



Finland Chapter

www.asmfinland.fi

INNOVATIVE FRONTIERS: HARNESSING AI AND NEW METHODS FOR ADVANCED MATERIAL DEVELOPMENT

Date: Tuesday January 14th 2025

Place: Restaurant Gillet, Kasarminkatu 23, Helsinki

Target audience: R&D Personnel
Experts responsible for material selection and design
Materials industry experts
Members of ASM Finland

Welcome to our seminar on future material requirements and the transformative role of Artificial Intelligence in the process industry and material sciences. AI is rapidly reshaping how we approach research, development, and production processes.

In this seminar, we will explore various applications of AI that enhance efficiency, optimize resource utilization, and drive innovation within the materials sector. From tools to evaluate material requirements to machine learning algorithms that improve material design and characterization, AI presents exciting opportunities for enhancing productivity and sustainability. Join us as we delve into case studies showcasing successful AI implementations, discuss emerging trends shaping the future of these industries, and engage with industry experts and professionals who are pioneering advancements at the intersection of artificial intelligence and materials science.

ASM International (The Materials Information Society) is an international nonprofit organization dedicated to disseminating the latest knowledge in materials engineering to its members and others interested in industry and in research institutions.

The purpose of the Finnish chapter, ASM Finland ry, is to serve as a community for Finnish members interested in materials engineering and its applications. The association organizes meetings and seminars, as well as supports and promotes publishing activities and student engagement in the field.

PROGRAM

8.30 Registration and Morning Coffee

9.00 Opening of the Seminar
ASM Finland ry

TOOLS

AI AND PROCESS INDUSTRY

9.10 AI – This Time is Different
Professor Heikki Ailisto, VTT

9.50 AI-Driven Asset Lifecycle Management
Tero Hameenaho, Etteplan

BIG DATA IN MATERIAL SCIENCES

10.30 Use of I-Tribomat data for Digital Product Passports (DPP)
Franz Pirker (online), AC2T research GmbH

11.10 VTT RIMS
Cesar Araujo, VTT

12.00 Lunch

NEW METHODS

13.00 Design of hydrogen resistance steels for pipeline and storage applications
Assistant Professor Masoud Moshtaghi, LUT University

13.40 Advancements in manufacturing of reversible solid oxide cells
Associate Professor Imran Asghar, Tampere University

14.20 Coffee

CASE STUDIES

15.00 Metris Fox – Online Quality Index For Pulp
Jari Kapanen, Andriz

15.40 Virtual Rolling and Machine Learning
Petteri Yliniemi, Indalco Oy

16.20 Use of AI to Tailor Corrosion Resistant Coatings
Assistant Professor Soumitra Samanta, Department of Computer Science, Belur Math, India

17:00 Closing of the Seminar
ASM Finland ry

Registration: By January 3, 2025, via email to asm.finland@asmfinland.fi. When registering, please include the participant's name, company, billing contact details (invoice address for electronic or paper invoices), any other necessary documents for billing purposes, and any food allergies.

Participation fees:

- 100 € + 0 % VAT (Members of ASM International)
- 180 € + 0 % VAT (Non-members)

The participation fee will be invoiced after the event and includes the services specified in the program. If participation is canceled after the final registration date, we will charge a handling fee of 30% of the participation fee. If a participant fails to show up without prior cancellation notice or cancels on the seminar day, we will charge the full participation fee. There are limited spots available for the seminar, and they will be filled on a first-come, first-served basis.

Presentation materials: The materials from the seminar presentations will be distributed through ASM Finland ry's website after the event to participants and members of ASM Finland.

Join ASM International at: www.asminternational.org