

Industry: Huawei

DATE: August 27, 2020 r.
[PANEL DISCUSSION](#): 13:30-14:30
[KEYNOTE](#): 13:00-13:30

KEYNOTE: A NEW GOLDEN AGE FOR PARALLEL COMPUTING RESEARCH: NEW MODELS, ALGORITHMS, SOFTWARE AND HARDWARE

Bill McColl

Research Director
Huawei Technologies
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Abstract

Over the next 5-10 years, our industry will need to deliver major advances in the scale, performance and interoperability of advanced computing systems. In order to drive innovation in smart healthcare, smart cities, smart transportation, scientific computing, and complex design, we will require new architectures that enable us to use vast knowledge bases, to carry out simulations and modelling at enormous scale, and to reason intelligently from the knowledge and insights generated to achieve understanding. They will need to operate at massive scale, operate continuously in realtime, and be energy-efficient, resilient and trustworthy. To achieve these ambitious goals we will need to integrate components and systems much more tightly in future heterogeneous architectures. Integrate manycore compute, memory, storage and networks. Integrate HPC, AI, Analytics, IoT and 5G. Integrate Cloud, Fog and Edge. These challenges will present parallel computing researchers with an exciting array of new problems to address - developing new parallel models, algorithms, software and hardware for systems of any scale.

Biography

Bill leads research at Huawei on algorithms, software and systems. He is also a Fellow of Wadham College, Oxford University. Previously Professor of Computer Science at Oxford, Head of Research in Parallel Computing at Oxford, and Chairman of the Faculty of Computer Science. Established and led Oxford Parallel, a major center for research on industrial and business applications of HPC at the university. Developed the Bulk Synchronous Parallel (BSP) approach to parallel architectures and software, along with Les Valiant of Harvard. BSP is now used throughout industry for massively parallel graph databases, graph analytics, machine learning and other areas of AI.

PANEL DISCUSSION

Panel members: [Tommy Zhongmin Deng](#), [Dr. hab. Eng. Piotr Bilski](#), [Dr. Eng. Krzysztof Kluza](#), [Piotr Sobecki](#)

Moderator – [dr. hab. Aleksandra Przeglasińska-Skierkowska](#)

Tommy Zhongmin Deng

Director, Wireless Baseband Lab
Huawei Technologies Sweden AB



Tommy Zhongmin Deng is the director of Wireless Baseband Lab, a multidisciplinary team including SW experts, HW experts and systems experts, at Huawei Technologies research center in Sweden . Over the years, Tommy has led the research and development of several generations of in-house Baseband SoC solutions for 3G, 4G and 5G wireless standards. He also serves on various technical committees in Huawei. Tommy joined Huawei in 2001, prior to Huawei, she has been with Nokia and Ericsson. Tommy holds degrees from the Royal Institute of Technology in Stockholm.

Dr. hab. Eng. Piotr Bilski

Deputy Director for Research
Institute of Radioelectronics and Multimedia Techniques
Warsaw University of Technology



Piotr Bilski is Associate Professor at the Warsaw University of Technology, where he heads the artificial intelligence team in acoustics. In 2008-2012 he was the Deputy Dean for Student Affairs at the Faculty of Applied Informatics and Mathematics at the Warsaw University of Life Sciences. He obtained his master's degree in engineering in 2001, and a doctorate in technical sciences in 2006 at the Faculty of Electronics and Information Technology of the Warsaw University of Technology.

Dr. Eng. Krzysztof Kluza

Vice Dean
Faculty of Electrical Engineering, Automatics, Computer Science and Biomedical Engineering
AGH UST



Dr. Eng. Krzysztof Kluza is Assistant Professor and Vice Dean of the Faculty of Electrical Engineering, Automatics, Computer Science and Biomedical Engineering at the AGH UST in Krakow, Poland. He is involved in research concerning business processes and business rules in information systems. Since 2014, he has also been the Vice President of the Board of the Laboratory of Creativity and Innovation Foundation.

Piotr Sobecki

Head of the Laboratory of Applied Artificial Intelligence



Piotr Sobecki is the head of the OPI PIB Laboratory of Applied Artificial Intelligence. PhD student in computer science (Warsaw University of Technology, Faculty of Mathematics and Information Sciences) with MA in computer science (Polish-Japanese Academy of Information Technology) and in psychology (SWPS University of Humanities and Social Sciences). In 2018 he was one of the experts preparing guidelines for the strategy for the development of artificial intelligence in Poland

Moderator – dr. hab. Aleksandra Przeglasińska-Skierkowska

Associate Professor at Kozminski University

Aleksandra Przeglasińska is Associate Professor at the Center for Research on Organizations and Workplaces at the Kozminski University and the American Institute of Economic Research. Previously she conducted postdoctoral research at the Massachusetts Institute of Technology in Boston. A graduate of The New School for Social Research in New York, where she participated in research on identity in virtual reality, with particular emphasis on Second Life. She received her PhD in the philosophy of artificial intelligence at the Department of Philosophy of Culture at the Institute of Philosophy of the University of Warsaw.



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