

# The International Emergency Management Society

Members Newsletter – Issue 4 – March 2006



## London Bombings Lessons From July 7th



TIEMS 13th Annual conference 2006

The International Emergency Management Society

### TIEMS 13<sup>th</sup> ANNUAL CONFERENCE 2006

Date **23~26** May 2006

Location **COEX** (Korea Exhibition Center), **Seoul Korea**

Host **Korea NEMA, TIEMS Korea Chapter**

BCP

## Featuring

- **TIEMS 2006**  
Annual Conference Update
- **TIEMS Chapter News**
- **Critical Infrastructures**  
International Workshop
- **Emergency E-Call**  
Improving Response
- **Mapping EM Networks**
- **Perceptions of Risk**
- **Conferences & Events**  
TIEMS & other events of interest

## Message from the President

Since the last issue of the TIEMS newsletter, Hurricane Katrina and the earthquake in Pakistan have illustrated again to us the power of mother nature and the damage that it can create. They further serve to illustrate the importance and increased need for global cooperation in emergency management.

TIEMS are therefore continuing our global focus, and have made measurable developments in the last year toward our goals and will continue with the help of our members to create stronger links and networks for information sharing on emergency management worldwide. An update on the TIEMS developments of last year and an overview of our activities for this year including objectives and goals for 2006 are covered later in the newsletter.

A key event in this year's calendar as always is the TIEMS annual conference and preparations for TIEMS 2006 in Seoul, South Korea on the 23<sup>rd</sup> – 26<sup>th</sup> May 2006 are reaching their final stages. We hope to see as many of you as possible in Seoul for what promises to be an excellent conference. Further details and registration is now available from the TIEMS website, [www.tiems.org](http://www.tiems.org)

*K Harald Drager*



Presidents  
Message

## Editors Welcome

I would firstly like to welcome all our new members and supporters to this latest edition of the TIEMS newsletter. The newsletter to for those new readers is utilised to present TIEMS and its members to the wider emergency management community, but is also a resource available to the members to inform and disseminate their interests, experiences and research activities.

Inside this latest issue, we have information on TIEMS events including those coming up such as our annual conference in Seoul, as well as several short articles from some of our members on issues ranging from the London bombings, the latest EU technology developments in emergency management and risk perception. We hope for future issues to attract other members to contribute and to establish a varied and interesting forum about the various research and operative activities in emergency management. If you are interested in submitting a story or case study for inclusion in the next issue please contact me for further details.



Editors  
Message

*Claudio Balducelli*

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# TIEMS 2006

13<sup>th</sup> Annual Conference (23<sup>rd</sup> – 26<sup>th</sup> May 2005)

Preparations for the TIEMS 2006 annual conference this year being held in Seoul, South Korea are nearing completion, and it promises to be yet another exciting event.

A provisional programme is now available from our website [www.tiems.org](http://www.tiems.org) which includes many interesting and informative papers and with several well-known and respected keynote presentations.

Delegates are now being encouraged to register for the event to take advantage of the early-bird registration rates (available until 1<sup>st</sup> APRIL 2006), which offer a 10% saving. Registration can be made online via the conference management system on our website. (Please note new users of this service will have to set up a new user account before registering for the conference).

## TIEMS ACCOMODATION PACKAGE

For your convenience TIEMS have negotiated a discounted accommodation package for delegates of the conference, for only \$100 USD. This includes 5 nights accommodation (at either the Hotel Riviera or Ellui Hotel), lunch and dinner on each night of the conference itself, conference social activities / tours and a free shuttle service between your hotel and the conference venue.



Ellui Hotel



Hotel Riviera

Bookings are being handled by Hanatour Service Inc and to guarantee your accommodation please complete and return a booking form (available from our website [www.tiems.org](http://www.tiems.org)) by April 10<sup>th</sup> 2006.

## WHY NOT BRING YOUR PARTNER?

South Korea is a fascinating and invigorating country so why not bring your partner and family too...

As in previous years TIEMS in conjunction with Hanatour Service Inc have developed a programme of activities and tours for partners and family during the course of the conference. The selection of activities has something for everyone and promises to offer a true taste of Korean society and culture both old and new.



Further details and bookings forms are available from our website at [www.tiems.org](http://www.tiems.org)

We hope to see as many of you as possible at the conference though should you have any queries about the event please do not hesitate to contact the conference team at [tiems2006@tiems.org](mailto:tiems2006@tiems.org)

Further details on all aspects of the conference are also available from our website [www.tiems.org](http://www.tiems.org)



COEX Conference Centre

# South East European Chapter

## An update on the TIEMS Chapter Events by Boja Ostojic

The second TIEMS Workshop (organised in conjunction with the Regional Center for Assistance and Disaster Relief (RCADR) and in co-operation with Faculty of Maritime Studies, University of Split, under the auspices of the Croatian Ministry of Science, Education and Sports) was held on September 27th and 28th in Trogir, Croatia.



