

Presentation of Keynote Speaker

Name: ZHANG (Jack) Ji

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Biography:

Dr. Ji (Jack) Zhang is the President of Beijing HARMONY Technologies Company and the head of Harmony International Disaster Reduction and Emergency Management Academy (HiDREMA). He has a Ph.D of management from China Academy of Sciences, MBA from Peking University and BE of Electrical Engineering & BS of Applied Mathematics from Tsinghua University. Dr. Zhang has abundant working experiences in the IT industry in well-known companies such as Lenovo, IBM, and Micron Technology Inc. among others. His main areas of study focus on government emergency management information systems, Internet of Things (IOT) technology, emergency response plan study, and homeland security, particularly national critical infrastructure and key resource protection. Establishing the Beijing HARMONY Technologies Company in 2002, Dr. Zhang developed the first domestic government emergency management information software in China in 2003 against SARS. Beijing HARMONY today has grown to be the biggest IT enterprise in the industry of emergency management in China. With six branch offices in China, HARMONY Technologies and HiDREMA provide comprehensive consultation, ICT integration and services to the Chinese enterprise, government and public customers in disaster reduction and crisis management. Dr. Zhang is the undertaker of the Emergency Response System (ERS) research project for the Emergency Management Office (EMO) of the State Council of China, the consulting member of Beijing EMO Research Group, the chief designer for the ERS platform of the Beijing 2008 Olympic Games, and consulting member of China ZGC Internet of Things (IOT) Industry Alliance. Dr. Zhang is presently the director of Communication and Publications of The International Emergency Management Society (TIEMS) and the Secretary General of TIEMS China Chapter.

Workshop Keynote: *The Infrastructure of Internet of Things (IOT) and its Application in Emergency Management*

Abstract:

Public safety emergency management capacity is an important indicator of the modernization degree to major cities. It is directly related to people's lives and property, social stability and the safety of state. At present, emergency management system is in a rapid development stage in China. In against snow disaster in South China in 2008, Wenchuan earthquake, Beijing Olympic Games and the 2009 National Day military parade and other big events, emergency management system has played an important role in disaster report, emergency command, rescue implementation etc. The emergency management system for public safety has been listed into the prior areas of long-term development plan in China. The internet of things (IOT) technology is the foundation for the future internet and can be useful for the next-generation emergency management system because of its comprehensive advantages. This paper mainly describes how to use the IOT technology in emergency management system, including application framework, solutions, and cases description. Attendees will learn how the traditional emergency management system turns to be a smart platform by adopting IOT technology into applications like preliminary surveillance, early warning system, and intelligent rescue tracking etc.

Presentation of Keynote Speaker

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Biography:

James Hagen is a senior professor of public health, disaster management, and business in the Graham School of Management at Saint Xavier University in Chicago. He has been coordinator of the Disaster Preparedness and Management Certificate Program, focused on teaching best practices to Emergency Managers

Dr. Hagen has a PhD in Microbiology and Public Health, as well as Master's Degrees in microbiology, public health, and business from various universities. He is also certified as a Master Exercise Planner through Homeland Security, a Certified Emergency Response Coordinator, and a Licensed Nursing Home Administrator.

His areas of specialization include risk management, disaster resilience and recovery, civil security, exercise design and execution, as well as health-related issues.

He has been the Regional Director for North America for TIEMS (The International Emergency Management Society) since 2008 and recently represented that organization at the Marshall European Center for Security Studies Seminar on Transatlantic Civil Security. He has been invited to speak on post-disaster reconstruction at the International Symposium on Catastrophic Disaster Management in Chengdu City, Sichuan Province, China, in September, 2010.

Dr. Hagen has served as planner, evaluator, and mentor for all levels of drills and exercises on a federal and transnational level. He has published as well as presented his work both nationally and internationally.

Workshop Keynote: *Emergency Management's Vital Role in Disasters Involving the Energy Sector*

Abstract:

Energy security is a major topic of concern and consideration in protecting existing energy sources, as well as assuring energy availability in the future. Increased numbers and severity of environmental disasters, as well as man-made events, have highlighted vulnerabilities in our energy sector. Heavy energy consumers, including communications, transportation, and industry, would be crippled by energy disruption in both civil and defense sectors. Although great advantages exist to increasing inter-linkages between systems, this complexity and interconnectedness are also associated with risks posed from cascading and escalating energy interdependence failures in power generation and power transmission systems. The objectives of this address are to 1) identify regional energy sectors at greatest risk and major threats leading to energy disruption, 2) outline strategies to mitigate the impact of energy disruption and recover more rapidly when disruption does occur, 3) define the vital role of the emergency management professional in clearly identifying greatest risks, and then responding to and mitigating energy failures on an all-hazards basis using risk assessment protocols, 4) discuss transnational interrelationships, as well as international actions that need to be taken. Only in understanding and acting on our energy sector vulnerabilities can we avoid potentially catastrophic effects.

