

Prof. Yoshio Mita

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Biography

Dr. Yoshio Mita is an Associate Professor of the Department of Electrical Engineering and Information Systems, Graduate School of Engineering, the University of Tokyo (UTokyo). After BE (1995), ME (1997), and PhD (2000), from Departments of Electronic and Electrical Engineering, UTokyo, he served as an assistant professor of VLSI Design and Education Center (VDEC), UTokyo, and was promoted to Lecturer at the Department of Electrical Engineering in 2001, then to Associate Professor in 2005. He was an associate researcher of French National Research Center (CNRS) in 1997-98, an invited professor of French National Informatics Institute (INRIA) in 2007-08, and a visiting associate professor of Japan Aerospace Exploratory Agency (JAXA) in 2016-17. His research interest includes CMOS and MEMS integration, such as a high voltage generating photovoltaic for autonomous distributed micro systems, CMOS-Microfluidic Integrated Devices. Since 2012, he is a manager of a Ministry of Education (MEXT)-supported National Nanotechnology Platform UTokyo open nanofabrication site, operated jointly by VDEC and Faculty of Engineering. He is running a 600 m² supercleanroom including federal standard class 1 at Takeda Building in UTokyo Hongo campus. Through the platform, he is collaborating with over 320 independent research groups inside and outside UTokyo, including over 110 companies.



Abstract – ‘Yes we can’ - An agile research and development of miniaturized smart devices and sensors through open facility on MEMS integrated VLSI

The TeamMEMS, research group lead by Yoshio Mita in UTokyo Hongo campus, proposes a research style to develop Integrated Micro Electro Mechanical Systems (MEMS) with VLSI Circuits and Materials. Research projects are conducted in an agile manner for open future targets such as an autonomous microrobot, then the developed cutting-edge technologies are deployed for industrial projects that can be either closed or kept open to public. We call such strategy (= conducting combination open target public research and closable industrial applicative research) a “university-originated linear model for 21st century”. A couple of successful and ongoing projects will be presented in the talk, including zeolite material integrated CMOS cantilever chemical sensor, microfluidic device with 100V-high voltage-generating CMOS-Integrated electro osmotic microactuator, and a Piezoelectric MEMS Ultrasonic Transducer (PMUT) targeted to +40dB overall sensitivity for medical application. These research subjects are all done through collaboration including European academic partners as well as industry. Through the presentation the PI would like that some of the elements match the needs with UTwente partners and to promote future collaboration.