

TMS MEMBER NEWS

Share the Good News!

Contact Kelly Zappas, *JOM: The Magazine* editor, at kzappas@tms.org to share your professional accomplishments. Please note that only news submitted by current TMS members will be considered.

Babak Raeisia Featured in Smarter Every Day Series



Babak Raeisia, co-founder and head of applications and partnerships for Machina Labs, was featured in Destin Sandin's YouTube series, Smarter Every Day. Sandin is an engineer and science communicator who produces educational videos on his YouTube channel. In a recent video

as part of a manufacturing series, Sandin visited the Los Angeles-based Machina Labs and talked to Raeisia and Machina Labs chief executive officer, **Edward Mehr**, along with several other employees. This video provided a deep dive into Machina Lab's incremental sheet forming process or, as they call it,

Roboforming™. Currently, Machina Labs primarily works on sheet forming, but through innovation they hope to move into robotic craftsmanship. To learn more, watch the whole video "ROBOFORMING: The Future of Metalworking?" on www.youtube.com/SmarterEveryDay.

Raeisia is a member of the lead expert team for the new Office of Naval Research (ONR) sponsored TMS science and technology accelerator study on digital manufacturing, which includes potentially game changing manufacturing technologies such as Machina's Roboforming. He is also part of the organizing committee for TMS's Digital and Robotic Forming 2024, co-located at the TMS Specialty Congress 2024, which will take place from June 16–20, 2024, in Cleveland, Ohio. Make plans to attend or learn more about this meeting at www.tms.org/RoboticForming2024.

TMS Aluminum Courses Convene in the Kingdom of Bahrain

In September 2023, attendees met for two TMS Aluminum Courses: the 2023 Anode Technology for the Aluminum Industry Course (Anode 2023) and the 2023 Control of Potline Scrubber and Fugitive Emissions for Aluminum Smelters Course (PSFE 2023). These courses were held concurrently in Manama, Kingdom of Bahrain, and featured four days of expert instruction, collaboration, and tours of the Aluminium Bahrain B.S.C. (Alba) Plant.

Anode 2023 was a practical, operations-focused

course which built on the success of previous iterations and presented topics in the development of anodes, such as rodding and fume control with an emphasis on operational aspects and theoretical lectures. Five experts were engaged in organizing and instructing this course: **Les Edwards** (Lead Instructor), Rain Carbon Inc.; **Christopher Kuhnt**, Rain CII Carbon LLC; **Stephen Lindsay**, Alcoa/Hatch; **Alan Tomsett**, Rio Tinto Pacific Operations; and **Barry Sadler**, Net Carbon Consulting Pty Ltd.



Attendees of the Anode 2023 and PSFE 2023 courses gather in Manama, Kingdom of Bahrain. Photo courtesy of Aluminium Bahrain B.S.C. (Alba).

PSFE 2023 focused on providing a complete, intensive overview of the latest techniques for controlling and reducing emissions from the aluminum smelting process. The curriculum featured in-depth presentations from these experienced instructors: **Stephan Broek** (Lead Instructor), Kensington Technology Inc.; **Stephen Lindsay**, Alcoa/Hatch; **James Metson**, The University of Auckland; **David Wong**, Atmolite Consulting Pty Ltd.

Both courses included tours to the state-of-the-art Alba plant, one of the world's largest aluminum smelters, which produces aluminum products in the form of Standard and Value-Added Products.

Learn more about the TMS Aluminum Courses at www.tms.org/AluminumCourses.



Anode 2023 and PSFE 2023 participants tour the Aluminium Bahrain B.S.C. (Alba) plant. Photo courtesy of Aluminium Bahrain B.S.C. (Alba).

Journal of Sustainable Metallurgy Seeks Topical Collection Submissions

The *Journal of Sustainable Metallurgy* is seeking submissions for the topical collection, "Reaction Kinetics Study of Ferrous and Non-ferrous Materials Using Hydrogen and Biomass," guest edited by **Xue Feng Dong** and **Paul Zulli** from the ARC Research Hub for Australian Steel Innovation at the University of Wollongong, Australia. This topical collection is dedicated to advancing understanding of

reaction kinetics of ferrous and nonferrous materials under metallurgical conditions with hydrogen and biomass. It will present the latest research outcomes from the study of reaction kinetics in various fluid-solid systems found in the metallurgical industry.

The scope will cover experimental analysis and

measurements, numerical modelling, process evaluation, and reactor design, ultimately to enable quantitative analysis of kinetics. Specifically, this collection will assemble manuscripts from different perspectives, including reviews on hydrogen and biomass applications, optimal design of fluid-solid systems, theoretical model development, quantification of reaction rates and parameters, exploration of reaction mechanisms, experimental measurements and observations, analysis of morphology change and phase transformations, and future developments in process control technology. Results from laboratory and/or pilot scale studies and industrial trials are welcome.

Submissions are due **January 31, 2024**, through www.editorialmanager.com/sume. After logging in, choose "Submit New Manuscript," and then select article type "Thematic Article." When reaching the "Additional Information" screen, indicate that you are submitting for the topical collection "Reaction Kinetics Study" from the list of options. Author instructions and additional journal details are available at www.springer.com/40831.

TMS Supports Letter to State Leaders Regarding Strengthening Domestic MSE Degree Programs

As of September 2023, TMS is a signatory of a letter developed by the Essential Minerals Association that expresses the views of many U.S. colleges, universities, and engineering professional societies about the critical shortage of college graduates in geological and engineering disciplines required to meet the necessary quantity of minerals essential to the transition to clean and renewable technologies. The fields of mineral exploration, extraction, and processing struggle to hire qualified engineers and scientists, which limits these industries from innovating, achieving production targets, and strategic objectives, due to the mass retirement of

the baby boom generation and the lack of students entering relevant degree programs. In addition, the number of accredited mining and mineral development programs at U.S. universities has drastically decreased over the last forty years.

The solution to the problem laid out in this letter is to strengthen domestic degree programs, including through the Mining Schools Act of 2023 (S. 912) and its companion bill, H.R. 2685. TMS and the universities and professional societies who support this letter encourage the timely passage of both bills.

Read the whole statement at www.tms.org/CurrentIssues.

