

## Comments from Award Recipient

### Best S&M Young Researcher Paper Award 2022

**Title:** Power Generation Demonstration of Electrostatic Vibrational Energy Harvester with Comb Electrodes and Suspensions Located in Upper and Lower Decks

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I am honored to receive the Best S&M Young Researcher Paper Award 2022 of the journal *Sensor and Materials*, which is an authoritative journal in our area of expertise. I am grateful to my co-authors H. Mitsuya (Saginomiya Seisakusho, Inc.), G. Hashiguchi (Shizuoka University), H. Fujita (Tokyo City University), and H. Toshiyoshi (The University of Tokyo) and everyone who supported and contributed to this work. This study was financially supported by JST CREST (No. JPMJCR15Q4) and JSPS Grants-in-Aid for Scientific Research (B) (No. 18H01490) and Young Scientists (No. 19K15038).

In this study, we developed a vibrational MEMS energy harvester formed in a double-deck structure using a silicon-on-insulator (SOI) wafer. The comb electrodes covered with an electret skin were placed in the active layer of the SOI, and the suspensions were made in the handle layer, thereby reducing the footprint to 62% of that of the previous model using a single layer for both electrodes and suspensions. This paper contributes to the development of a compact energy harvester that effectively converts ambient vibrational energy into electrical power. I will continue to develop sensors and actuators that contribute to society.

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