



Missouri University of Science and Technology
Scholars' Mine

Engineering Management and Systems
Engineering Faculty Research & Creative Works

Engineering Management and Systems
Engineering

01 Nov 2015

Engineering Cyber Physical Systems: Machine Learning, Data Analytics and Smart Systems Architecting Preface

Cihan H. Dagli

Missouri University of Science and Technology, dagli@mst.edu

Follow this and additional works at: https://scholarsmine.mst.edu/engman_syseng_facwork

 Part of the [Operations Research, Systems Engineering and Industrial Engineering Commons](#)

Recommended Citation

C. H. Dagli, "Engineering Cyber Physical Systems: Machine Learning, Data Analytics and Smart Systems Architecting Preface," *Procedia Computer Science*, vol. 61, pp. 8-9, Elsevier, Nov 2015.

The definitive version is available at <https://doi.org/10.1016/j.procs.2015.09.135>



This work is licensed under a [Creative Commons Attribution-Noncommercial-No Derivative Works 4.0 License](#).

This Remarks is brought to you for free and open access by Scholars' Mine. It has been accepted for inclusion in Engineering Management and Systems Engineering Faculty Research & Creative Works by an authorized administrator of Scholars' Mine. This work is protected by U. S. Copyright Law. Unauthorized use including reproduction for redistribution requires the permission of the copyright holder. For more information, please contact scholarsmine@mst.edu.



Complex Adaptive Systems, Publication 5
Cihan H. Dagli, Editor in Chief
Conference Organized by Missouri University of Science and Technology
2015-San Jose, CA

Engineering Cyber Physical Systems: Machine Learning, Data Analytics and Smart Systems Architecting

Preface



Editor in Chief: Cihan H. Dagli *

Missouri University of Science and Technology, Rolla, MO 65409 USA

Multi-faceted systems of the future will entail complex logic with many levels of reasoning in intricate arrangement. The organization of these systems involves a web of connections and demonstrates self-driven adaptability. They are designed for autonomy and may exhibit emergent behavior that can be visualized.

We are building systems that are created by a network of physical objects that contain embedded technology to communicate and interact with their internal states or the external environment. These changes in technology and deployment of system of systems having these new characteristics are demanding new ways of thinking and engineering. These are complex adaptive systems that can have emergent behavior and require systems integration and engineering in their design and operation.

There is need to develop theory, methods, and tools that will allow engineers to manage the increasing complexity in the design and operations of these systems. Our quest continues to involve handling complexities of future smart cities, smart countries, and the internet of things. Researchers from academia, industry, and government met in San Jose, CA in November, 2015, to share their findings and expand the boundaries of research in Complex Adaptive Systems.

This publication of the Complex Adaptive Systems Proceedings series contains the edited versions of the technical presentations of Complex Adaptive Systems, which was held November 2-4, 2015 in San Jose California U.S.A. The extended version of each selected paper was reviewed by two referees, and then revised, edited and condensed to the format herein. The proceedings have three parts: Data Science and Analytics, Cyber Physical Systems, and Machine Learning and Adaptive Systems.

* Corresponding author.
E-mail address: dagli@mst.edu

I would like to express my gratitude to the plenary speakers at the conference for their invaluable contributions through their talks. Speakers included: Professor Olivier de Weck of MIT, Dr. Iveta Mrázová of Charles University, Dr. Sajal K. Das of Missouri University of Science and Technology, Dr. Antoine Rauzy of Norwegian University of Science and Technology, Dr. Amrita Basu of Lockheed Martin, Dr. Robert Hoffman of Florida Institute for Human & Machine Cognition and Mr. Mike Calcagno of Microsoft.

Further, I wish to express my gratitude to all authors for their contributions to this volume of proceedings and for their presentations at the conference, as well as, to all referees for their comments and suggestions for revising the papers.

I would like to mention our appreciation to the conference sponsors for bringing real life dimension, issues and engineering problems to the meeting. I would also like to thank Sue Turner, and Latesha Zach for all their help and efforts enabling me to sail smoothly in the organization of this conference and production of this volume.

Cihan H. Dagli
St. Louis, Missouri, U.S.A.
September, 2015