

SPECIAL ISSUE ON OPEN COLLABORATION FOR MEMS

PREFACE



Micro-electromechanical systems (MEMS), also called microsystems, have been playing important roles as key components in modern devices. This technology is based on semiconductor microfabrication on wafers and requires expensive equipment for development and production. However, MEMS are versatile and hence hard to standardize. For these reasons, open collaboration between different sectors are required for MEMS. The purpose of this special issue is to showcase endeavors in the pursuit of open collaboration.

First, three papers from Tohoku University show examples of successful collaboration between university and industry. The fourth paper (from Japan) and the ninth paper (from the USA) are submitted by companies developing services in different ways. The fifth paper is from a Japanese company that pioneered the MEMS technology called deep reactive ion etching (RIE). The sixth and seventh papers describe IC-foundry-compatible fabrication methods and their applications. The former paper (from Taiwan) describes CMOS-MEMS, which enables MEMS using surface layers for CMOS LSI. In the latter paper (from China), the single-side process to fabricate MEMS on a wafer is described. The eighth paper (from a research institute in Germany) shows successful open collaboration between the institute with university and industry.

I hope this special issue inspires engineers in the MEMS industry who are struggling with MEMS commercialization. I would like to express my gratitude to all the authors who contributed for this special issue. I would also like to thank the reviewers and Ms. T. Tanabe of MYU K.K. for their kind support in the publication of this issue. It's my pleasure to publish the issue in the 30th anniversary year of *Sensors and Materials*.

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