



National Pingtung University of Science and Technology



Department of Tropical Agriculture and  
International Cooperation

## **Conference Attendance Report**

The 20th International Association of Science and  
Technology for Development (IASTED)

**Modelling and Simulation**

*~MS 2009~*

July 6 – 8, 2009  
Banff, Alberta, Canada

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We start our journey from Kaoshuing on July 2, 2009 for reaching Taipei International Airport by the Taiwan High Speed Railway. Then, we reached Vancouver after 11 hours by Evaair line. In fact we stayed in Vancouver for 3 nights in order to visit some of the famous places. Hence, we visited Vancouver by the help a friend living there for 3 years now.

**Vancouver City:** We visited Vancouver City, fruits market, University of Vancouver, seaport and beach. It was a great experience to visit Vancouver city.







**Victoria Island:** We visited Victoria Island and its celebrity orchid field. This Island is one of the beautiful places of Canada due to its celebrity in orchid production with so many varieties of flowers. Thousand of people visit this Island every day. To get the Island, we traveled about 1h 30 mn by the ferry which carried cars and passengers.



**Calgary:** We reached Calgary on July 5, 2009 after 1 hour and half by Canada air line. Then, we traveled by bus during 2 hours for reaching the conference venues in Banff. The conference on Modeling and Simulation presented so many subjects about the neuro-based model foundation. Also, different network layers for real value time delay, the inverse kinematics model, fuzzy etc... have been introduced. In deed we learnt that from the modeling concept, the main object of all model presented during the conference was to reduce or minimize error of the model and in the model. Professor Zhan from China introduced an interesting topic about the geometric modeling technology which has become much mature whereas behavioral modeling technology of dynamic entities in virtual environments. Also Professor Ponomaryov from Mexico presented about the Fuzzy method in filtering 3D multichannel video sequence. From his speech, he presents novel fuzzy-directional method in suppression of impulsive noise for multichannel video sequences. The proposed approach consists of the estimations of movement levels and noise in the neighborhood frames, permitting to preserve the edges, fine details and chromaticity characteristics in multichannel images. We notified that the term noise used from the different speakers is related to the model error estimates.

The exciting moment was the keynote speech presented by the Professor Daniel P. Loucks from Cornell University in USA. The topic was Current Challenges in Managing Water. According to him, managing water to meet not only the demands of society today but also those of future generations is an increasingly complex challenge. Not only are we experiencing increasing variability in the duration and amounts of shortages and excesses, our expanding populations, especially in urbanizing areas, are

creating larger demands and more pollutants that end up in our water bodies. Professor Loucks alert about the water scarcity, which becoming serious particularly for the arid regions such as Africa. To him we must change our behavior for using water with efficiency and also to conserve it as precious resources.

Professor Loucks present also about the cost of providing adequate water quantities and qualities where and when humans want them often results in a lack of access for those who cannot afford those costs. Added to all of these challenges are the multiple conflicting objectives that stakeholders and the environment impose on managers, inevitably involving negotiations and tradeoffs. Climate change combined with increasing populations is forcing planners of water resources system infrastructure to not only identify designs that deal with increasing variability in supplies and demands, but also act without the usual assumption that historical records can provide a basis for quantifying supply and demand uncertainty. He said several cases studied in different parts of the world will highlight these issues that professionals face today. According to Professor Daniel P. Loucks, the mind of people for using and preserving the water resources must be changed by education.

Another presentation that I found interesting was the study done by Professor Fadhel M. Ghannouchi from University of Calgary, Canada. He presented on the Behavior Modeling Power Amplifiers / Transmitters for Wireless and Satellite Communications. From his presentation I learn that Model determination is a fundamental problem in a wide variety of Information and Communication Technology (ICT) related signal processing applications, such as model determination for linear predictive coding of

speech signals, model selection for image segmentation and quality enhancement, model selection for linear equalization and channel identification in telecommunications, model selection and identification for nonlinear behavioral modeling of communication transmitters, and device model selection for semi-conductor devices, etc. He reported that from generally speaking, the criterion for selecting a proper model and its order is to discover an appropriate trade-off between the model-fitness and its implementation complexity associated with hardware or software for digital signal processing platforms.

I also listen carefully the presentation of Dr. David S. Ebert from Purdue University, USA. He presented about “From Foundations to Applications of Visual Analytics”. He describes the applications of visual analytics for domains ranging from time-critical decision making to business and intelligence analysis to scientific research and engineering, and to medical research and healthcare monitoring and management. Beside, he describes also the modeling of training scenarios for visual analytics and provide input on potential data sources for users to analyze when creating their own visual analytics tools.

On Tuesday July 7, 2009; we had a dinner banquet and award ceremony provided by International Association of Science and Technology for Development (IASTED). After the conference, we visited several places such Columbia ice field, Lake Louise, Lake Moraine, Bow Glacier & Falls and float trip (see pictures below).





We experienced for the first time attending an international conference. Also, our paper is going to be published in one of the IASTED international journal covered by EI index. The Publication of my paper presented in the IASTED MS2009 conference is very important for my Ph.D. studies and will help me to fulfill the requirements of the University in order to be able to finish on time.