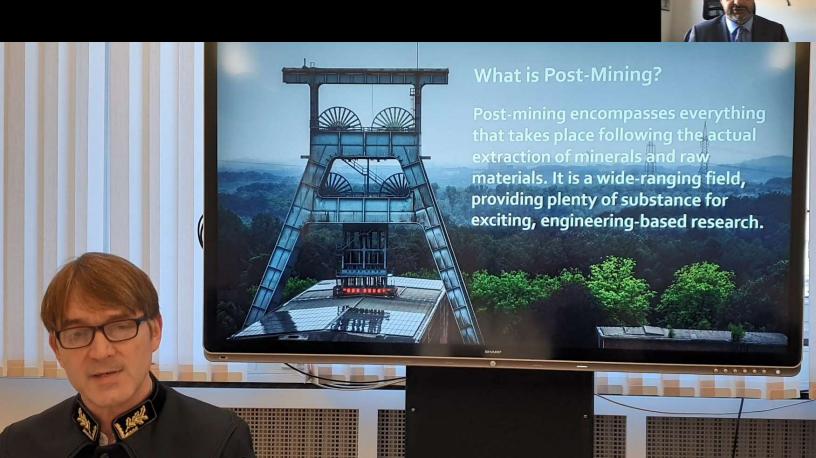
The international conference on Economic Management in Mineral Activities was organized by Hanoi University of Mining and Geology (HUMG), in collaboration with Technische Hochschule Georg Agricola (THGA), Germany, under the auspices of the Society of Mining Professors. This year marked the 20th Anniversary of the Faculty of Economic and Business Administration (HUMG).





Off-Earth Mining: The Current Status and Future

Professor Serkan Saydam



ISSN 2095-2686 CODEN IJMSL6



International Journal of Mining Science and Technology

Memorandum of Understanding (MOU) with the International Journal of Mining Sciences and Technology (IJMST)

SOMP has signed the Memorandum of Understanding (MOU) with the International Journal of Mining Science and Technology (IJMST) which is published by Elsevier. The IJMST is indexed by the Science Citation Index Expanded and Web of Science, and its Impact Factor for 2019 was 3.903.

According to this MOU, the IJMST journal will (i) include the acknowledgement of the support of SOMP on the inside front or outside back covers of IJMST and on the journal website; (ii) include the SOMP logo on the front cover of IJMST and, where possible, in promotional material associated with IJMST; (iii) dedicate one-page in each volume of IJMST to SOMP news, when available, which will be published as back-end content in the journal's standard format; (iv) permit an Annual SOMP Special Issue; (v) SOMP may supply notices or advertisements of its forthcoming conferences and other activities, which will be published in IJMST subject to the availability of space within the Special Issue. In addition, there will be a significant representation of SOMP members on the journal editorial board, and all members will have access to this journal free of charge.

The 2021 SOMP Annual General Meeting

On March 26, 2020, after careful consideration and comprehensive evaluation of available information related to the COVID-19 outbreak, the SOMP Council made the decision to postpone the 2020 Annual General Meeting (AGM) originally scheduled for June 30 – July 3 in Medellín, Colombia. Our SOMP President-Elect and President Elect-Designate, Harmony Musiyarira and Oliver Langefeld, respectively, have graciously agreed to move the AGM in Namibia to 2022 and the AGM in Germany to 2023.

The 2021 SOMP Annual General Meeting will be held in Medellín, Colombia, co-hosted by Facultad de Minas (School of Mines) at Universidad Nacional de Colombia and AIMC (Asociación de Profesionales del Sector Minero Colombiano – Colombian Mining Sector Professionals), under the leadership of 2019-2021 SOMP President Oscar Jaime Restrepo Baena. The plan is to have this AGM in hybrid mode, i.e., in-person and online in late September 2021, subject to health circumstances surrounding COVID-19 containment and vaccination efforts. More details and information will be sent to all SOMP members in late February 2021.



