

TIEMS 2016 Annual Conference

Innovation and Urban Planning for Emergency Resilience in Large Cities
September 13 to 15, 2016 San Diego, California, USA



Our TIEMS 2106 Annual Conference was held September 13 – 15 2016 at the San Diego Central Library, with the collaboration and support of San Diego Mayor Kevin L. Faulconer, the City of San Diego Department of Homeland Security, and San Diego State University. Attendees from 11 countries and 9 US municipalities were engaged and enlightened by 20 presentations of exceptional quality and breadth, an 8-person panel on evolving emergency management challenges, and a special interactive workshop featuring a crisis communication simulation.

Discussions and networking continued over three days of lunches and a Tuesday evening reception at our 9th floor Central Library meeting venue and terrace, overlooking the beautiful city of San Diego. The TIEMS Annual Gala Dinner was held on the San Diego Bay, overlooking the lights of the downtown skyline and Coronado Island, and on Thursday afternoon we took a tour of the San Diego State Visualization Center, exploring the innovative use of social media and other technologies to improve emergency preparation and response.



In addition to providing an exceptional opportunity to share experiences, insights, and knowledge from around the world, the conference gave us an excellent opportunity to see how San Diego and Tijuana have dealt with emergency management through innovative urban planning and very effective collaboration across departments and borders. We also found excellent opportunities for TIEMS collaboration with San Diego State University, including internship opportunities (which began during the conference, and we expect to expand), and helping TIEMS member organizations apply technical innovation to their emergency management activities.

The conference was made possible through the generous collaboration and support of City of San Diego Office of Homeland Security, particularly through the efforts of John Valencia, Executive Director, Tiffany Vinson, and Jeff Pack. They arranged for us to use the City of San

Diego Central Library, which provided a beautiful facility and very responsive facilities and AV support from Sherwood Hartwell. We very much appreciate the sponsorship of Jack Zhang of **Beijing Harmony Technologies**, and Laixing Wang of **Xianheng International** and the International Emergency Rescue Equipment Center.

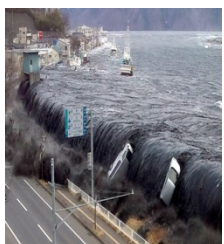
Congratulations to the following, who were awarded Best Paper Awards. Each was awarded a certificate and 120 Euros, generously donated by the **TIEMS China Chapter**. While there were many excellent presentations made at the conference, only authors who submitted full text papers were eligible for these awards. The winners:

- **TIEMS 2016 Best Paper Award – Importance to the Field:** George M. Karagiannis, “Emergency Management Aspects of the European Migration Crisis”
- **TIEMS 2016 Best Paper Award – Practical Application:** Jaroslav Pejcoch, “Stress Test Not Only for Banks and Nuclear Power Plants”
- **TIEMS 2016 Best Paper Award – Creativity:** LI Xuanye, “Total Systematic Field Solution for Emergency Cases”.

The **TIEMS 2016 President’s Outstanding Achievement Award** was given to Carmelo DiMauro and Vittorio Rosato, for their outstanding and excellent work in arranging TIEMS 2015 Annual Conference in Rome, Italy.

We look forward and invite you to next year’s **2017 TIEMS USA Conference**, planned for June 12 – 16, 2017, at the University of Maine, Orono, Maine, USA!

This year we tested an additional way for the global emergency management community to participate in our conference – online streaming. Both audio and slide images were streamed for selected presentations, and recordings were made for future access. The test was successful, and a number of people around the world were able to virtually attend. We are now considering offering virtual attendance as an option for future conferences.



Tuesday’s session was opened by TIEMS President **K. Harald Drager**, who welcomed attendees and provided a perspective on the evolving challenges in emergency management, emphasizing the importance of increased attention to preparedness, and TIEMS’s role in improving preparedness through knowledge sharing, research and development projects, and education, training, and certification.

The next presentation was by **John Valencia**, Executive Director, City of San Diego Department of Homeland Security and **Gary Hayslip**, Chief Information Security Officer, City of San Diego. After welcoming us to their fair city, they provided an overview of San Diego’s approach to security and emergency management, emphasizing close collaboration with Tijuana, Mexico as part of an expanded metro region. Gary provided startling statistics on cyber threats to the City of San Diego, and described extensive activities to minimize the impact of these threats.





