

**REFLECTIONS ON REFERENCE MODELING, SIMULATION TESTBEDS,
AND REPRODUCIBILITY**

Lars Mönch

Department of Mathematics and Computer Science
University of Hagen
Universitätsstraße 1
Hagen, 58097, GERMANY

ABSTRACT

This presentation will discuss requirements for reaching the long-standing goal of designing a reference model for planning and control functions in semiconductor supply chains. A recently proposed simulation testbed for semiconductor supply chains will be described as an intermediate step towards reaching this goal. Some applications of the testbed will be presented. The discussion of the testbed will be related to recent initiatives for replicated computational results and in more general terms to reproducibility of scientific results and open research efforts.

AUTHOR BIOGRAPHY

LARS MÖNCH received the master's and Ph.D. degrees in Applied Mathematics from the University of Göttingen, Germany, and the Habilitation degree in Information Systems from the Technical University of Ilmenau. He is a Full Professor with the Department of Mathematics and Computer Science, University of Hagen, Germany. His current research and teaching interests are in production planning and control of semiconductor wafer fabrication facilities, applied optimization and artificial intelligence applications in manufacturing, logistics, and service operations. He has authored over 80 refereed journal papers and book chapters, two monographs, and one edited book. He serves as an Associate Editor for the *IEEE Transactions on Semiconductor Manufacturing*, the *IEEE Transactions on Automation Science and Engineering*, the *European Journal of Industrial Engineering, Business & Information Systems Engineering*, and the *Journal of Simulation*. He can be reached by email at Lars.Moench@fernuni-hagen.de.