RoyalGold, INC

SME

OUNDATION

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SME Foundation promitive recomments JUAR J. MONSALVE Valencia is a said sous recipient of the Syd S. and Felicia J. Peng Ground Control in Mining Scholarship

Juan Jose Monsalve (Virginia Tech, USA) was the recipient of the Syd and Felicia Peng Ground Control in Mining Scholarship by the Society for Mining, Metallurgy, & Exploration (SME). The primary objective of this scholarship is to promote the science of ground control (*photo credit: SME*).

SOMP Members Awards and Recognitions

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SOMP Members Awards and Recognitions



Bruce Hebblewhite (UNSW Sydney, Australia) was awarded the 2020 AusIMM Institute Medal – the highest award granted by AusIMM each year. He was awarded for contributions to the mining industry and profession through education, research, and training. Bruce will officially be retiring from UNSW at end of December 2020 after nearly

Bruce Hebblewhite

26 years at UNSW, and he was awarded the title of Professor Emeritus at UNSW by the UNSW Vice-Chancellor effective January 1st, 2021.



Michael Nelson



Eduardo Balladares

Michael Nelson (University of Utah, USA) was named a Fellow and Distinguished Member of the Society for Mining, Metallurgy, & Exploration (SME). This recognition is given to an individual who has demonstrated significant and sustained contributions to the minerals industry and to SME.

Eduardo Balladares-Varela

(Universidad de Concepción, Chile) and a group of his colleagues received the TMS Extraction & Processing Division Technology Award by The Minerals, Metals & Materials Society (TMS). This award recognizes a closely related job or series of jobs that represents a notable contribution to the advancement of metallurgical

mining and processing technology with an emphasis on non-ferrous metals.



Nicole Smith



Sebnem Dozgun

Nicole Smith and Sebnem Duzgun,

Colorado School of Mines, USA, were the honorees in the 2020 edition of Women in Mining UK's 100 Global Inspirational Women in Mining (WIM100). The biennial publication honors female talent within the global mining industry for their contributions towards a stronger, safer, and more sustainable mining industry—including making positive and impactful changes, advocacy and a desire to empower others, perseverance in the face of adversity, and an ability to find solutions to challenges.





Elisabeth Clausen and Hermann Wotruba, RWTH Aachen, Germany received the "German Raw Material Efficiency Prize 2020", which is awarded every two years by the

Elisabeth Clausen

German Federal Ministry of Economics. The prize was awarded for the development of a new online measurement method for gypsum and anhydrite determination using acoustic emission.



Qingqing Huang (West Virginia University, USA) was recognized as the 2019-2020 Outstanding Researcher of the Year/Junior by the Statler College of Engineering and Mineral Resources. This award is intended to recognize and reward exceptional research, innovation in research, technology development,

Qingqing Huang

externally funded research grants and contracts, graduate student mentorship, entrepreneurship, and a strong record of peer-reviewed, archival publications.



Zach Agioutantis (University of Kentucky, USA) received the Outstanding Faculty Award in the Department of Mining Engineering at University of Kentucky. This is his fourth award in the five years since he joined the Department. Zach also won the College of Engineering Excellence in Research Award for his

Zach Agioutantis

research accomplishments. He was appointed as the Department Chair as of July 1, 2020.



Hani Mitri (McGill University, Canada) was appointed as the Chair of the the Canadian Mining Schools Committee (CMSC) of the Canadian Institute of Mining, Metallurgy and Petroleum (CIM). This committee was recently created to build a forum connecting people to shape the future of Canadian mining education and research. The mission of the CMSC is to inspire lifelong learning, advance

Hani Mitri

knowledge, and strengthen Canadian mining educational institutes to maintain Canada's position as a world class leader in mining education. The CMSC Executive has created a number of subcommittees to look after projects that could be of interest to the international mining community (SOMP members), most notably projects for the creation of baseline university-level curricula in mining sustainability and social licensing, AI and machine learning, and health & safety in mines. Interested SOMP members are invited to join.

SOMP Members Awards and Recognitions

Serkan Saydam (UNSW Sydney,

inaugural president of the

Engineering (ISRM).