*First day, presentation by Dean of Faculty Maritime Studies, Split, Croatia*

The Workshop entitled “Development of Protection and Rescue Systems in Transition and Post-transition Countries” has the objective to make adjustments to European Standards and was attended by 55 participants from 10 different countries that presented 22 papers. Covering protection and rescue topics the workshops served to propose new solutions for the improvement of the existing resources and organisation.

A specific achievement of this year’s workshop was the qualitative and quantitative increase in elaboration of medical themes covering problems characteristic of areas with high tourist activity, areas suffering from the consequences of war, as well as themes related to safety at sea.

The recommendations of those attending the workshop are:

- Cooperation and participation of the SEE countries in the events facilitating the

process of adjustment to EU Regulations and Standards. This requires however a number of activities and much more effort to achieve necessary homogeneity in approaches to solving a complex system of protection and rescue.

- Creating effective and compatible Standard Operative Procedures is a crucial and initial segment of any kind of organized cooperation among the countries of the region who will inevitably find themselves in situations where joint response is required against the catastrophes of modern civilization.
- Common education of the already existing and future personnel in protection and rescue services in the whole region is a “must”. Such education would generate human potential capable of thinking, reacting and acting similarly in similar conditions, thus becoming competent in coordinated actions of great proportions without interruption and problems which is of the crucial importance in crisis situations.



*“System approach to Risk Management in Tourist Regions” by Knezic, Mladineo, Jajac – Civil Engineering Faculty, Split*

By the end of the year the RCADR, French Embassy in Zagreb and Croatian State Directorate for Protection and Rescue organized had also held an International Seminar under the title “Dispatching in Emergency Medical Service”. The objective of this Seminar was the introduction of



Participants from 9 countries participated on this Seminar

professionals in the medical field with organizations, activities and procedures of French Medical Emergency Dispatchers, to bring together leading experts in this branch from the countries of our Region and create

an opportunity for experience sharing and introduction.

The annual plan for 2006 events is based on training courses for specialized rescue services (firefighters, mountain rescuers, medical emergencies...), and conferences covering crisis, catastrophes, and Critical Infrastructures for managers in the system of Civil Safety and Protection.

All planned activities have an international character in order to gather people and from across the region with the objective of facilitating a unified approach to Protection and Rescue issues and a basis for future common well being!

For More information please contact Boja Ostojic ([boja.ostojic@rcadr.org](mailto:boja.ostojic@rcadr.org))

## TIEMS Activities - Summing Up 2005 – Plans for 2006

### By Harald Drager (TIEMS President)

2005 was another successful year for TIEMS with an increased number of events (In Korea, Australia, Russia, Faroe Islands, Netherlands, Croatia, Czech Republic and Turkey) and an ever-increasing number of new participants and members joining the society.

The society also made improvements to much of its communications to members and supporters with two well received issues of the newsletter and improvements to the website, which is proving increasingly popular receiving 300,000 hits in December.

TIEMS have also launched and been involved in two important initiatives during 2005. Namely the TIEMS Africa initiative seeking to improve Emergency Management in the country, and participation in an application for financial support of an EU project.

The successes of 2005 have not been without the support of members and we hope this will continue into 2006, when we propose the following TIEMS events:

- TIEMS Annual conference in Korea in May
- Round Table event in Florida (March)
- Workshops in Italy (March), Russia (April), Netherlands (April), Jordan (August), Croatia (September), Czech Republic (November) Turkey (December).

Further details of all events will be made available via the TIEMS website.

#### TIEMS objectives for 2006

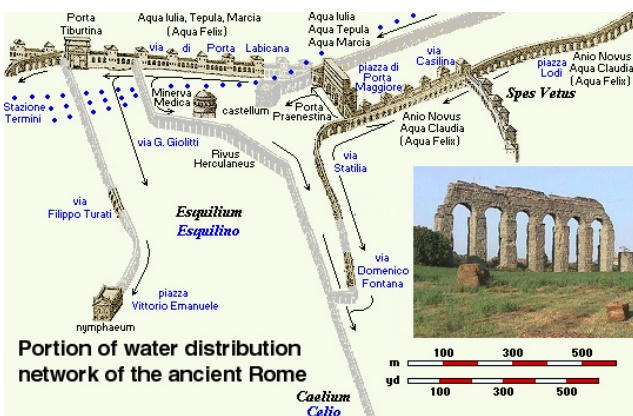
- Strengthen overall global co-operation Emergency Management, through a partnership approach
- Strengthen the TIEMS image and branding, through events, SIGS and special initiatives such as Africa.
- Strengthen the societies financial position to enable improvements to its expansion initiatives.
- Strengthen and further build the TIEMS global structure through the development of local chapters.

