Report of EITC 2010

by *Sao-Jie Chen*,　　December 7th, 2010

The 10th Emerging Information &Technology Conference, EITC 2010, was successfully held on August 14-15, at the James H. Clark Center of Stanford University. After the opening speech was delivered by Dean Lin-Shan Lee of National Taiwan University, the four parallel technical sessions began (Fig. 1).

Fig.1. Dean Lin-Shan d Lee delivering opening speech.

In this year of EITC, with the help of Prof. Liang-Gee Chen, we have invited 25 distinguished speakers for the SoC/C4I workshop, among which 14 are from USA, 9 from Taiwan, and 2 from Japan. Among them, 12 speakers are from industry and 13 speakers from academics, which form a very strong program for the workshop. The details of invited speakers and their presentation topics are described as follows.

For the keynote speech, we have succeeded to invite Prof. Chin-Long Wey, the Director of National Chip-Implementation Center (CIC) to deliver a presentation on "Chip Design and Implementation Service in Taiwan" (Fig. 2).

Fig.2. CIC Director Chin-Long Wey delivering keynote speech.

For the System-on-Chip and Design Automation tracks, we have invited six speakers (four from USA and two from Taiwan) to deliver different topics on SoC and SoC Design Automation, such as "System-on-Chip: Will scaling challenges curtail growth?" by Dr. Howard Ko from Synopsys, "Digital System Verification Using Massively Parallel Processor Arrays" by Dr. Mikhail Bershteyn from Cadence, "The Challenge of System-Level Design" by Dr. Andreas Kuehlmann from Cadence Research Lab., and "Constructing Electronic System Level Models Using Simulink" by Dr. Ming-Fu Hsiao from Faraday. The two speakers from Taiwan presented: "Memory-Centric On-Chip Data Communication Platform for Energy-Efficient Heterogeneous Systems" by Prof. Wei Hwang from National Chiao-Tung University, and "Modularized Board-Level and System-in-Package (SiP) Platforms for Complex System Integration and Prototyping" by Dr. Chun-Ming Huang from CIC.

For the Medical System-on-Chip (SoC) tracks, we have invited six speakers (one from USA, one from Japan, and four from Taiwan) to deliver different topics related to Medical SoC, such as "Smart CMOS Image Sensors for Biomedical Applications" by Prof. Jun Ohta from Nara Institute of Science and Technology, Japan (Fig. 3), "CMOS for Biomedical Applications" by Prof. Luke Theogarajan from University of California at Santa Barbara. The other four speakers from Taiwan presented: "Towards an Electronic Nose System-on-Chip" By Prof. Kea-Tiong Samuel Tang

from National Tsing-Hua University, "Low-Power Analog Front-End Circuits for HealthCare System and Telemetry Devices" by Prof. Shuenn-Yuh Lee from National Chung-Cheng University, "Low-Power Analog Front-end Circuits for ECG Acquisition Systems" by Prof. Tsung-Heng Tsai from National Chung-Cheng University, and "Design and Implementation of an XML Parsing Engine" by Prof. Sheng-De Wang from National Taiwan University.

Fig. 3. Prof. Liang-Gee Chen hosting a Medical SoC session.

For the Wireless System and Communication SoC tracks, we have invited six speakers (four from USA, one from Japan, and one from Taiwan). The four speakers from USA are Professor Yung-Hsiang Lu from Purdue University who delivers a talk on "Mobile and Cloud Computing Opportunities and Challenges". Dr. James Larsen from the iWICS, Inc. presented "Beyond 3G™, Unlimited Capacity", Dr. Zye-Kong Cheng from iCHIPdesign, presented "A Multimedia Routing Algorithm in Multipath Environment", and Professor Yu-Hen Hu from UW Madison presented "Recent Progress in Design Methodologies for Software Defined Radio". The one speaker from Japan, Professor Kazuya Masu of Tokyo Institute of Technology presented a topic on "Physical design challenge to cognitive radio/software defined radio" and the one professor from Taiwan, Professor Chen-Yi Lee from National Chiao-Tung University presented "Recent Progress in Communications SoC's".

For the Multimedia SoC Design and New Media tracks, we have invited five speakers from USA and one from Taiwan. Dr. Yen-Kuang Chen from Intel Corporation, delivered a talk on "Debunking the 100x GPU vs. CPU Myth: An Evaluation of Throughput Computing on CPU and GPU". Dr. Bor-Yeu Tsaur from Kopin Display Corporation presented "Innovation and Commercialization of Microdisplay for 3D Applications" (Fig. 4). Dr. Scott Chun-Yang Chen from Facebook presented "Data Infrastructure at Facebook". Dr. Ching-Yung Lin from IBM T. J. Watson Research Center presented "Mine Your Business! Value and Utilization of Implicit Social Networks", and Dr. Chuo-Ling Chang from TokBox, Inc. presented "Technical Challenges and Solutions in Web-based Video Conferencing Systems". Professor Jiun-In Guo from National Chung-Cheng University delivered a talk on "Low Power Video Technology for Multimedia SoC Design".

Fig. 4. Dr. Bor-Yeu Tsaur demonstrating a 3D microdisplay headset.