Commission on Planetary Rock

Mechanics of the International

Australia) received the UNSW Faculty

of Engineering Dean's Global Impact

Award. He was also appointed as the

Society for Rock Mechanics and Rock



Serkan Saydam



Simit Raval (UNSW Sydney, Australia) was awarded the 2020 UNSW Vice Chancellor's Award for Outstanding Contributions to Student Learning (Postgraduate coursework teaching).

Simit Raval



Hossein Masoumi (Monash University, Australia) was recognized by the Department of Civil Engineering, in the Faculty of Engineering at Monash University, for his research accomplishments. This award recognizes a researcher who can demonstrate a strong publication record in high impact journals, evidence of attracting competitive

Hossein Masoumi

research grants, successful postgraduate supervision, research collaborations and networks, invitation to present at conferences, and contribution to a prestigious journal editorial board.



Oscar Jaime Restrepo Baena (Universidad Nacional de Colombia, Colombia) received the SAI (Sociedad Antioqueña de Arquitectos e Ingenieros - Society of Architects and Engineers) Juan De La Cruz Posada Award. This distinction is granted by the SAI to persons or entities that stand out for their services to the profession, to the Society, to the Department, or to the Country.



Monika Hardygóra (Wroclaw University of Technology, Poland) received the special recognition of Lion of Wroclaw University of Technology. This is an expression of special distinction for university employees, regardless of their positions, who make the

Monika Hardygóra

and raise its prestige in the academic world.

university famous with their work, commitment, and ideas



Nikhil Trivedi (Idekin International, USA) was selected by the SME Mineral Processing Division and the Coal and Energy Division as the recipient of the prestigious Frank F. Aplan Award. The award recognizes engineering or scientific contributions that further the understanding of the technology of coal and/or mineral engineering.

Nikhil Trivedi



Jorge Enrique Soto Yen (Universidad Nacional Mayor de San Marcos, Peru) graduated from Law School and earned the title of Attorney in Law.

Jorge Soto



Sandra Nowosad (TU Clausthal, Germany) received The Helmuth-Burckhardt-Preis 2020 Award by Vereinigung Rohstoffe und Bergbau (VRB) / Raw Materials and Mining Association (VRB). The Award has been presented annually since 1971 for outstanding examination performance in the master's degree in raw materials engineering or the major state examination.

Sandra Nowosad



Vladislav Kecojevic (left) and Manoj Mohanty

Vladislav Kecojevic (West Virginia Univ., USA) was the recipient of the Society for Mining, Metallurgy and Exploration's (SME) Coal and Energy Division Distinguished Service Award. The award, presented in February at the 2020 SME Annual Conference and Expo in Phoenix, AZ, recognized him for his dedicated and exemplary service to the coal mining industry, international education, and his research collaboration with the global mining engineering community.

Research Highlights



Peter Moser



Roussos Dimitrakopoulos



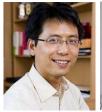
Qingqing Huang

Philipp HartliebPhilipp HartliebPhilipp HartliebAnotanuniversität Leoben was awarded two EU-H2020 projects: illuMINEation and
DigiEcoQuarry. The former project, led by Peter Moser and Philipp Hartlieb, brings
together mining industry, suppliers and IT-specialists, a total of 19 partners from all over
Europe. The main objective is to extensively utilize low-cost sensors throughout mine
sites to gain better understanding of rock mass behavior and environmental effects. The
latter, led by Philipp Hartlieb, will start in mid-2021 and last for four years. The project
will investigate digital tools for enhancing mine management, i.e in respect to process
efficiency, health & safety, and environmental side effects. On a personal note, Peter
Moser was awarded an honorary doctorate by TU Bergakademie Freiberg in October
2020.

The COSMO Stochastic Mine Planning Lab at McGill University, under the leadership of **Roussos Dimitrakopoulos**, continued its research on diverse aspects of the stochastic simulation and optimization of industrial mining complexes and related production planning, forecasting and valuation, with a focus on stochastic optimization and new machine learning approaches. Examples of key developments include the: Strategic adaptation of infrastructure/facilities in an operating mining complex under uncertainty; integration of sensor measured geometallurgical properties in short-term stochastic production scheduling; self-learning based drilling optimization for strategic mine planning; real-time adaptation of stochastic short-term production plans with incoming production data based on self-learning; deep reinforcement learning approaches for stochastic optimization; and applications at major gold and copper mines.

