



The **Material Science and Technology Specialist Committee** of the **Hungarian Academy of Sciences** Miskolc Regional Committee and the **Institute of Physical Metallurgy, Metalforming and Nanotechnology** of the **University of MISKOLC**

sincerely invites you to the session to be held on **11th July 2022. at 10 AM** in the **Fintelligence room (A/4 main bld., III. floor, corridor towards the metallurgist' building - B1 after grand stairs, centre, glass room, glass door)** of the **University of Miskolc.**

Programme of the session:

The presentation of **Prof. Dr. Terry C. Lowe** titled: „**The emergence of nanostructuring for small-scale and large-scale metal structures**”

Abstract

Over thirty years of research elucidating mechanisms to create nanoscopic features in materials has enabled the emergence of reliable methods to manufacture bulk nanostructured metals and alloys. Nanostructured metals are becoming commercially available in engineered products for biomedical, aerospace, electronics, and energy industry applications.

The adoption of nanostructured metals has followed patterns similar to those found during the launches of other new advanced materials, but with some additional challenges. These challenges include the difficulties of scale-up, intricacies of nanoscale characterization, the lack of consensus standards for product quality, competition with long-established conventional materials, regulatory issues associated with nanoscale technology, and consumer/user education on the virtues and limitations of nanostructuring. Recent examples of structural applications of nanostructured metals will be examined to project how advanced nanostructured metal and alloy applications may evolve. The importance of advancements in enabling technologies, including new materials characterization tools, additive manufacturing methods, and machine learning technology, will be highlighted.

Special attention will be given to how transdisciplinary science and engineering has enabled greater innovation and more rapid technical advancement.

Thomson-Reuters acknowledges **Prof. Dr. Terry C. Lowe** as one of the Top 100 Materials Scientists of the 21. century, with over 11 thousand citations. He is an innovator of advanced materials and manufacturing for the medical device, metals, energy, and transportation industries, he is a full-time professor at the Colorado School of Mines

Tisztelettel:

Prof Dr. Valéria Mertinger

president

HAS- Material Science and Technology Specialist
Committee

institute head, ME-FKNI

Dr. Márton Benke

secretary

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