



UNIVERSITY OF AMSTERDAM

Benny Åkesson, professor by special appointment of Design Methodologies for Cyber-Physical Systems

4 October 2019

Dr B. Åkesson (1977) has been appointed professor by special appointment of Design Methodologies for Cyber-Physical Systems on the Faculty of Science at University of Amsterdam (UvA). The chair was established on behalf of TNO (Netherlands Organisation for Applied Scientific Research). Åkesson will combine the chair at the UvA with his research work as Senior Research Fellow at ESI, which forms part of TNO in collaboration with partners.



Benny Åkesson. Photo: Dirk Gillissen

The appointment of Åkesson means a continuation of the relationship between the UvA and TNO and also a closer collaboration between the Systems and Networking (SNE) Lab of the UvA and ESI. ESI, which works in close cooperation with the high-tech industry on making complexity in high-tech systems manageable, offers the SNE Lab a way to validate and valorise concepts and results in industrial practice. Conversely, this collaboration gives ESI access to academic research opportunities as a starting point for further applied research and development.

Model-based engineering and real-time systems

Benny Åkesson specialises in the areas of model-based engineering and real-time systems. The goal of this research is to reduce the development time and cost of complex cyber-physical systems, particularly in high-tech industries, such as manufacturing systems, cars, medical equipment and aircraft. This is done by using models as a base for specification, analysis, simulation, and synthesis. Special care is taken to ensure that the systems not only provide the right functionality, but are also guaranteed to provide it at the just right time. For example, it is essential for safety that an airbag inflates immediately when a car collides with something.

As professor by special appointment at the UvA, Åkesson will make an important contribution to new design methodologies, analysis techniques and tools for the development of complex cyber-physical systems. He will also provide education in the Software Engineering Master's programme and contribute to the development of new educational programmes.

Benny Åkesson: "I am very excited about the opportunity to plan and execute the fundamental research needed to solve the long-term problems we observe in the high-tech industry through our daily work with industrial partners. I also look forward to sharing my enthusiasm and experience from both academia and industry to motivate students and equip them well for their future as professionals."

Andy Pimentel, Parallel Computing Systems theme leader at UvA's SNE Lab: "We are delighted with the appointment of Benny Åkesson. His research will be a wonderful addition to the current research within the SNE Lab in the field of model-based design techniques for embedded computer systems. The relationship with ESI (TNO) will also offer new opportunities for industrial validation and valorisation of our research results."

Wouter Leibbrandt, ESI Scientific Director (TNO): "This appointment means a further strengthening of the bridging function that ESI has between fundamental academic knowledge and its application in Dutch industry. This is of great importance in maintaining and increasing the leading position of the Netherlands in the field of complex high-tech systems."

About Benny Åkesson

Åkesson works as a Senior Research Fellow at ESI (TNO). He was previously employed as a researcher at Eindhoven University of Technology, Czech Technical University in Prague and research centre CISTER in Porto. Åkesson has published more than 60 peer-reviewed conference papers and journal articles and two books on memory controllers for real-time embedded systems.