Qingqing Huang (West Virginia University, USA) has been working on multiple research projects aiming to extract rare earth elements (REEs) from various coal wastes, including coarse coal refuse and acid mine drainage. The biggest challenges of the ongoing research lie in producing enriched REEs from coal wastes in a both economically and environmentally benign way. The challenges are particularly noteworthy when the initial concentration of REEs in coal wastes is typically low, i.e., parts per million, compared to traditional REE-bearing minerals. Moreover, radioactive elements, such as thorium and uranium, are generally associated with REEs, which raises environmental concerns. To overcome these challenges, her team has been developing advanced separation technologies to recover REEs in a technically feasible, economically, and environmentally viable way. To date, promising results have been generated, and pure REE solids with a concentration greater than 90% have been generated.

Moreover, hazardous and radioactive elements are selectively removed prior to the recovery of REEs. Her team is now advancing the research from the laboratory/bench scale to the pilot-scale testing with the ultimate goal of realizing the commercial production of REEs from coal wastes in the long run. Therefore, a mining liability can be turned into a critical revenue chain. Due to the significant research findings being generated by the team, two new projects have been recently awarded by Shonk Investments LLC and the US Department of Interior to expand the interest from REEs to other critical minerals, such as cobalt and lithium, etc. Research efforts have also focused on extracting REEs and phosphorous for Florida phosphate processing clays. All these ongoing studies aim to diversify the domestic supply chains of critical minerals and facilitate their commercial production within the country.



Binghao Li



i i



Zach Agioutantis

Steve Schafrik

DeepIoT is a new hybrid wireless Internet of Things (IoT) platform for underground mines funded by Cooperative Research Centres Projects (CRC-P) in Australia, led by **Binghao Li** and **Serkan Saydam** at UNSW Sydney in collaboration with Roobuck Pty Ltd. The project received AUS \$5 million in funding in February 2020 with a goal of developing a world-first wireless network integrating four major wireless technologies into a single platform, improving the productivity and safety of mines. The DeepIoT platform and its designed applications will not only boost the productivity and safety of mines, but also open the door toward the digital mines of the future and enable full automation.

Steven Schafrik and **Zach Agioutantis** (University of Kentucky, USA)) are developing expertise in underground equipment automation through externally funded projects. Their research covers the autonomous navigation of shuttle cars, automated docking of shuttle cars to continuous miners and the robotic handling of roof bolts during roof bolting operations

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In Memoriam



It is with great sadness that we remember Uroš Bajželj, emeritus professor at the University of Ljubljana, Slovenia, who passed away on March 30, 2020 at the age of 88. Professor Bajželj has been a member of SOMP from its inception at the Montanuniversitat in Leoben, Austria in 1990, and was the 1993-1994 SOMP President.

SOMP Website and SOMP Facebook Page

Members are encouraged to regularly visit the Society website for up to date information about our activities and to seek out information concerning other members.

SOMP Web Site: <u>https://miningprofs.org/</u>

SOMP Facebook Page: https://www.facebook.com/mineprofs/

Members Details

Please check that your personal details on the website are correct. Where possible, you should make corrections yourself, but if not, then please advise our IT & Communications Director, Zach Agioutantis, and request corrections or updates to be made. His email address is: zach.agioutantis@uky.edu

All members are also strongly urged and encouraged to take 10 minutes to insert their teaching and research interests into the member database. It is simple to do – we are only seeking keywords to describe your three priority teaching areas and three priority research interest areas.

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2019-2021 SOMP President Contact Data



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The Tim Shaw Award is administered by the Education Committee, currently chaired by Rudrajit Mitra, RWTH Aachen University, Germany.

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The Bruce Hebblewhite SOMP Best Paper Award is administered by the session chairs at the SOMP Annual General Meeting and the SOMP Deputy Secretary General Serkan Saydam, UNSW Sydney, Australia.

Vocal

Miners' Anthem

Words and music: Jürgen Kretschmann



Miners Anthem Vocal



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