Further details of the work of TIEMS in 2005 and plans for 2006 will be published at the annual report due in May.

# Complex Network and Infrastructure Protection

## International Workshop a TIEMS SIG Initiative by Claudio Balducelli

The TIEMS Special Interest Group (SIG) focusing on Critical Infrastructure Protection was formally launched in the previous Newsletter. This SIG will now continue within the framework of the "Complex Network & Infrastructure Protection" Workshop (CNIP06) to be held in Rome at FRENTANI Congress Centre on 28-29 March, 2006. The workshop is one of the most important events in the field of Critical Infrastructures at an international level, and certainly the most important at an Italian level.



As evidenced in the illustration, the protection of critical infrastructures was also in the past an important issue for the advanced societies. In the ancient Rome there was 11 aqueducts with a total flow of 13 mc./sec., 11 thermals, 856 public baths, 15 nymphaeums, 5 naumachias and 1350 basins and fountains, distributing water for a population of about 500,000 persons.

Serious sanitary crises were determined in the IV century, following the barbarian attacks against this critical services network. But also today, more than in the past, the

security of the citizens depends on the availability of the services furnished by a great number of networks and infrastructures. These infrastructures are more complex and sophisticated, if compared with the ancient roman aqueducts, and their protection become a difficult task and an important duty of the modern societies.

Multidisciplinary is the main characteristic of the CNIP06 International Workshop. In addition to the plenary sessions, in which invited-speakers will talk on physical, cyber and managerial networks, the following workshop papers will be presented in two parallel sessions. Following the scientific program, the Workshop participants will learn:

- How to understand vulnerabilities and scenarios, and to propose protection methods and tools for different type of Infrastructures, during the sessions "Power Grid", "Service Oriented Infrastructures", "Emergency Management", "SCADA" and "Monitoring and Control";
- To apply risk analysis methodologies for Critical Infrastructure protection, during the "Dependability Analysis", "Risk Assessment" and "Security" sessions;
- To understand the topological and structural vulnerability of single and more interdependent Networks, through the "Structural Vulnerability" and "Interdependencies" sessions



**CNIP'06 – 28/29 March 2006**  
**FRENTANI Congress Centre, Rome**

- To understand the societal / managerial issues of Critical Infrastructure Protection through the "Societal Vulnerability" session

A special feature event is planned for the constitution inside TIEMS of a special interest group on the theme of Critical Infrastructures Protection. A plan of the main activities proposed for this group will be distributed in advance.

At the end of the workshop, a Round Table attended by infrastructure managers, research centres directors, professors and

those responsible for emergency management institutions and societies will exchange ideas and suggestions about how to build a collaboration network across the continents with regards to Critical Infrastructure Protection.

A group of papers will then be selected from the Workshop proceedings to be published in Special issues of Inderscience scientific journals.

For more information about CNIP06 please contact [claudio.balducelli@tiems.org](mailto:claudio.balducelli@tiems.org) or visit: <http://ciip.casaccia.enea.it/cnip06>

*Book and Pay by the Early Bird Date and SAVE up to \$695*



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- TOLL Rail
- New Zealand Civil Aviation Authority
- International Civil Aviation Organisation (ICAO) Aviation Security Panel
- Maritime New Zealand
- New Zealand Customs
- Pandemics Border Working Group
- Government Communications Security Bureau (GCSB)
- Government Communications Security Bureau
- Ministry of Civil Defence and Emergency Management
- Ministry of Foreign Affairs and Trade
- Ministry of Agriculture and Forestry
- Meridian Energy
- EDS Asia-Pacific
- Whakatane District Council
- New Zealand Fire Service
- Global Defence and Space Group - Cisco Systems
- Australian Defence Information and Electronics Systems Association (ADIESA)
- Victoria Police
- Department of Agriculture, Fisheries and Forestry Australia

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# London Bombings Lessons from 7/7

By Alan Jones – TIEMS International Councillor

On the morning of July 7<sup>th</sup> 2005 London was celebrating the successful bid to hold the 2012 Olympics, whilst in Scotland the G8 summit was successfully underway despite the peaceful protests from the 'Make Poverty History' campaigners. The morning was however to bring horror to London when suicide bombers initiated co-ordinated attacks upon the capitals transport systems.

The attacks began when three bombs went off within 50 seconds of each other at around 0850 on underground trains just outside Liverpool Street and Edgware Road stations, and on another travelling between King's Cross, and Russell Square. Initial reports suggested that the disruption had been caused by power surges and electrical problems, though a final attack nearly an hour later at 0947 blowing apart a double decker bus in Tavistock Square served to confirm what security and intelligence officials had feared since 9/11 – London was under attack by terrorists the first sustained attacks since the IRA strikes of the 1990's. There is clearly as has been proven no room for complacency, and attacks can occur anywhere and at any time.