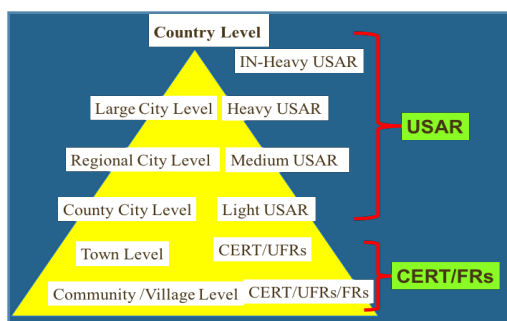
We were next treated to a particularly moving presentation and performance by **Nathaniel Forbes**, Director of Forbes Calamity Prevention, on Food and Disasters: The Impact of Hunger. He used recorded accounts and videos, as well as spoken words, to convey to our minds and hearts our interconnectedness as a global community, and the sometimes heart-breaking local impacts of the global economy.

Kay Goss, CEM, President of TIEMS USA Chapter and CEO of World Disaster Management, described how international collaboration has made an impact on global preparedness, international cooperation, and the evolution of the practice and cultivation of the profession of emergency management.



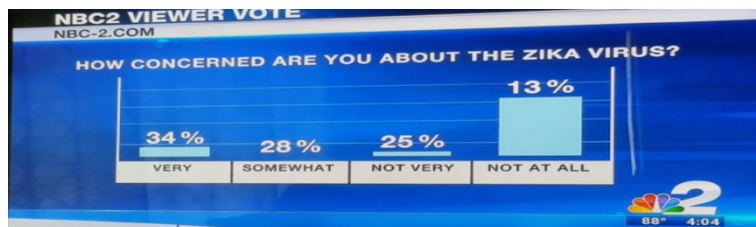
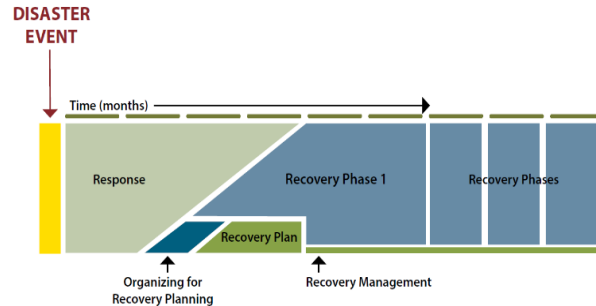
As noted throughout the conference, the world is rapidly urbanizing, and losses due to natural disasters and climate change are on the rise. **Dr. Josef Leitmann** of the World Bank made the case that investing in urban resilience would not only make our cities safer, but also prevent a reversal of the gains made in lifting our urban poor out of poverty.

Dr. George Karagiannis of the Technical University of Crete presented a perceptive analysis of the emergency management response to the European migrant crisis. The disruptions caused by the extreme wave of immigration (since 2015, over one million immigrants have traveled through Greece) have exposed lack of preparedness, resource limitations, problems coordinating NGOs, and the strong influence of international politics on the situation.



Dr. Guosheng Qu, TIEMS Vice President, Professor and leader of Urban Search and Rescue (USAR) teams, presented a framework for emergency resilience for large cities, that complements USAR teams and First Responders with Community Emergency Response Teams (CERTs), a concept developed in Mexico and the US, and recently introduced in China. TIEMS is establishing a CERT Task Force Group, to help spread CERT throughout the global community.

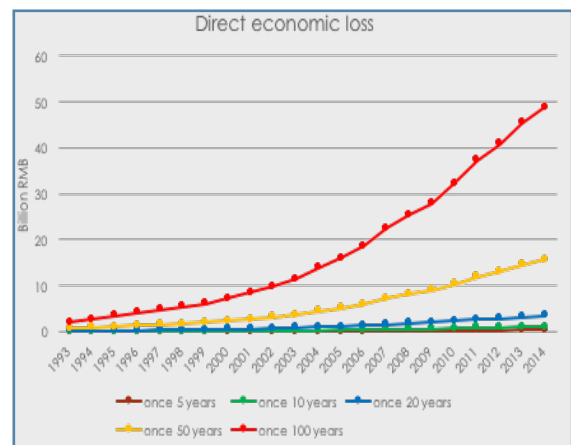
The economic advantage of investments in planning and preparation versus disaster response is often cited, as is the challenge of motivating these expenditures when disasters are in a hypothetical future. **Matt Campbell**, FEMA National Coordinator for Community Planning and Capacity Building, presented examples of Post Disaster Recovery Planning, which has been able to create improved community resilience using recent disasters to inform and motivate investments in preparation and planning.



