CV	
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Major Field:	MEMS sensors, MEMS energy harvesters and CMOS-MEMS
Brief Resume and Biography	Daisuke Yamane received the B.S., M.S., and Ph.D. degrees in electrical and electronic engineering from The University of Tokyo, Tokyo, Japan, in 2006, 2008, and 2011, respectively. From 2010 to 2012, he was a Research Fellow of JSPS (the Japan Society for the Promotion of Science) hosted within RCAST (the Research Center for Advanced Science and Technology), The University of Tokyo. From 2011 to 2012, he was a Visiting Scholar at the University of California, Los Angeles, CA, USA. From 2012 to 2019, he was an Assistant Professor with Institute of Innovative Research, Tokyo Institute of Technology, Kanagawa, Japan. From 2017 to 2021, he was a research director of PREST, Japan Science and Technology Agency (JST). Since 2020, he has been an Associate Professor with Department of Mechanical Engineering, College of Science and Engineering, Ritsumeikan University, Shiga, Japan. From 2020 to 2022, he was a Senior Scientific Research Specialist of Ministry of Education, Culture, Sports, Science and Technology (MEXT). Since 2024, he has been a RARA (Ritsumeikan Advanced Research Academy) associate fellow, Ritsumeikan University. His research interests include MEMS sensors, MEMS energy harvesters and CMOS-MEMS technology.

Abstract	
Title	**MEMS-Electret Integration Technology for Smart Sensors**
Abstract	Dielectrics with quasi-permanent charge or polarization are called electrets and are known for applications such as microphones and air filters and are also used in electrostatic MEMS (micro-electro-mechanical systems) VEHs (vibrational energy harvesters). One technique to improve the performance and productivity of VEHs is to manufacture those devices in semiconductor processes and integrate the peripheral electronic circuits monolithically on the same substrate. Electrostatic MEMS VEHs reported so far require non-semiconductor processes for electret deposition and/or charging, which makes it difficult to integrate MEMS and electronic circuits using semiconductor processes. Recently, SAEs (self-assembled electrets), which are electrets that can be deposited by semiconductor processes and do not require any charging process, have been presented. Our research group has developed the first technique to form SAEs in MEMS devices by semiconductor processes and successfully demonstrated SAE-based MEMS VEHs. In this presentation, the integration technology of MEMS and SAEs, the characterization of SAEs formed in MEMS devices, and SAE-MEMS design technologies will be introduced, including future visions.