Prof. Dr. Habil. Mohamed Khalgui

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Mohamed Khalgui is an IEEE Senior and a Humboldt Fellow. He is a Professor of Computer Networks, and Study Program Director of Media Engineering and Technology at German International University (GIU) in Berlin, Germany. Prior to this position, he was a Researcher in Computer Science with the Institut National de Recherche en Informatique et Automatique INRIA, Nancy, France; ITIA-CNR Institute, Milan, Italy; and the Systems Control Laboratory, Xidian University, Xi'an, China. He was a Professor with the National Institute of Applied Sciences and Technology, University of Carthage, Tunis, Tunisia, and with Jinan University (Zhuhai Campus), Zhuhai, China. Prof. Khalgui co/supervised 34 defended PhD and 14 master theses, was a co-author of more than 250 research papers and book chapters, and co-published 18 innovation patents in USA, Australia, China and Tunisia. Prof. Mohamed Khalgui was the author or editor of 4 books published in USA, France and UK. He has been involved in various international projects and collaborations with partners in both academia and industry. He is also a member of different international conferences and boards of journals. Prof. Khalgui was nominated in 2019 as a Talented Professor at Jinan University in China and also got the "Great Chinese Scientific Research Award SaiLaiLa in IT" in Guangdong Province. He got the National Award in Computer Science from the Tunisian President in July 2001, was received and acknowledged as a Humboldt Fellow by the German President in June 2008, and got other scientific distinctions.

Education

B.S. in computer science from Tunis El Manar University, Tunis, Tunisia, in 2001,

M.S. in computer science from Henri Poincaré University, Nancy, France, in 2003,

Ph.D. degree in computer science from the National Polytechnic Institute of Lorraine, Nancy, France, in 2007,

Habilitation Diploma in computer science from the Martin Luther University of Halle–Wittenberg, Halle, Germany, in 2012.

Research Interests

His research mainly focuses on developing smart networked computers from the initial specification of discrete-event software to the formal modelling and verification of functional reconfigurable tasks, then the design and validation of adaptive components and the OS/network configuration as well as their scheduling under functional and extra-functional constraints. He is also interested in the co-design of hardware and software parts as well the advanced simulation of smart networked computers before the final deployment. Prof. Mohamed Khalgui was interested in various case studies to apply the proposed theoretical contributions: eHealth, smart factories, smart transportation systems, smart cities, smart homes, smart grids, smart irrigation systems, etc.

Selected Research

- Mohamed Ramdani, Laïd Kahloul, Mohamed Khalgui, Zhiwu Li, MengChu Zhou: RCTL: New Temporal Logic for Improved Formal Verification of Reconfigurable Discrete-Event Systems. IEEE Trans Autom. Sci. Eng. 18(3): 1392-1405 (2021)
- Aicha Goubaa, Mohamed Khalgui, Zhiwu Li, Georg Frey, Abdulrahman Al-Ahmari: On Parametrizing Feasible Reconfigurable Systems Under Real-Time, Energy, and Resource Sharing Constraints. IEEE Trans Autom. Sci. Eng. 18(3): 1492-1504 (2021)
- Yousra Ben Aissa, Abdelmalik Bachir, Mohamed Khalgui, Anis Koubaa, Zhiwu Li, Ting Qu:
On Feasibility of Multichannel Reconfigurable Wireless Sensor Networks Under Real-Time and Energy Constraints. IEEE Trans. Syst. Man Cybern. Syst. 51(3): 1446-1461 (2021)
- Aicha Goubaa, Mohamed Khalgui, Zhiwu Li, Georg Frey, MengChu Zhou: Scheduling periodic and aperiodic tasks with time, energy harvesting and precedence constraints on multi-core systems. Inf. Sci. 520: 86-104 (2020)
- Wafa Lakhdhar, Rania Mzid, Mohamed Khalgui, Georg Frey, Zhiwu Li, MengChu Zhou: A guidance framework for synthesis of multi-core reconfigurable real-time systems. Inf. Sci. 539: 327-346 (2020)
- Maroua Gasmi, Olfa Mosbahi, Mohamed Khalgui, Luís Gomes, Zhiwu Li: Performance Optimization of Reconfigurable Real-Time Wireless Sensor Networks. IEEE Trans. Syst. Man Cybern. Syst. 50(7): 2623-2637 (2020)
- Hanen Grichi, Olfa Mosbahi, Mohamed Khalgui, Zhiwu Li: An Extended Object Constraint Language for Adaptive Discrete Event Systems With Application to Reconfigurable Wireless Sensor Networks. IEEE Trans. Syst. Man Cybern. Syst. 50(10): 3562-3576 (2020)
- Yousra Hafidi, Laïd Kahloul, Mohamed Khalgui, Zhiwu Li, Khalid Abdulaziz Alnowibet, Ting Qu: On Methodology for the Verification of Reconfigurable Timed Net Condition/Event Systems. IEEE Trans. Syst. Man Cybern. Syst. 50(10): 3577-3591 (2020)
- Aymen Gammoudi, Adel Benzina, Mohamed Khalgui, Daniel Chillet: Energy-Efficient Scheduling of Real-Time Tasks in Reconfigurable Homogeneous Multicore Platforms. IEEE Trans. Syst. Man Cybern. Syst. 50(12): 5092-5105 (2020)