Essay

Lessons Learned from 2011 Great East Japan Earthquake and Other Natural Disasters

- from IEEE R10-HTC2013 –

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First of all, I would like to introduce a unique conference recently held at Tohoku University in Sendai, to the general readers of IEICE Global Plaza. The conference "IEEE R10-HTC2013" was hosted by all IEEE Sections in Japan, in cooperation with IEICE.

Before touching upon the contents of the conference, it may be required to say something about what "Humanitarian Technology (HT)" is. Many of the readers might not be so familiar with this name. HT does not mean a certain area of technology such as information, communication etc. But it is defined as a technology challenge to seek the possibility of its application to more improve the life and society of all people over the world, especially in the area where the technologies are still unavailable. In other word, every specific technology can be regarded as a part of HT, if it is used for this approach.

In planning the conference, it was discussed that one of the most important subjects as the role of HT would be to realize the safe and secure societies against natural disasters and it was proposed to have an international conference to discuss technology versus disaster topics from the HT viewpoints.

The conference, bearing a subtitle of "Lessons Learned from Japan's 2011 Earthquake and other Natural Disasters", was designed to focus on the contributions, current limitations and future possibilities of the technologies that we have learned from the March 11 disaster in Japan and similar disasters around the world. The goal is to share the experience of the tragedy and to seek a measure to avoid and reduce the damage of probable future natural disasters, through the discussions.

Here, the conference was held at Kawauchi-North Campus of Tohoku University, in Sendai, Japan, from August 26th to 29th, 2013. As you may know, Sendai is a beautiful city in North East Japan known with the town covered by green trees and also as the largest city with about 1 million populations in the region where the Great East Japan Earthquake and Tsunami attacked on March 11, 2011. The city has played the very important role for recovery efforts from the disaster. Therefore there were a lot of good opportunities to learn about the disaster not only from the technical presentations and discussions but from many other locally arranged introductory talks and events. The participants could learn the realities of the big earthquake and associated tsunami attack which we experienced, and also great efforts of recovery from the disaster

The conference committee honorably invited three VIPs from the IEEE Board, Dr. Peter Staecker, IEEE President, Dr. Roberto de Marca, IEEE President-elect and Dr. Gordon Day, the past President. Dr. Staecker kindly expressed his expectation of our effort organizing the conference, in his opening session remarks (Fig.1).

Fig.1 Dr. Peter Staecker, IEEE President stated his expectation of the conference in his opening remarks.

Fig.2 Audience learned the new concept of Humanitarian Technology as well during technical sessions.

The main figures of the conference are as shown in Table 1. 14 Technical Sessions, including a Poster Session, were arranged to cover the variety of technical areas related with HT. As explained above, any technology can be a part of HT. In fact many excellent papers were collected from various special fields. The technical sessions covered the area of information/service, communication, smart power, robotics, sensors, medical care including human assistance tools and education.

Table 1 Main figures of R10-HTC2013

Item	Number
Registered participants	206 from 12 countries
Technical Papers	63 including invited talks
Technical Posters	12
Keynote Talks	7 including a special talk in Welcome Reception
Tutorials	2
Panel	1

As the first day tutorial, the disaster archive system named "Michinoku Shinrokuden", which means "Tohoku earthquake record archive", was demonstrated by Tohoku University International Research Institute of Disaster Science. Many participants could get the real knowledge on the Great East Japan Earthquake as the pre-information for the following discussions in the conference.

Top view Keynote Talks on the topics of disaster recovery efforts were given in each morning of the Technical Session days. Valuable guests were invited from Ministry of Internal Affairs and Communications, Tohoku University, Nippon Telegraph and Telephone Corporation (NTT) and an NGO group as the Keynote speakers. They introduced various practical efforts for the disaster recovery from their responsible points of view. As well as these informative top view talks, detailed talks on the Hurricane Sandy disaster was given by IEEE Head Quarters and the research on robotics covering the nuclear plant recovery purpose was introduced by Tohoku University. These excellent talks were followed by a Panel Discussion on the future energy.

Fig.3 Participants learned the damage of the Tsunami Disaster in the Tutorial of Disaster Archive

Fig.4 Tour to Onagawa-town attacked by 20m height Tsunami. Nothing remains there.

On the final day of the conference, a tour to the disaster area was arranged. The participants took a look of disaster spots of Ishinomaki-city and Onagawa-town, where the Tsunami swept away almost everything from the areas. It was an impactful final event to have further understanding of the dreadful disaster damage.

Through the conference, every participant could get deeper understanding of the disaster related topics with realization and the technology possibility to realize the safe and secure society against natural disasters.