Presentation of Keynote Speaker

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Biography:

Jean-Luc WYBO is professor of management and senior researcher at MINES ParisTech. He is the director of the Post-Master program "Industrial Risk Management"; he manages a research team dedicated to organizational learning from emergencies and crisis prevention.

He has a PhD in computer Science from the University of Nice and an engineering degree in Physics from University of Nice. He is guest Professor at TONGJI University (Shanghai, CHINA).

His specialisations are risk prevention, learning from experience and crisis prevention. He manages a number of contracts with public and private bodies. He has been coordinator of several international projects.

He participated in the establishment of TIEMS (The International Emergency Management Society) in 1993, and he was the President of TIEMS from 1994 to 1996.

He is Executive Editor of the International Journal of Emergency Management, a scientific publication from Inderscience Ltd. (GB) in which a number of TIEMS contributors have published papers.

He has published numerous papers in international publications on emergency and risk management.

Workshop Keynote: *Evaluation of Organizations' Vulnerability to Crisis; a Self-Assessment Method*

Abstract:

Organizations are faced to a number of threats, coming from outside or inside. In order to manage the risks, public and private organizations need to assess their strengths and weaknesses. We propose to assess organization's vulnerability as a combination of three main groups of parameters: the amount of threats, the values at stake and the resources available for preparedness and emergency management.

Organizations' managers need to have a global view of their vulnerability, but they also need to be committed to reduce this vulnerability. In this keynote, we present a method designed to provide a synthetic view of the different parameters that form the vulnerability. To assess those parameters, we use self-assessment, each parameter being evaluated by answering a small set of questions. By this way, managers are encouraged to ask themselves relevant questions that contribute to raise their awareness on the different aspects.

We present two case studies: one was developed for the Prefects (French local representatives of the central Government) and the other for farmers who have to face invasive species that may ruin their business.

Presentation of Keynote Speaker

Name: Snjezana Knezic, PhD

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Biography:

Snjezana Knezic did undergraduate studies at Faculty of Civil Engineering, University of Split in 1982 - 1987, then postgraduate studies, master of philosophy at Faculty of Organisation and Informatics, University of Zagreb in 1988 - 1993. She did her doctoral thesis at Faculty of Civil Engineering, University Split in 1998. She is full time professor at Faculty of Civil Engineering and Architecture at University of Split. Her research interests are in application of system sciences and information technology, especially decision support systems and geographic information systems in emergency/disaster management and other engineering fields. She has published peer-reviewed papers on emergency/disaster management.

She was the editor of TIEMS Annual Conference Proceedings for last two years, and she also edits TIEMS Newspaper for last three years. She is currently member of the Editorial Board of International Journal of Information and Decision Sciences. She has reviewed papers for many international conferences and journals like: International Journal of Emergency Management, International Journal of Information and Decision Sciences, Environmental Monitoring and Assessment, Technical Gazette, etc. Snjezana Knezic is also elected for TIEMS Director for Chapters, Special Interest Groups and Membership. She lives in Split, Croatia with her family.

Workshop Keynote: *GIS Based Emergency Management System for Fire Risk Zones*

Abstract:

During summers, in Mediterranean regions, forest fires occur frequently causing catastrophic damages on the environment, influencing tourism and other activities. This presentation emphasises the need for an efficient Emergency Management System. The presentation raises the question on integration of fire protection system, GIS and management models that evaluate ambient characteristics. In view of worldwide experiences in the real-time forest fire detection using telecommunication systems and sensors on the open areas, as well as GIS capabilities, it is possible to locate emergency sites as well as define efficient approach of intervention with all relevant spatial data. Furthermore, it is useful to quickly locate distances from the fire-sites to the emergency roads and to check the possibilities for vehicle and men transfer or potential air intervention. Bearing in mind that the interventions from the air are quite expensive and aeroplane flying hours are limited, an optimal strategy of aeroplanes schedule in accordance with "land value" and some other fire service parameters is also valuable information. GIS based emergency system could also be used for optimal sensor distribution on the certain area. This facility is based on multicriteria analysis and comprises protection degree maximisation, configuration of existing fibre-optics cable network and "land value" of areas included in sensor protection programme.

