

## Preface

The 5th International Conference on Advanced Micro-Device Engineering (AMDE 2013) was held by Human Resource Cultivation Center (HRCC), Gunma University on 19 December 2013 in Kiryu, Japan. The symposium was attended by 200 researchers, and the number of presentations was 119, including 15 oral presentations (5 invited and 10 regular) and 104 poster presentations.

Gunma University was established more than fifty years ago from an amalgamation of several educational institutions, including Maebashi Medical College, Kiryu Technical College, Gunma Normal School, and Gunma Youth Normal School. From these institutions, the Faculty of Medicine, the Faculty of Engineering, and the Faculty of Education were formed. Since its inception, the university has striven to foster distinguished physicians, engineers and teachers. Focusing on science and technology, the university has contributed significantly to the development of postwar Japan. The postwar industrial and economic growth of Japan has been steadily declining while neighboring countries appear ready to overtake Japan's lead position. The effects of these changes can be seen in various social phenomena. The university must take its position at the head of our society in order to lead the way toward the construction of a new era. It is imperative that the university accomplishes its mission to stimulate new energy for a new era. In order to achieve this goal, we need the participation of students who will bear the burdens of a new age.

Human Resource Cultivation Center (HRCC) was established in 1996 as the Satellite Venture Business Laboratory (SVBL). After the Japanese National Universities were incorporated in 2006, SVBL was renamed to Advanced Technology Research Center (ATEC) and again renamed to HRCC in 2012. HRCC seeks to create fundamental technologies to foster future advanced industries and to develop human resources having professional skills and venturesome minds. The main research projects at HRCC are "Applied Materials," "Nanotechnologies," "Applied Optics," "Analog Circuit Technologies", and newly launched "Medical Science and Engineering". AMDE was first organized in 2009 to promote the activity of HRCC.

This special issue collects the contributions, submitted and accepted by at least two independent referees for this issue of *Key Engineering Materials*.

We are greatly thankful to all participants of AMDE 2013. We also acknowledge the authors and referees for their contribution to the present proceedings.

Chair of AMDE 2013

Sumio Hosaka

*Gunma University, Japan*

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