

Artisanal and Small-Scale Gold Mining (ASGM) Production: Technology Without Mercury

Virtual Exhibition

Event Moderators



Susan Egan Keane is the Senior Director of Global Strategies, in the International Program of the Natural Resources Defense Council. Susan is a public health specialist with over 30 years of experience working on domestic and international environmental health issues. Her work has covered a range of topics and spanned several regions of the world. Most recently Susan has focused her advocacy on reducing global mercury pollution, particularly in artisanal and small-scale gold mining. She was directly engaged with governments during the negotiations of the Minamata Convention on Mercury, and is now working with the UN agencies, countries and NGOs to put the Convention into action. In particular, she is working with the Global Environment Facility (GEF) and UNEP on the GEF-funded planetGOLD programme to reduce mercury use in artisanal and small-scale gold mining in eight countries. She is also the co-leader of the ASGM Area of the United Nations Environment Program Global Mercury Partnership.



Professor Nellie Mutemeri is a Mineral Resources Governance Expert with a PhD in Geology. She is the founding Director and Mining Practice Lead of MutConsult, the Director of the Mineral Resources Governance Research Group, and Associate Professor in the School of Mining Engineering at the University of Witwatersrand, South Africa. She is a scientific board member at the UNESCO International Geosciences Council Programme and serves an advisor to the Diamond Development Initiative. She has more than 30 years of experience advising the public and private sector in the mining and minerals sector in Africa, Latin America and Asia, in sustainable development focusing on strategy, mining policy & governance, legislation and strategy, artisanal and small-scale mining formalisation, gender equality, responsible supply chains and ethical audits.



Kevin Telmer received his PhD from the University of Ottawa in Geochemistry and held a tenured Professorship at the School of Earth and Ocean Sciences at the University of Victoria from 1999 until 2011 before taking the lead position at the Artisanal Gold Council (AGC). He started his work in artisanal mining in 1995 in the Brazilian Amazon and in the following decades has worked in numerous countries across three continents. He has extensive experience in technical, policy, and business capacities in the field with miners, governments, international institutions, and industry. Kevin has become a world-renowned expert and a voice on the international stage with numerous publications, including authoring the global estimate on mercury use in artisanal gold mining used to negotiate the Minamata Convention.

Presenters

October 6, 2021



Sixto Humberto Aguero, MASc, is the Chief Mineral Processing Engineer with the AGC. Sixto completed his MASc in Mining Engineering at the University of British Columbia (UBC) with a focus on grinding and energy efficiency and another MASc in Energy Management at New York Institute of Technology (NYIT) with a focus on alternative energy. He also holds a BSc in Mechanical Engineering. He has worked in the ASGM sector in Ecuador, Colombia, and Honduras, helping improve the recovery and energy efficiency of gravimetric circuits. He also worked as a teaching assistant at the Coal and Mineral Processing Laboratory at Norman B. Keevil Institute of Mining at UBC. He has over 20 years of industry experience in Honduras, Guatemala, El Salvador, Nicaragua, Panama, and Venezuela, working to improve energy use and air pollution emission monitoring and control. Sixto has been an active member of the Mesoamerican Development Institute, working on the introduction of renewable energy systems for sustainable coffee drying in Central America. For this contribution, he was awarded an appreciation certificate from US Forest International Cooperation.



Martha Amoako is the Director for Operations and Strategy for Commodity Monitor Limited. Martha is a researcher and development policy analyst with expertise in public health and sustainable development in Africa. She has undertaken research into the relationship between mining and agriculture in Ghana. Her areas of expertise include global health governance, agriculture (food security), extractives (mining) and sustainable development. She holds two Masters: MSc. International Development Studies and Master of Engineer Landscape Engineering with major in Land and Water Management from Mendel University and Czech University of Life Sciences, respectively.



Dayshawn Billiny is a graduate of the University of Guyana and currently employed with Conservation International (Guyana). He holds the position of Technical Officer for the planetGOLD Guyana project, part of CI's Responsible Mining Initiative. Dayshawn previously worked as a Metallurgist with Guyana Goldfields' Aurora Gold Mine Project. He also interned at the Research and Development Facility of the Guyana Geology and Mines Commission, the state regulatory agency for the local mining sector. While there, he worked on a cyanide technology project which constituted the practical component of his undergraduate dissertation.



Jason Gaber founded Mt. Baker Mining and Metals (MBMM) with his father, Steve, in 2010. Leveraging Steve's 35 years of experience as an engineer and Jason's background as a geophysicist and hard rock miner, they designed and built a prototype ore processing system using a unique shaker table designed for maximum recovery of fine gold. MBMM was born as a business to meet demand created when word of the Gabers' ingenuity spread throughout the small-scale mining community and grew to include jaw crushers, hammer mills, and full turn-key integrated equipment systems. MBMM grew quickly and enjoys a world-wide reputation for reliability as an American manufacturer of high-quality material reduction and concentrating equipment.



