

Special issue WaferBond'13

“International Conference on Wafer Bonding for MEMS Technologies and Wafer Level Integration”

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WaferBond'13, the International Conference on Wafer Bonding for MEMS Technologies and Wafer Level Integration, took place in Stockholm, Sweden from 4th to 6th December 2013, organized by an international Organizing Committee and hosted by KTH Royal Institute of Technology. It was the sixth event in a row and attracted about 100 researcher and practitioners from science and industry. The attendees came from over 15 countries worldwide, including USA, Japan, China, and almost 10 European countries. From the 55 contributions, 37 were oral and 18 were poster presentations. All sessions were opened with an excellent keynote presentation held by experts in the field of wafer bonding, e.g., Helmut Baumgart (Old Dominion University Norfolk, Virginia, USA), Shahram Keyvaninia (TU Ghent, Belgium), Jörg Frömel (Fraunhofer ENAS Chemnitz, Germany), and Paul Enquist (Ziptronix Raleigh, North Carolina, USA). The conference presentations and posters covered the following topics: direct silicon bonding at low and high temperatures, metal-to-metal thermo-compression bonding (with and without solder), glass frit bonding, adhesive bonding and issues such as integration of wafer bonding into industrial fabrication processes for MEMS, reliability testing, 3D-integration, wafer bonding equipment, markets and future trends. The state-of-the-art in science was presented by universities and research institutes and the industrial relevance of wafer bonding was demonstrated by the contributions from global players such as Silex Microsystems, Okmetic, SOITEC,

X-FAB, SensoNor and others. This shows that wafer bonding is a vibrant research field that is playing a key role in the manufacturing of microsystems and micro-electro-mechanical systems (MEMS) for automotive, communication, medical and life science applications as well as in 3D-integration for next generation electronic integrated circuits (ICs).

This special issue is a collection of 12 selected and extended versions of papers that were presented at the conference. These papers have been reviewed using the usual peer-reviewing process at the Journal of Microsystem Technologies. The contributions in this special issue cover direct wafer bonding, metal-to-metal bonding, wafer bonding of heterogeneous materials, applied wafer bonding processes and advanced modelling of wafer bonding processes.

We would like to express our gratitude to the authors contributing to this compilation of recent research in the field. We hope the readers will enjoy the papers in this special issue and will be inspired to contribute to this exiting field. The next International Conference on Wafer Bonding for MEMS Technologies and Wafer Level Integration, WaferBond'15, will take place in December 2015 in Braunschweig Germany.



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