

**Title**      **Materials Research in the Data Era:  
NIMS Initiatives****Speaker**   Prof. Masahiko Demura  
Director, Research Network and Facility Service Division,  
National Institute for Materials Science (NIMS), Japan**Time &  
Date**       3:30 PM(JST), Wednesday, April 26th, 2023**Abstract**

The data age has arrived. There are high expectations for data-driven research in the materials field as well. In this presentation, I will outline recent efforts in data-driven materials development, with a focus on NIMS initiatives. Although materials data are not always abundant, examples of data-driven materials discovery and process optimization are expanding to metals, inorganic compounds, polymers, and so on. Recently, cases of high-speed development by combining automated experiments and AI have also emerged. The development of original tools and systems for designing materials and processes on computers is also progressing.

This talk will also address the construction of a data platform, an infrastructure to support data-driven materials research. Very recently, NIMS has developed a new system to accumulate and structure research data in a reusable form, taking advantage of the fact that NIMS is a materials research institute. Using this system, research data generated daily, including those with negative results, will be accumulated. We expect that this will significantly change materials research in the data age.

**About the Speaker**

Masahiko Demura received his B. Eng in Metallurgy in 1993 and M. Eng in Material Science and Engineering in 1995 at The University of Tokyo (U. Tokyo). After earning his master's degree, he started working at National Research Institute for Metals (current NIMS) where he currently serves as Director of Research Network and Facility Service Division since April, 2023. He received his Dr. Eng. in Material Science and Engineering from U. Tokyo in 2003. In 2015 he became Project Professor at Research Center for Advanced Science and Technology, U. Tokyo, where he remained until he moved back to NIMS for leading MaDIS as Deputy Director of Research and Services Division of Materials Data and Integrated System (MaDIS) in April, 2017. He became Director of MaDIS in April, 2020. His recent research interests include the digital transformation in materials research, particularly in the field of structural materials.

**Registration**    [https://zoom.us/webinar/register/WN\\_kni0GAejQOK2YtSZfSzXtQ](https://zoom.us/webinar/register/WN_kni0GAejQOK2YtSZfSzXtQ)**Host**        Prof. Hiroshige Matsumoto**Contact**    I<sup>2</sup>CNER · Q-PIT Office of Research Support Services,  
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