There is to be no public inquiry into the London bombings but the London Assembly, 7 July Review Committee is seeking to address the issues and lessons learnt from the response to the bombings and how best to prepare for similar attacks

in future. The report from the committee is expected in spring 2006, though this article seeks to highlight some of the lessons that have been identified so far.

## Intelligence & Security

The UK has over the years built an impressive and integrated intelligence architecture, which was further enhanced following the September 11<sup>th</sup> attacks in the United States. The UK security and police services however have been fully aware of the seriousness of the threat to the UK, with many leading security officials warning that it was a question of "when not if" an attack would take place. However despite this preparedness, intelligence is not an exact science and the London bombers went unnoticed.

The attacks of July 7<sup>th</sup> were unprecedented and unlike any previously experienced in the UK, particularly as the threat itself had been 'home-grown' though was rallied behind the flag of Al-Qaeda and the self-perpetuating Jihadi ideology. The problem of radicalisation and recruitment of this new generation of terrorist from nationals within country must therefore be quickly addressed, and operational space for extremists closed down to prevent them operating.

Reducing the risk of such attacks as 7/7 on the transport network whilst still allowing people to go about their daily lives, is however a vital requirement yet a huge challenge. It would be impossible to replicate the security controls in place at airports on the tube or rail networks due to the number of passengers, though clearly measures are and must continue to be made to make improvements where possible. Since the attacks a range of measures have been introduced including high visibility policing, baggage reconciliation and improved CCTV. In addition new technologies are also being



tested such as scanners to screen for concealed weapons and intelligent CCTV, which allows for recognition of unusual or suspicious behaviour.

## **The Response**

The bombs on the 7<sup>th</sup> July were detonated almost simultaneously, and were clearly aimed at causing mass casualties and disruption. The explosions killed 52 people and injured around 700 though within a scene of chaos the emergency services and other agencies responded in an exemplary manner clearly demonstrating the value of the previous four years of co-ordinated planning, training and exercising to build London's resilience. An extremely important lesson to come from the incident is therefore that this development of plans and exercises continue.

## **Resources**

Extra resources have been invested in the emergency services in the last few years to cope with a major terrorist attack and these served the capital well on July 7<sup>th</sup>. In fact every incident which the emergency services were called to received an attendance, and as stated by the Deputy Director of Operations for London Ambulance Service "it put us under some strain and we were tested but not found wanting". This was however not the case with ten FRU's which had been strategically placed around London to provide specialist advice to fire fighters at the scene of incidents such as protective suits and rescue equipment.

On 7<sup>th</sup> July all ten of these FRU's were deployed and for a period London was without a reserve, calling into question the resilience of the fleet. This resource can of course be enlarged but it is difficult to estimate exactly what resource will be required for future incidents until they occur and it is vital that following incidents like July 7<sup>th</sup> these are continually reviewed.

Personnel resources also became an issue for the operation of the casualty bureau following the incident, which once

announced took 43,000 calls in its second hour. Based upon the average time taken for each call this would require a phenomenal 2500 operators, which is clearly an unsustainable position for any service to take forward alone, and clearly demonstrating the need for cross boarder cooperation to be agreed and measures put in place to facilitate this.

A further problem identified with the casualty bureau number was the number itself and faced considerable criticism as it was a national rate number which meant callers were charged 10 pence per minute to call. The decision to use this number was subsequently considered inappropriate and a range of free phone numbers have been established for future uses, and the profits made from the 7<sup>th</sup> July Casualty bureau subsequently donated to charity.

## **Co-ordination & Communications**

Each Emergency Service in London has its own communications systems and radio network that feeds up to the Gold Control (Strategic Major Incident Co-ordination Unit), therefore interoperability currently takes place in a human form at that level, this is also the case at a scene where the various services rely on a series of meetings to communicate with each other. It is recognised that such interoperability of communications between different services is desirable particularly in incidents such as the London bombings.

This issue of interoperability in communication equipment is being



addressed with the introduction of airwave, a national TETRA based network dedicated to the emergency services and its partners. This system although accessible by many Police forces already in the UK is however only just being rolled out to the fire and ambulance services. It is important also that clear protocols are created so that future interoperability is effective and does not lead to chaos of inappropriate interoperability by having the ability to partition and section elements of the network.

Regarding the communications amongst other responding organisations such as London Underground itself, Managing director of London Underground Tim O'Toole told the 7<sup>th</sup> July Review committee that considering the chaos and difficulties in managing the emergency, the speed of communications during the course of the incident was "amazing". This is not however to say that improvements cannot be made, as the tube network uses an antiquated and unreliable radio network. This situation was worsened by damage caused to the leaky feeder (antenna), which meant some communications were reliant on station staff running too and from the scene. This problem is now being addressed and a new TETRA (Terrestrial Trunked Radio) based system is being installed and is likely to be brought online in 2006. This new system improves communication and resilience, as it is double-end fed meaning if a signal cable is damaged the signal can still get out in the other direction.