Mike Gray is a co-patent inventor of the Sluice Goose Industries GOLDROP pay dirt/gold separating processor. He received his degree from Fullerton College in Machine Tool Technology. Upon graduation, he became a tool and die maker in the Aerospace Industry in Los Angeles, CA. After working as a model maker at Hewlett Packard in Oregon, he started his own machine shop as Sunset Engineering, performing precision machine projects for the aerospace industry. After a time, he sold Sunset Engineering and worked for Viper Northwest in Oregon as a Senior Process Engineer and, as a sideline, patented and produced the Angle View calculator stand and the Spring Barrow spring propelled wheelbarrow. He is currently a journeyman machinist working for

Industrial Rebuilders Corporation and producing the GOLDROP with John Richmond.



Winifrida Kanwa is registered (Licensed) Mineral Processing Engineer with a degree from The University of Dar es Salaam. She is a member of the Institute of Engineers of Tanzania with 10 years' experience in the gold mining industry specifically in artisanal and small-scale mining. She has been working with Solidaridad for 6 years as a project manager for gold in Tanzania where she is managing a number of projects which are implemented in artisanal and small-scale gold mines. Winifrida is responsible for project planning, budgeting and implementation. She uses international standards, like Fairtrade, to build capacity of beneficiaries and different stakeholders to formalize and produce responsibly, sustainably and create impact in surrounding communities.



Cyrus Njonde is based in Nairobi, Kenya, and works for The Impact Facility as the lead mining engineer. Cyrus is passionate in empowering miners to improve productivity and community prosperity through the use of more efficient modern mining equipment, better mercury management practices, and greater regard for worker health and safety during mining operations.

Orongo Ouma, Technician Assistant at NANSIO.



John Richmond founded Industrial Rebuilders Corporation in 1981 after serving 5 years as an apprentice machinist and business manager employed at a local machine shop. The business grew to a 12,000 sq. ft. facility currently with 6 employees serving the local community's full service, maintenance machining and welding needs. In 2014 the opportunity arose to design and engineer gold recovery devices which led to the development of the GOLDROP gold/pay dirt separating processor in 2016. A US Patent #10069197 of this gold recovery device based on the physics of Elutriation was issued in September 2018. John manufactures and markets the GOLDROP as Sluice Goose Industries LLC, founded in January 2020. John has been very involved with Toby Pomeroy's Mercury Free Mining organization (MFM) since 2018 as a corporate sponsor and financial supporter promoting the GOLDROP as a new technology to eliminate mercury use to recover gold in the artisanal mining community. Testing of the GOLDROP will soon begin in collaboration with MFM and the Alliance for Responsible Mining.



Kristina Shafer is a past Creative Director and Writer/Producer for corporate ad agencies serving a wide range of jewelry clients. Her campaigns for diamond anniversary bands were syndicated nationally. In 2001, she began research on a novel apparatus for toxin-free gold mining and brought Cleangold to market in 2002. Cleangold has since been verified by two independent University studies, UNIDO, World Wildlife Fund, and Amazon Conservation Association. In 2003, Kristina formed the NGO Artminers to bring Cleangold and capacity building to those dependent on mineral resources for survival.



Daniel Stapper is a geoscientist, managing Pact's portfolio of projects focusing on the ASGM sector. Pact is a large international NGO with over 2000 employees working in over 30 countries around the world. Pact's Mines to Market Program delivers market-based solutions which support responsible development of the ASM sector. Presently, Pact's gold program is focused primarily in West Africa, with projects in Mali, Ghana, Sierra Leone, and Mauritania, with some work in South America and Asia. Prior to working with Pact, Daniel worked as a GIS analyst and environmental scientist with Golder Associates Ltd., an environmental engineering consultancy where his focus was Environmental and Social Impact Assessments (ESIAs). Daniel was a co-founding director of the ACG, where he co-developed ASGM projects and co-authored the UNEP-funded Publication "Reducing Mercury Use in Artisanal and Small-Scale Gold Mining". Daniel is Canadian and shares his time between Quebec and Paris. Daniel completed an MSc. on Mercury Use and Fate from ASGM in Central Kalimantan, Indonesia (University of Victoria, BC Canada).



Stephen Yeboah is the Chief Executive Officer for Commodity Monitor Limited. He has twice been selected as [LinkedIn Top Voice on ‘Economy and Finance’](#) and [Philanthropy and Global Development](#) for 2017 and 2018 respectively. He has more than ten years of experience in strategic research and policy analysis in Africa’s extractive sector, agriculture, energy, climate and was a Research Fellow at the Africa Progress Panel (APP), a non-profit chaired by the late former UN Secretary General Kofi Annan. He is driving Commodity Monitor’s intervention to enhance artisanal and small-scale mining operations in Ghana and other West African countries.