IEICE also has been very active to promote technology efforts to cope with the natural disasters. I trust this event outputs will be beneficial and informative to continue our efforts in the IEICE activities as well. Furthermore, I wish all these efforts would be useful to the disaster recovery and rescue programs of each general readers' home country to minimize their future natural disaster damages. (For the details with more photos, please visit the R10-HTC2013 Web site, *http://www.r10-htc2013.org/.*)

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Hot Topics
International Conference ICDV 2013
Held at Ho Chi Minh City

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The 2013 IEICE International Conference on Integrated Circuits, Design, and Verification (ICDV 2013) has been organized by IEICE Vietnam Section in collaboration with VNU University of Engineering and Technology (VNU-UET) and Ho Chi Minh city University of Sciences (HCMUS), and it was successfully held at Ho Chi Minh city, Vietnam on Nov. 15-16, 2013.

The former annual international forum ICDVs (Integrated Circuits and Devices in Vietnam) focused on chips and circuit designs in solid-state and semiconductor fields were held in Ho Chi Minh city (2010), Hanoi (2011) and Danang (2012) by Technical Committee on Integrated Circuits and Devices of IEICE Electronics Society (IEICE-ICD) and the universities in Vietnam. It was evolved into the renewal one as Integrated Circuits, Design, and Verification on the occasion of the establishment of the IEICE Vietnam Section in early 2013. The ICDV is now an international forum where the participants can discuss leading edge R&D subjects of the integrated circuits and devices covering the scaling advantages of CMOS devices. The event has served as a vehicle for a variety of opinion exchanges and interactions among researchers and engineers, industry and academia, international communities for the future of LSI and related fields.

The ICDV 2013 was sponsored by IEICE Vietnam Section, IEICE –ICD and another Technical Committee on VLSI Design Technologies of IEICE Engineering Sciences Society (IEICE-VLD), and co-organized by the Section, VNU-UET and HCMUS. More than 100 participants from many countries including Vietnam, Japan, Korea, Malaysia, India, Israel, Belarus and others shared their ideas and works in the IC design related fields.

This year, ICDV 2013 accepted 48 papers (24 oral presentations and 24 poster presentations) in total. In particular, besides the regular presentations, it provided three Keynote Speeches, three invited presentations and a Special Talk from TJMW ("Thailand-Japan MicroWave Workshop" cosponsored by IEICE Bangkok Section and IEICE Electronics Society). It is a good mix of digital, analog, and RF circuits including low power and voltage techniques, advanced

Fig.5   Conference participants in ICDV 2013

VLSI designs, and their applications for image/video processing, wireless communications, and so on. Even though ICDV may not have enough capacity today to discuss all of those issues, it will certainly contribute to creating seeds to discuss new research ideas as well as forming a human network among researchers, students and faculty members from many academic institutions. On the occasion of ICDV 2013, another special workshop focusing on the Potential Development of Semiconductor Industry in Vietnam was held. (For more information, please visit *http://www.uet.vnu.edu.vn/icdv/.*)

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The 1st IEICE Wireless Network Workshop
WNW 2013 Held at Poznan University

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Chair of Communication and Computer
Networks, WNW 2013
IEICE Europe Section

The 1st Wireless Network Workshop 2013 (WNW 2013) was held at Faculty of Electronics and Telecommunications, Poznan University of Technology in Poland, on Dec. 12-13, 2013. The Workshop was focused on the exchange of ideas in the R&D area of wireless systems / networks and other related areas among engineers, scientists and young researchers over the world. The conference was sponsored by IEICE, IEICE Europe Section (IEICE-ES), Poznan University of Technology, Polish Association of Telecommunication Engineers (PATE) and "CARMNET" Project between Poland and Switzerland. About 60 people joined the Workshop in each day.

The Workshop was inaugurated with the Opening Speech by Prof. Mariusz Głąbowski, WNW2013 Local Committee Chair, Vice Chair, IEICE-ES, and followed by four Keynote Speeches, Dr. Krzysztof Gierłowski (Gdansk Univ. of Tech.) on "Ubiquity of client access in heterogeneous network environment", Dr. Tomasz Bilski (Poznan Univ. of Tech.) on "Security Issues of Innovative Wireless Transmission Techniques", Dr. Piotr Kiedrowski (Univ. of Tech. and Life Sci. in Bydgoszcz) on "Interaction of Retransmission on Effectiveness of Data Reading in Wireless Communication Systems Based on Short Range Devices", and Prof. Maciej Stasiak (Poznan Univ. of Tech.) on "Queueing Models for Wireless Mesh Networks". Further, 18 general papers were presented in five Sessions.

Fig.6 Dr.Krzysztof Gierłowski giving his Keynote Speech

Fig.7   Participants in the Workshop WNW 2013

Thanks to all the authors, TPC members and the reviewers, the workshop was successfully held. I would like to thank IEICE as well for their financial sponsorship. Thus, the Workshop was open not only to the authors and registered participants but also to all students interested in information and communication technologies.
(Please see it at *http://www.ieice-europe.org/index.php?id=35*)

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