Presentation of Keynote Speaker

Name: Guosheng QU, Dr. Professor

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Biography:

He got his PhD in 1989 in Earth Science in Peking University. He is now Deputy Director and Chief Engineer, Dr. and Prof. of Earth Sciences, National Earthquake Response Support Service (NERSS), China Earthquake Administration (CEA). He is an expert of China International Search and Rescue Team (CISAR). He is also Director, Digital Disaster Mitigation and Emergency Management Research Center, IDC, Peking University.

He is the Regional Director of Asia and Pacific in The International Emergency Management Society (TIEMS) and Vice president of TIEMS China Chapter. He is an expert of disaster mitigation group of IAP and IRDR. He is a standing Committee Member, Special Committee for Risk Analysis and Crisis Management under China Disaster Prevention and Mitigation.

He has published more than 100 papers on earth science in the following fields: *Global Seismo-tectonics and Earthquake Disasters Alert, Information and Technique Supports for Emergency Response and SAR Operation, Seismic Hazard Assessment and Structural Geology and Regional Geology.*

Workshop Keynote: *Regional and Global Earthquake Disaster Alert and Response*

Abstract:

This paper shows the methods and cases how to make decision of earthquake disaster grades, scale and casualty and then how to respond for different disaster grade of earthquake. We conclude that the strong earthquakes in subductional seismic belts surrounding Pacific Ocean and India Ocean will cause less damages or no damages, even if the magnitude of earthquake large then 7.5 or 8.0 due to the subduction angles of oceanic plates and distance from the trench. But the strong earthquakes in collision seismic belts between Euro-Asia and Africa-India continent plates will cause heavy damages even if the magnitude of earthquake is less than 7.0.

This paper also shows the response standards and levels reasonable for regional and global scale earthquake disasters, and shows some cases, for example, 2008 Wenchuan earthquake emergency response and rescue in China and other cases in recent years.

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Presentation of Keynote Speaker

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Biography:

Meen is the Chairperson of Disaster Preparedness Network-Nepal and the General Secretary of Nepal Center for Disaster Management. He has been appointed as the Adjunct Professor at the Queensland University of Technology, Brisbane, Australia from 1 March 2009. From 2001 to 2003 he was the Director of the Department of Disaster Management of the Government of Nepal. In 2004 He worked as the Deputy Regional Administrator in Hetauda, Nepal. From 1995 to 1996 He served as the Chief District Officer and the Chairman of District Disaster Relief Committee in Dhading district of Nepal. Meen also held positions of Under Secretary, Investigation Officer and Special Officer in various government agencies of Nepal including the Ministry of Home Affairs. He has been nominated by TIEMS Board as the Chair for TIEMS paper Review Committee for 1 year. He was the member of the Drafting Committee of the Disaster Management Act of Nepal in 2007. Meen authored two books namely; "Mitigation and Management of Floods in Nepal" and "Analysis of Nepalese Agriculture." He has also published a number of articles in national and international journals.

Meen earned his doctorate degree in Economics from the University of Vienna, Austria in 1995. He also holds an MA and Law degree. He carried out 14 months drug abuse research study at the Johns Hopkins University, Baltimore, U.S.A. from 2002 to 2003. He attended the Pandemic Disaster Preparedness Training Course at the Queensland University of Technology, Brisbane, Australia from August 24 to November 29, 2008. Apart from the above, he has carried out research works in various fields in Nepal and beyond.