October 7, 2021



Tom Boston is the Executive Vice President of Sales and Marketing at Cycladex. Tom is a serial entrepreneur. His early career as a professional Nascar driver involved forming a race team, attracting sponsorship and running the program. Whilst maintaining his contacts in the auto market, Tom developed a mechanical mosquito machine to try and reduce populations without harmful chemicals and went all the way through prototypes. With a desire to move into the gold market, and after several years of due diligence, he purchased his own mine. Tom merged his awareness of due diligence and connection with Cycladex thereby creating an opportunity for the commercialization of Cycladex technology worldwide.



François Dumont is the co-founder and Chief Operating Officer of GoldFinX PTE Ltd and Director of a non-profit organisation based in London, Heart of Mine. An experienced entrepreneur and seasoned problem-solver with a dedication to long term and sustainable efficiency with a focus on equitable & profitable growth businesses. François is dedicated to elevating the quality of life of small-scale gold miners around the world, all while helping the environment and ensuring a sustainable continuity within the industry.



JW Dumont is currently the Director of Operations of GoldFinX PTE Ltd. An entrepreneur at heart, he has founded and managed many businesses within the technology sector. He also boasts a varied and rewarding corporate background specializing in finance, supply chain management, financial analysis and corporate strategy. With a passion for business that can simultaneously be profitable while remaining sustainable, he sees tremendous potential in the next decade’s opportunities within the ASGM industry.



Douglas Kao is a Mineral Processing Engineer with the AGC. He holds a BSc in Mining Engineering from the University of British Columbia and has been engaged in the world of ASGM since 2019. He brings about a practical approach to problem-solving by drawing on his industry experience working at various Canadian mining operations in addition to his work in the non-profit sector. A zealot of fieldwork and sustainable development, his primary role at the AGC involves the technical design, coordination, and management of establishing responsible gold extraction systems within ASGM communities. This has brought him internationally to project sites in Indonesia, Mongolia, and the Philippines. Before this, Douglas worked for Imperial Metals, Cameco, and in water treatment on process optimization, debottlenecking, and systems piloting and commissioning projects.



Kristina Kazakoff is the Chemical and Processing Engineer for Clean Mining Ltd and holds a Bachelor of Engineering (Chemical and Process Engineering) and a Bachelor of Commerce from the University of Western Australia. Kristina has over 9 years of experience onsite at gold mines in Western Australia and the Northern Territory in a variety of roles including senior metallurgist and processing coordinator. She has been involved in the start-up, design, commissioning & maintenance of new plants and conducted many test programs on gold ores. Kristina is based in Perth, Australia and is focused on technical domain pre-sales and process design for the operation of the non-toxic reagent-based Thiosulphate for Gold Leaching.



Nicole Looney is a Senior Technical Engineer for Clean Mining Ltd and holds a Bachelor's degree in science and marine biology focusing on Ecology. She has a strong background in a laboratory environment ensuring quality, safety standards, and associated protocols adhere to industry and government policies. She has worked for several organisations in the mining industry including Kelly Services, BHP, and SGS Geochemistry where she has been responsible for the day-to-day management of the laboratory. These functions include sample analysis of minerals and ores providing detailed reports for business decisions & solution optimisation. In addition, Nicole has been involved in providing Environmental Impact studies & risk assessments for a number of mining clients. Nicole is based

in Perth, Australia and is focused on the testing & optimisation of the solution, together with managing the overall environmental client liaison requirements.



German Marquez is a geologist and specialist in financial management. An expert, with more than 25 years of experience in gold mining projects in technical, legal, environmental and social aspects, German currently works as a technical specialist for the planetGOLD Colombia project. His task has been to implement the transition towards clean mercury-free technologies, the design and application of strategies for the use of equipment to identify sites with the presence of mercury and provide technical assistance to mining communities.



Pariya Torkaman is a Ph.D. student at the University of British Columbia, mining engineering department. She has BSc and MSc in water and environmental engineering from Iran. In her current research, she is working on new and unconventional methods to leach gold in artisanal and small-scale mining operations under the supervision of Prof. Marcello Veiga. She collaborates with researchers from Japan, Brazil, and Columbia on developing gold extracting methods to eliminate mercury use in ASGM. Her interest revolves around environmental contamination issues, while she likes to include the human dimension and social realities.



Dr. Marcello Veiga has worked since Dec 1997 as a professor of the Norman B. Keevil Institute of Mining Engineering of the University of British Columbia, Vancouver, Canada. He has more than 300 publications and supervised over 50 Masters and PhD students mainly on artisanal gold mining issues. He is currently a Professor Emeritus and works as a Chairman of Newlox R&D (NERD). He has worked for the past 40 years as a metallurgical engineer and environmental geochemist for Governments, Universities, International agencies, NGOs and companies in over 35 countries. From 2002 to 2008, he has worked as an expert and Chief Technical Advisor of the Global Mercury Project for GEF/UNDP/UNIDO - United Nations Industrial Development Organization. Currently, his primary research has been focused on the replacement of mercury and cyanide in artisanal and small-scale gold mining operations.