Telecommunications on the day also became an issue both for the emergency services and the community as a whole, with many experiencing an inability to make calls. This was almost entirely due to the abnormal loads experienced on the networks the day of the attacks, with up to double the number of calls than normal on the landline networks. There was also a tenfold increase in the number of calls of some mobile networks equalling around 300,000 attempted calls every 15 minutes, and a doubling in the number of text messages being sent, though this was less resource intensive on the network.

A procedure known as call gapping was employed to manage capacity on the networks, the principal of which is to reduce congestion on the networks by stopping some calls being made, subsequently ensuring that some calls get through as opposed to no calls, because of a network overload failure. In support of the mobile networks another procedure known as half-rate encoding was used which allows the capacity of a base site (antenna) to be doubled. This procedure did help and is particularly useful in a localised incident but with an incident as widespread as the London bombings was not sufficient to solve the problem entirely.

Following the incidents it has been asked why capacity on the networks is not sufficient and that it should be increased. Such a solution however would be extremely costly and is considered by industry experts to be infeasible across the entire network, and also unnecessary, as it would lead to a lot of wastage based on the normal network capacity requirements. It is felt that the more appropriate response to this would be for education of the public in the use of the networks during emergencies to prevent unnecessary traffic congesting the system, and encouraging users to keep calls short.

The telecommunications industry did convey this message successfully via their own websites to customers, which clearly illustrated the importance of websites, and furthermore the importance of keeping them up to date and resilient. This message however was also conveyed to the broadcast media though was not considered to have been covered effectively and highlighted a need for improved communications between industry and media groups.

### **Media**

Press interest in the bombing was as expected substantial with media outlets from around the world covering the events unfold, and as with the rest of the response the emergency services, and other agencies involved had put systems in place in last few

years to deal with this. These systems ensured that there was a co-ordinated response and media messages did not conflict. There was however speculation over the cause of the explosions early on and criticism that the Police had not confirmed these events as terrorism earlier, however due to the chaotic nature of the incidents, it was felt accuracy was more important than information which may have misled.



The media was utilised several times on the day to convey, successfully important messages from the emergency services such as that from the London Ambulance Service asking the public to use the service wisely (i.e. only for serious or life threatening injuries) to help them allocate their resources effectively and manage the incident. This led to a reduction of 30% of calls registered on a normal day.

In addition to the problems identified earlier with communications between the telecommunications industry and the media another problem experienced with the media coverage of the event however was that certain material was being repeatedly broadcast with no timestamp. In particular an interview with the Metropolitan Police Commissioner asking people to remain where they were and in their offices which caused confusion and misunderstanding several hours later when in fact the advice had changed telling people to go home in a staggered fashion. This problem it is thought is the result of the media's appetite for information and interviews with high profile personnel, though clearly needs to be

discussed to encourage them to update it with newer messages as the situation develops.

## **Business Continuity**

The London bombings affected a wide area, and subsequently a wide number of businesses. Particularly disruptive was the effectively lock down of the capitals transport infrastructure for a day, thus preventing the movement of personnel to and from their place of work. With potentially thousands of staff, companies had to make provision for this considering, either private transport solutions, flexible working arrangements or IT to allow employees to work from home or alternative workplaces outside the areas affected. These recovery premises as demonstrated however are not always adequate as during the London attacks many not directly affected invoked plans based on the perceived threat, and this subsequently impacted on the recovery ability of others actually affected planning to use the same resource.

These and several other business continuity issues including over reliance on mobile communications have demonstrated the need for more companies to have continuity arrangements, which are regularly tested and exercised. It is hoped however this will be addressed by local authorities under the provisions of the UK Civil Contingencies Act 2004, requiring them to promote and raise awareness of business continuity.

The London bombings have demonstrated that the asymmetric threat of terrorism is not going to go away and that no one is immune from such attacks. However through greater intelligence sharing and development of practices to combat and respond to terrorism internationally the emergency and security services can strive towards creating safer communities. Perhaps the biggest lesson to come out of the 7<sup>th</sup> July attacks on London as best summed up by Tim O'Toole, Managing Director of London Underground, who said it is "to invest in your staff, rely on them; invest in technology and do not rely on it".

# Journal of Business Continuity & Emergency Planning

TIEMS members are invited to submit articles and case studies demonstrating best practice, new thinking and analysis of recent disasters for publication in a new professional journal serving emergency managers, emergency responders and corporations. It recognises the partnership that must exist between all three communities to ensure effective emergency management and recovery and like the topics it covers is international in scope.

Each issue shows how successful emergency plans have been specified, designed, implemented and maintained. Its exacting peer-review process ensures all published content provides practical yet intellectually rigorous analysis of key strategic and tactical issues – not technical minutiae – of the quality required to showcase leading edge thinking in the profession and support executive development.