Workshop Keynote: *Climate Change: A Global Threat*

Abstract

Background: Climate change due to global warming has become a very serious worldwide concern due to its adverse effects in livelihood and environment. Glaciers are receding rapidly in the Himalayan region which has the major portion of glaciers that cover up almost 33,000 km². Climate change is the main factor behind accelerated glacier retreat. As glaciers melt, many glaciers form glacial lakes that can break and cause floods and landslides destroying villages and crops downstream. This range constitutes a major source of water draining through nine largest rivers in Asia serving more than 1.3 billion people to find their livelihoods. Glaciers are receding in Africa, South Pacific, Arctic, North America, South America, Europe and Antarctica as well. Glacial retreat is the most visually convincing evidence of climate change which is not a myth but an unwanted scientific reality. **The Problems:** The world's average temperature has risen more in the last 100 years than in the last 10,000 years. Average global temperatures are expected to raise 1.4-5.8°C by the end of the 21st century. Greenhouse gases from human activities are among the major causes for the alarming situations of climate change and global warming. More importantly, warming in the Himalayan region has been higher than global average. Both increasing and decreasing rainfall patterns have been detected in the area. Weather patterns are becoming more unpredictable and extreme – dry seasons become dryer and wet seasons wetter. This phenomenon is causing fear over the long term reduction in total water supply, affecting lives and livelihoods of the people and long term food security. **Conclusions:** This is a scientific fact that global warming is occurring and the Earth is warming rapidly due to man-made emissions of carbon dioxide and other heat-trapping gases. Although climate change is already happening, we can keep global warming within tolerable limits by taking necessary measures. Policy makers must ease the transition to a carbon-free energy industry by passing legislation that creates favorable market conditions, shaping new frameworks for change and ensuring that the Kyoto Protocol, the world's primary legal tool to combat global warming, enters into force as soon as possible. Hence, we need to work together on reducing CO₂ emissions, increasing the use of renewable energy and implementing energy efficiency measures.

Presentation of Keynote Speaker

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Biography:

Hiroshi KOSEKI is Director of Division of Cause Investigation of Fires, National Research Institute of Fire and Disaster, Japan.

He has a degree of Doctor of Engineering at Chemical System Engineering of the University of Tokyo in 1996 for research on combustion characteristics of large petroleum tank fires.

His specialisations are prevention of large petroleum storage facilities, and involved in fire-fighting and cause investigation of petroleum tank fires. He has contributed change of regulation for safety of chemical materials in The Japanese Fire Service Law.

He is a member of editor board of the Journal of Loss Prevention in the Process Industries. He has published numerous papers in international publications on combustion characteristics of petroleum tank fires, hazard evaluation of chemical materials, including biomass fuel, high energy battery such as Li-battery.

Workshop Keynote: Current Large petroleum tank fires by earthquakes and mutual fire fighting system.

Abstract:

We had two large petroleum tank fires in September 2003 because of large earthquake in Japan. Especially second fire continued for 44 hours. These fires gave large impact to Japan society.

With experience of these fires, we changed our regulations and constructed a mutual fire fighting system in Japan. We divided Japan into twelve areas and each area has mutual fire fighting system including large monitor, foam agent. These fires and new systems against emergency situation in petroleum storage complex are introduced. In March 2011, we had violent earthquakes, in Tohoku (East and north of Japan) area, Japan. Huge tsunami damaged many sea shore area and industrial facilities. Nuclear plants and petroleum tanks were also damaged. Author wishes to present these incidents, too.

Presentation of Keynote Speaker

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Biography:

Dr. Birk is Professor and Head of the Department of Mechanical and Materials Engineering at Queen's University in Kingston, Ontario, Canada. Before joining Queen's in 1986 Dr. Birk worked in the Oil and Gas, Transportation Research, and Aerospace and Defence Industries.

Dr. Birk has BSc, MSc and PhD degrees in Mechanical Engineering from Queen's University. He specializes in the thermal/fluid sciences of fluid mechanics, thermodynamics and heat transfer. He has extensive experience with computer modelling and large scale experimentation. His research is focused in three application areas including hazards from pressure liquefied gases, industrial heat transfer, and aerothermodynamics of specialized components for gas turbines.

Dr. Birk has carried out contract and grant based research for numerous organizations including the Province of Ontario, the Province of Quebec, Transport Canada, Dangerous Goods Directorate, Shell Oil, Pratt and Whitney Canada, Battelle Memorial Labs, and many others. He has published numerous reports and papers in international publications on various subjects involving industrial heat transfer, gas turbine components, fire effects on pressure vessels and the boiling liquid expanding vapour explosion (BLEVE).

Workshop Keynote: *Boiling Liquid Expanding Vapour Explosions -- Mechanisms, Hazards and Prevention.*

Abstract:

The Boiling Liquid Expanding Vapour Explosion (BLEVE) has been studied for decades and the mechanisms of these types of events are reasonably well understood. We also have a good understanding of how to reduce their likelihood and mitigate their consequences. However, we continue to have these events all over the world and we are usually shocked when they happen. We continue to question our understanding of the frequency, causes and consequences of these events. We question the cost and benefits of various methods to control and mitigate them.

Prof Birk will present some of his experimental and analytical work relating to BLEVEs. He will also talk about various methods of reducing their likelihood and reducing their consequences. He will conclude by describing a planned international collaboration to conduct full scale fire testing of highway tanker trucks for LPG using the latest thermal protection technologies.