

Speakers and presentations

Serkan Saydam (UNSW, Sydney): *Update on the Commission of Planetary Rock Mechanics – The New Subdiscipline of Rock Mechanics and Engineering*

Serkan Saydam received his BSc, MSc and PhD degrees in Mining Engineering from the Dokuz Eylul University, Izmir, Turkey and completed his Postdoctoral Fellowship at the University of Witwatersrand, Johannesburg, South Africa. He then worked at De Beers for 3 years as a project manager in Johannesburg, South Africa. Serkan joined the School of Mining Engineering as a Senior Lecturer in 2006 and since 2017 he has been working as a professor. He is currently Chair of Mining Engineering at the School of Minerals and Energy Resources Engineering at UNSW. A key focus of his research is to address the current needs and future challenges the minerals industry faces. These are generally complex engineering problems as mining environments become more extreme and constraints are imposed due to increasing social, environmental, and health and safety standards. His fields of research include space resources engineering, ground control, mine systems design, mine internet of things, and technology integration and management. He established research collaborations with NASA, ESA and Luxembourg Space Agency, and KICT, as well as more than 40 research organisations and universities globally. He has more than 250 publications and graduated with 19 PhD students. Serkan attracted more than \$15M in research grants. Serkan is known for founding and chairing the AusIMM's International Future Mining Conference Series and co-chairs AusIMM's AusRock Conference Series and Off-Earth Mining Forums. Professor Saydam is the High-Level Advisory Board Member of EU funded illuMINEation Project and the Advisory Board Member of 7Sisters Mission, the first Australian Mission for the Moon. Serkan also invented the Virtual Mine – ViMINE mining engineering game. Professor Saydam received multiple academic awards, including the 2020 UNSW Dean's Award for Global Impact, the 2019 UNSW Vice Chancellor's Postgraduate Research Supervision Award and the 2017 Society of Mining Professors' International Tim Shaw Innovation in Teaching Award. Serkan is currently a Fellow Member of the AusIMM; President of the ISRM Commission on Planetary Rock Mechanics; Deputy Director of the Australian Centre for Space Engineering Research (ACSER) at UNSW; Deputy Secretary-General and Council Member of the SOMP (The Society of Mining Professors). Prof Saydam is also President-Elect 2023 for the SOMP.

Daisuke Asahina (Geological Survey of Japan): *Evaluation of the geometric distribution of Mars faults using satellite data*

Daisuke Asahina obtained his Ph.D. degree at the University of California, Davis (USA). He is currently a senior scientist at Geological Survey of JAPAN. His research work centers on rock mechanics problems which are related to responses of fault activation.

Ömer Aydan (University of Ryukyus, Japan): *Some attempts for inferring the mechanical properties of rocks and discontinuities in Mars*

Dr. Ömer Aydan was born in 1955, and studied Mining Engineering at the İstanbul Technical University, Turkey (B.Sc., 1979), Rock Mechanics and Excavation Engineering at the University of Newcastle upon Tyne, UK (M.Sc., 1982), and finally received his Ph.D. in Geotechnical Engineering from Nagoya University, Japan in 1989. He worked at Nagoya University as a research associate (1987-1991), and at the Department of Marine Civil Engineering at Tokai University, first as Assistant Professor (1991-1993), then as Associate Professor (1993-2001), and finally as Professor (2001-2010). He then became Professor of the Institute of Oceanic Research and Development at Tokai University, and he moved to

Department of Civil Engineering, the University of Ryukyus (Nishihara, Okinawa, Japan) the professor of Material Science and he retired at the March of 2020 as Emeritus Professor. He has been an adjunct staff of the University of the Ryukyus Disaster Prevention Research Center for Island Regions since 2014 and served as the director of the Center until he retired. He established the natural disaster simulation facility. Dr. Ömer Aydan has played an active role on numerous ISRM, JSCE, JGS, SRI and Rock Mech. National Group of Japan committees, and has organized several national and international symposia and conferences. He organized 2019 Rock Dynamics Summit in Okinawa in May 7-11, 2019 as the world top level conference in Rock Dynamics. He was also made Honorary Professor in Earth Science by Pamukkale University in 2008. He is currently the Vice President at Large of the International Society for Rock Mechanics and Rock Engineering. He was appointed as the associate editor of the Journal Rock Mechanics and Rock Engineering in April, 2020. He is the author and/or one of the authors of more than 600 scientific papers and the author of five international books on rock mechanics and co-authored five more international books.

Philipp Hartlieb, Montanuniversitaet Leoben, Austria: *The need for infrastructure of space settlements and the rock mechanical challenges*

Dr. Philipp Hartlieb is a senior scientist at the Chair of Mining Engineering at Montanuniversitaet Leoben. His main research areas are dealing with sustainable and environmental mining technologies, reducing the energy consumption and environmental impact of mining operations, mainly in mechanical excavation and drilling& blasting. Amongst his activities are also projects in mine digitization, raw materials policy, education, and extra-terrestrial mining (in-situ resource utilization). A special focus of his research is set on alternative fragmentation methods (i.e. microwaves) in order to decreasing the specific energy consumption of mining operations.