Potential topics include, but are not limited to:

- How to implement bird flu planning in your organisation
- Defining the boundary between corporate and government response capabilities – who is responsible for what?
- Emergency response exercise design – how to get the most from exercises and ensure lessons are learned and applied
- Counter terrorism – developing an integrated, strategic approach to safeguard national critical infrastructure
- Key considerations when selecting an emergency notification and escalation system
- A review of the response to and recovery from Hurricanes Katrina, Rita and Wilma – the lessons learned
- Updating your crisis management plan after an incident
- Maximising the organisational efficiency of Incident Command Systems
- Undertaking and acting on flood risk assessments
- Communications between emergency responders and the business community – how can they be improved?
- Assessing and managing hazardous materials risk during a crisis
- Earthquakes: New ideas for emergency planning and response
- Incorporating threat based assessment models into response planning
- Homeland Security - how can government and businesses successfully collaborate on a significant scale?
- New thinking in crowd safety planning for demonstrations and events
- Making the business case for emergency plan investments and gaining 'buy-in' from senior management

## Submission guidelines

For further details of the journal's aims & scope, Editorial Board and instructions for authors, please contact the Publisher, Simon Beckett, by email at [simon@hspublications.co.uk](mailto:simon@hspublications.co.uk), by phone on +44 (0)20 7404 3040 or access the website at:

[www.henrystewart.com/business\\_continuity\\_and\\_emergency\\_planning/](http://www.henrystewart.com/business_continuity_and_emergency_planning/)

# The European e-Call System

**By Nenad Mladineo, Snjezana Knezic and Niksa Jajac**  
**University of Split, Faculty of Civil Engineering and Architecture**

The most developed countries of the world focus basic attention to the protection and operation of the critical infrastructure. Namely, it has been noticed that particular segments of national infrastructure are very vulnerable and exposed to the permanent threat.

Even the superficial analysis point out that within critical infrastructure the transportation is particularly critical. Namely, state motorway systems due to the permanent exposure to the risky events i.e. accidents should be especially concerned. For example, Europe has an average of 1.7 million car accidents per year attended by emergency services, including the medical emergency services. In the year 2004, 43,000 people died in the car accidents in the EU member states. The direct consequences of car accidents are higher costs of health insurance, and national economies burdened with less productivity and bigger range of material goods damage.



In order to maximise road safety and efficacy of emergency support, along with faster remediation of car accidents making interruptions of the transportation flows as short as possible, Europe initiated several projects to increase safety on the roads such as E-Merge, eSafety and eCall.

Concerning its efficiency the eCall system could be of the special interest as after a