Wednesday's session was kicked off by **Carl Taylor** of XCH Global, who used his experience in analyzing disasters across the world to help us step back and observe a number of significant and

important ways the unexpected crops up during disasters. Of course disasters themselves are usually unexpected, however emergency managers are often surprised because of factors such as: mistaken beliefs of invincibility; surge requirements beyond worse fears; the critical role of media, and how often they get it wrong; and powerful symbols that seem trivial at first.

Next **Ms. Li Yi** of the National Disaster Reduction Center of China presented work performed by Dr. Yang PeiGuo modeling urban vulnerability to floods, based on historical disaster loss data, correlated with rainfall measurements and social and economic data associated with affected areas. A case study of Beijing showed a strong correlation between rainfall measurements and loss rates, allowing a model to be constructed that estimated how maximum 2-day rainfall affected size of population impacted, missing and dead people, crop losses, collapsed or damaged houses, and overall economic loss.



Our next session was a special workshop organized by **Martin Masiuk**, Publisher of Domestic Preparedness Journal, on "What is the New Normal?" Evolving Management Challenges". This workshop featured panelists from the US Border Patrol, Coast Guard, San Diego Cyber Center, Harbor Police, and private industry, discussing challenges and operational

approaches to deal with the new slants on terrorism, illegal immigration, and crime that are now part of our new normal.

TIEMS President **Harald Drager** convened the 2016 TIEMS Annual General Meeting. After introducing Board members present and a determination that a quorum of the TIEMS membership was present, previous minutes and annual budgets were approved, and elections were held for three directors that were up for election this year. Neil Dufty was re-elected Regional Director for Australia, New Zealand, and Oceania; Jean-Paul Monet was elected Regional Director for Europe; and K. Harald Drager was re-elected President of TIEMS. Congratulations to all candidates!



Next, **Gerry McCusker** of Engage ORM led a special workshop in which we formed crisis communication response teams, which were presented with an unfolding crisis featuring a population primed by Hollywood disaster film advertisements, panicked social media messages, earthquake app hackers, and crisis communicators with a real challenge on their hands! The workshop provided an informative and chilling view of the “new normal” brought about by social media and cyber terrorism.

Dr. Murray Turoff, New Jersey Institute of Technology, presented the results of a survey he made of emergency management practitioners and academics, asking them to prioritize proposed courses for an academic degree in emergency management (EM) with a concentration in information systems. The responses to this survey not only ranked courses, but also provided the respondent’s views on the state of EM as an activity and as a profession. Among the themes uncovered were: it is challenging to establish educational programs in EM; the importance of organization and organizational collaboration in EM; the limitations of academic education versus experience; trade-offs in saving people versus property versus environment; the criticality of infrastructure protection; the importance of cascading effects; and the criticality and challenge of turning information from social media into intelligence.





Our next presentation made by **Brent Woodworth**, TIEMS USA Chapter Vice President and L.A. Emergency Preparedness Foundation, and **Eric McBride**, Assistant Chief of the San Bernardino Police Department. Assistant Chief McBride gave a detailed and revealing account of before and after two shooters entered the Inland Regional Center and killed 14 people and wounded 22 others. The account showed many examples of effective and heroic operation, and the opportunity in any situation like this, to learn new lessons. Brent related the crucial role his organization had in engaging local business to support the work of the responders and victims, by proving needed logistical support.

Laixing WANG and **Jed GAO**, of Xianheng International Corporation and the International Emergency Rescue Equipment Center (IEREC), gave us an overview of the IREC in Hangzhou, China, an ambitious facility opened in November, 2014, that supports: academic and occupational meetings and exhibitions; community training, including disaster escape experience for school children; and exhibition of rescue equipment solutions including USAR, marine rescue, electric emergencies, high-speed train events, environmental protection, and airport rescue.



Thursday's session was opened by **Mark Benthien** of the Southern California Earthquake Center, Los Angeles. The Earthquake Center brings together over 700 scientists and students from more than 100 research institutions to synthesize research on earthquake system science. An important outreach activity of the Center is the Great ShakeOut Earthquake Drills, which in 2015 reached more than 43 million people worldwide and 21 million people in the US. These drills are based not only on earthquake experience, but also on social science research into what motivates people to get prepared.

