Dr. Kazunori Ueda,

Professor of Computer Science and Engineering, Waseda University
Visiting Professor, Egypt-Japan University of Science and Technology

Keynote title: Computer Simulations for Development of Electric Vehicles Thermal Management Systems

Bio

Kazunori Ueda received his Dr. Eng. degree from the University of Tokyo in 1986. He was with NEC and the Institute for New Generation Computer Technology (ICOT) till 1992, where he worked on the Kernel Language of the Japanese Fifth Generation Computer Systems (FGCS) project.

He joined Waseda University in 1993 and has been Professor since 1997.
He was Visiting Scientist at National University of Singapore (2000-2001) and Visiting Professor of National Institute for Informatics (2006-2016). He taught at the University of Tokyo in 1994-2000 and 2011. He has been Visiting Professor of Egypt-Japan University of Science and Technology since 2010.

His research interests are novel paradigms of computing and programming; more specifically, he has worked on the design and implementation of programming languages, concurrency and parallelism, high-performance verification, and hybrid systems. His recent projects include (i) LMNtal, a programming and modeling language based on (hyper)graph rewriting, whose full-fledged implementation supports model checking for computer-aided verification, and (ii) HydLa, a constraint-based language for the modeling and rigorous simulation of hybrid systems. He also works on modular 3D printing technologies inspired and enabled by traditional Japanese construction methods.

He acted as Area Editor and Editor-in-Chief of various well-established academic journals and Program Committee chairs/co-chairs of various well-established international conferences. He

was awarded IBM Japan Science Prize in 1993 for his research on concurrent logic programming languages. He is a fellow of IPSJ and JSSST.

In pursuit of Japanese-style Research and Education of Computer Software: Experiences with Software-Centered Research Projects

Abstract:

The conception of E-JUST, established with the Japanese partnership, was to provide problem-solving-oriented, lab-based approach in research and education. While this model is common and considered successful in Japanese universities, how to put it into practice in developing full-fledged system software in academia is not clear.

In this talk, I will discuss the role of lab-based (or project-based) approach to the research and education of computer software based on his recent projects on programming language design and implementation.

Those projects turned out to be extremely long-lived and evolutionary, and contributed to fostering meta-skills as well as domain-specific knowledge and skills. Designing and implementing novel software from scratch as a lab project can be viewed also as an embodiment of "mono-zukuri" (the art of making things), a traditional principle of Japanese manufacturing, applied to the making of complex software.