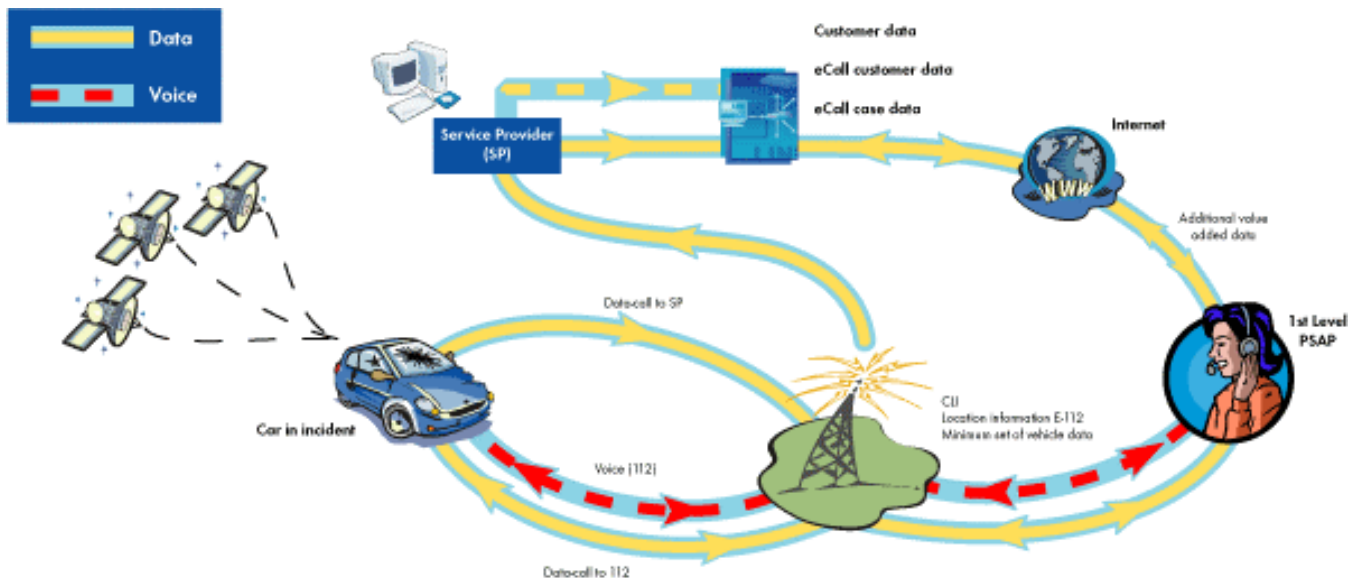


crash, sensors placed in the cars send both data and an oral call to the nearest 112 Public Safety Answering Point (PSAP), as well as to eCall operator. This single call contains the vehicles location, identification, time, and eCall status. eCall system should reduce the intervention time by 50% in the rural and 40% in the urban areas, decreasing the mortality rate and the severity of the injuries resulting from the accident. Reducing the intervention time, traffic overloads and / or secondary accidents by 20%.

Accepting the eCall technology means that European countries have to improve their PSAP by the end of 2007. Moreover, the whole emergency management system should be improved with necessary ICT tools, which enable quick and reliable response to car accidents and fully utilize the advantages of eCall technology.

Accepting the fact that Croatia is host for numerous tourists and that last year a contemporary motorway Zagreb-Split was completely, a project concerning a novel concept of emergency help on the new motorway has been launched. The main objective of the project is to use the technical and technological solutions proposed by the eCall project in order to decrease the intervention time for 50% in rural and 40% in urban regions. Until the

complete introduction of the eCall system, a



part-time solution will be implemented

following to the same technological principles. The main partial goal will be to locate the accident spot as precise as possible.

The project will evaluate the procedure for categorization of the efficiency level of an existing motorway emergency system, as well as the most important basis for the design of new emergency management system based on ICT tools, geographic information systems and systems for operative procedures. The main limitation of the system could be the capability to identify accurately the accident location, because participants of the accident or perhaps, direct witnesses who call emergency services, usually are not able to make precise estimation of their location. Through

introduction of the eCall technology, each car will have an embedded GPS device, which will determine the precise accident location. As the introduction of eCall technology is expected no earlier than 2009, when the eCall units will be built in the cars during the production, at that moment the identification of the accident location should be the main issue.

Furthermore, using a systemic approach from the available emergency services units (police, medical emergency services, fire brigades) a procedure for the optimal schedule is developed. Moreover, for each emergency unit the fastest route is calculated regarding available road network, intensity of traffic, and road closures caused by accident, etc.

For More information please contact Nenad Mladineo ([mladineo@gradst.hr](mailto:mladineo@gradst.hr)) or Snjezana Knezic ([knezic@gradst.hr](mailto:knezic@gradst.hr))

**The International Emergency Management Society**

**Annual Conference 2006**

**23<sup>rd</sup> to 26<sup>th</sup> May 2006, Seoul, South Korea**

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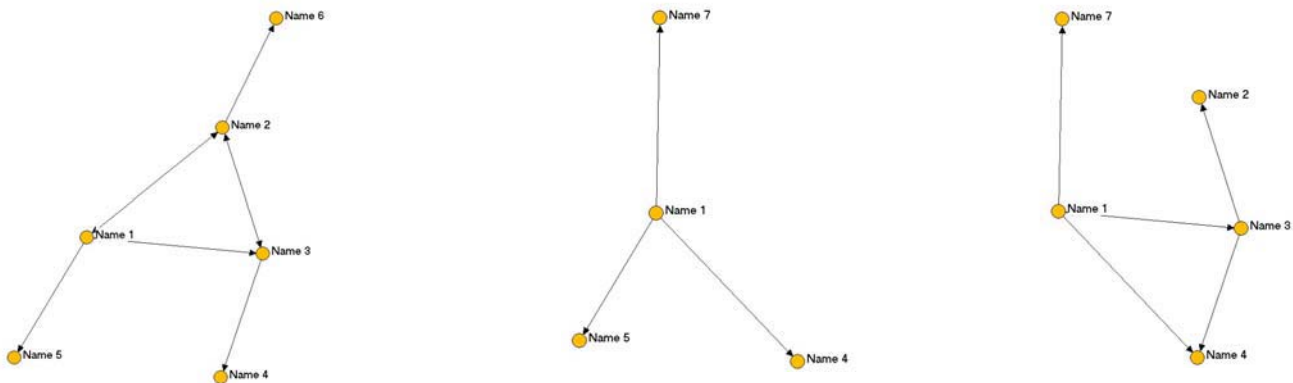
# Mapping an Emergency Management Network

By Christian Uhr – Swedish Rescue Services Agency, Lund University

In an emergency or crisis situation one is likely to find a complex pattern of interacting agents (persons) within and between organizations responding to the crisis. This pattern could be regarded as a social network containing agents like fire-fighters, policemen, medical staff and different kinds of decision makers. Various relations between actors in a crisis situation, such as whether they know each other, have been shown to be important to the effectiveness of an organization when responding to a crisis (Krackhardt and Stern, 1988; Nishiguchi and Beaudet, 1998). Recent crises in Sweden have also indicated that such relations are important.

