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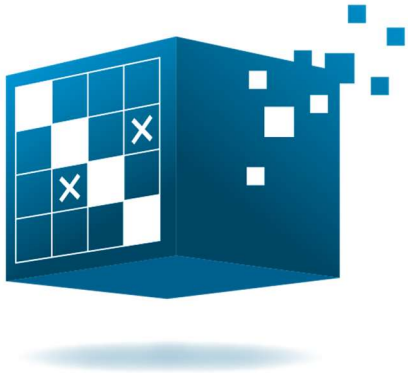

Proceedings of the 26th International Dependency and Structure Modeling (DSM) Conference

- Part 2: Extended Abstracts -

Advanced Systems Engineering focusing on Complexity Management

Stuttgart, Germany

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Foreword

Welcome to the 2024 International Dependency and Structure Modeling (DSM) Conference. After a partly hybrid event in Gothenburg, Sweden, hosted by Chalmers University in 2023, DSM returns to a fully onsite format for three days from September 24-26, 2024, in Stuttgart, Germany.

After celebrating our 25th anniversary last year, we embark on an exciting new chapter, expanding our focus to encompass all fields of Systems Engineering. This broadening of scope reflects our commitment to fostering a comprehensive understanding of the various domains within this dynamic field.

Related to this thematic opening of our focus, we are thrilled to present a special format for DSM 2024. By partnering with the Fraunhofer Advanced Systems Engineering Summit, we have created an unprecedented opportunity to bring together two well-established communities. This collaboration aims to foster greater synergy, exchange of ideas, and advancements in Systems Engineering.

After starting the takeover from TUM mid-way through the DSM 2023 planning process, the University of Stuttgart has now fully taken over the organizational lead for the DSM conference. We are honored to host DSM 2024 in Stuttgart, a city known for its innovation and engineering excellence. This transition marks a significant milestone and symbolizes the fresh leadership that will guide our conference into this new era.

The techniques involved in Dependency and Structure Modeling (DSM) have repeatedly proven highly valuable in designing and understanding complex systems. These systems include everything from product configurations to operational workflows and large-scale enterprises. Initially starting as a simple square matrix, DSM has expanded significantly, finding applications in graph theory, multiple domain matrices, systems engineering, and numerous other fields.

This year, the DSM conference provided the possibility to submit either Full Papers, which are included in a separate Part 1 of the Proceedings, or Extended Abstracts, published in this document, Part 2 of the Proceedings.

The Extended Abstracts underwent a review process separated from the Full Papers. Each abstract was briefly reviewed independently by two members of the related program committee. Only those submissions that both reviewers suggested being accepted were included in the conference and are published in these proceedings.

We extend our gratitude to the contributors, reviewers, and organizers who have made DSM 2024 possible. We are confident that this year's conference will provide valuable insights, inspire collaboration, and contribute to the ongoing growth and development of Systems Engineering.

We look forward to an enriching and inspiring event!
Best Regards,
Matthias Kreimeyer & Christopher Langner

Scientific Committee

Organizing Committee

Prof. Tyson Browning, Texas Christian University, USA
Prof. Steven Eppinger, Massachusetts Institute of Technology, USA
Prof. Matthias Kreimeyer, University of Stuttgart, Germany
Christopher Langner, University of Stuttgart, Germany
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Benjamin Schneider, Fraunhofer IAO, Germany
Harold (Mike) Stowe, theP5DC, USA
Prof. Ali Yassine, Stevens Institute of Technology, USA

Program Committee

All contributions in these proceedings have undergone a review process. We would like to cordially thank all reviewers for their invaluable support.

Prof. Tyson Browning, Texas Christian University, USA
Prof. Steven Eppinger, Massachusetts Institute of Technology, USA
Prof. Matthias Kreimeyer, University of Stuttgart, Germany
Mike Stowe, The P5DC, USA
Prof. Ali Yassine, Stevens Institute of Technology, USA

The International DSM Conference is an endorsed event of the Design Society.