In our next presentation, **Xuanye LI**, from the Longyan Haidexin Automobile Co., explained his company's approach to a total systematic field solution for emergency cases. This approach works to insure success in dealing with emergencies by addressing: human safety and support; effective command, control, and information; adequate facilities; and sufficient material supplies. These needs are provided through a wide range of networked vehicles and



subsystems offered by Haidexin, such as their Integrated Detector Vehicle, Emergency Communication Vehicle, Mobile Command Platform, and Power Supply Vehicle.



Our next speaker was **Kevin Miller** from the California Governor's Office of Emergency Services, who discussed tsunami preparedness using "playbooks" incorporating evacuation lines based on *maximum potential tsunami flood elevation*, calculated using a model called FASTER. FASTER uses Forecasted Amplitude, Storm surge or existing ocean conditions, maximum Tidal height, forecasted Error potential, site amplified Run-up potential based on historical data, as well as local non-storm and non-tidal anomalies in sea level. This

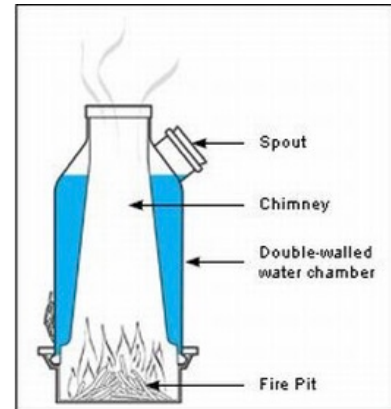
use of playbooks standardizes response, which improves inter-organization collaboration, and because it takes into account real-time forecasts, it helps improve safety while reducing over-evacuation.

Our next presentation was by **Bin WEN**, who introduced the TIEMS China Chapter and described their activities. The TIEMS China Chapter was established in April of 2009, and has since held six annual conferences, the last of which had 650 attendees from government, academia, and industry. Bin Wen extended a warm welcome to everyone, to attend their 2016 Annual Conference ibeing held November 1-6, 2016, in Zhuhai, China. Bin Wen also described the China Emergency Response Alliance (CERA), started by the Xinxing Cathay company, which is working with the TIEMS China Chapter to better link enterprises and government agencies in the field of emergency response.



TIEMS Secretary **Jaroslav Pejcoch** of T-Soft, next suggested we extend the idea of stress tests, already used for nuclear power plants and banks, to general emergency preparedness. He pointed out how a stress tests differ from the usual audits and checks, by introducing specific scenarios to gage the reaction of the people who will actually be responding to an emergency. The results of these stress tests go beyond just a graded result, by providing an assessment of routine versus stressed operations, and enabling a fruitful conversation about how risk can be further mitigated and resiliency increased.

Our next speaker was **Arthur Nash**, University of Alaska Fairbanks, who gave us a fascinating look at the special concerns of emergency management in Alaska. In the last 25 years, Alaska has experienced coastal and arctic windstorms, river floods, evacuation due to land erosion, wildfires, volcanoes, and earthquakes. Because of extreme cold, foraging wildlife, remote communities, and other difficult conditions, special provisions for personal warmth, food/water, and self-sufficiency must be considered. This has led, for example, to cost-effective, efficient, innovative solutions for cooking and heat from biomass. Family and community preparedness is particularly important in Alaska, and community education is a key element of emergency resilience.



Our final presentation of the morning was by **Dr. Thomas Robertson**, TIEMS Regional Director for North America. Dr. Robertson reviewed the TIEMS Global Educational Network for Emergency Resilience and Training Excellence (GENERATE) initiative, whose goal is to create a network of educators, practitioners, and students contributing to and benefiting from an online platform for learning, certification, and sharing experiences. Design work has been underway for the initiative, organizational participants recruited, and partial funding has been identified as part of on-going projects. TIEMS continues to seek partners and organizations who share the goals of GENERATE, to join us in this activity.

Our conference concluded with a tour of San Diego State University's (SDSU's) Visualization Center. **Dr. Eric Frost**, Director of SDSU's Graduate Program in Homeland Security and the Visualization Center, provided an overview of the work in his program, with an emphasis on innovative use of remote sensing and social media to support homeland security. His graduate program has put together impressive technical capabilities, and his students are eager to find internships providing interesting challenges and potential pathways to future work. TIEMS looks forward to working with SDSU, through internships and as a participant in our GENERATE initiative.