Since a network of agents involved in a crisis can consist of hundreds of agents the task of collecting and analysing the data can be cumbersome. Therefore we have developed a web-based questionnaire connected to a database, which organizes the data in a matrix form to simplify the later analysis. This simplifies the data-collection process significantly. In the analysis different software could be used to illustrate and explain the material.

The results from the study of the chemical accident in Helsingborg, Sweden, indicate that there were a significant amount of interactions among people that did not



Examples of dynamics in Small Scale Emergency management networks

We present a method for mapping various relations between decision makers with normative and strategic tasks in an emergency, e.g. senior commanders, chief officers and administrative managers. Furthermore, we also present empirical results from an analysis of one of the crises referred to above, the discharge of sulphuric acid in Helsingborg, Sweden. The method can be used to analyze the complex interactions between different agents during a crisis. The results of using the method can be important when trying to understand the dynamic development of the emergency management operation using, for example, the Meta-matrix analysis (Krackhardt and Carley, 1998; Carley and Krackhardt, 1999), or some other method based on social networks.

conform to the formal organisations. For example, some agents emerged as links between several formal organizations, thus becoming very important for the flow of information, but this connecting function was not prescribed in any emergency plan or other written documents. In addition to there being persons within the crisis management organizations that performed functions that were not pre-planned for, there were also people who were not part of any organization involved that became important for the efficiency of the crisis management. We conclude that the proposed method for collecting data concerning relations between agents can be very useful when analysing such interactions in emergency management operations.

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# Risks and the Perception of Risks

By Britt-Marie Drottz Sjöberg

Norwegian University of Science and Technology, Trondheim

For about 30 years now, researchers from a variety of academic disciplines, as well as industrial and societal organisations have discussed and investigated the causes and effects of risk perception. Risk acceptance, or rather the non-acceptance of risk, was a central issue from the start. An early and important contribution regarding risk comparisons provided by Starr in 1969 titled "Social benefits versus technological risk" concluded for example that the public is about a 1000 times more willing to accept "voluntary" risks, as compared to "involuntary" risks. The review inspired an intensive debate and research interest.

Very influential work was conducted in the US already from the early 1970's, especially by a research team in Oregon including Baruch Fischhoff, Paul Slovic and Sara Lichtenstein, who developed an approach based on psychological measurement principles. It has been denoted the Psychometric paradigm due to the focus on empirical data. In the 1980's Douglas and Wildavsky proposed a Cultural theory that outlined ideas related to risk perception in the perspective of social and cultural differences. This can be described as a mainly theoretical and qualitative research approach, although there are also studies, for example Wildavsky and Dake in 1990, attempting at empirical testing of the ideas.

The risk research efforts have identified a number of important factors that can be utilized to describe, estimate, and predict risk perceptions or reactions to a number of phenomena as described in the work "Radiation and society: Comprehending radiation risk", published by IAEA in 1994. Much of the early risk research originated in conflicts surrounding the use of nuclear energy and the safe disposal of nuclear wastes and in reactions to radiation and e.g. the Chernobyl accident.

There are a huge number of papers available today covering theoretical and empirical studies on risk perceptions related to e.g. various forms of environmental pollution, food hazards, transport risks, radio frequency electromagnetic fields of mobile telephones, etc. Risk perception studies are currently widely used for providing a basis for understanding (the public's as well as experts' and authorities' etc.) perceptions and reactions to phenomena or events, and for planning interventions, and e.g. for preventive actions or mitigation efforts.

Studies of risk perception, based on quantitative or qualitative materials and results, are often a point of departure for dialogue across interest groups or "stake holders" in risk communication projects. The research field of risk communication has expanded considerably since the late 1980's and such projects are often developed within a public participation framework and aiming at creating solutions that are acceptable to all involved.

Hazard and threat identification abilities are basic to human perceptual skills because good skills in these respects may prevent harm to well-being, health and life. It is well known in psychology that novel, and especially negative, information receives specific attention. An explanation holds that negative information is more "diagnostic" or informative (as Fiske and Taylor suggest in "Social cognition" in 1991), because it may signal change and possible danger and that we therefore are especially sensitive to such cues or information. Among the factors central to explaining risk perception are the type of hazard, the history and development of events, the extent of damage or harm, fairness issues, and confidence or trust in information and those providing information. It has been shown that the level of perceived risk varies in relation to who is at risk, for example I or my family, known or

unknown groups, or the society at large, as illustrated in my work "Risk perceptions related to varied frames of reference", in 1993.

Furthermore, a distinction has been made between "natural" and "man-made" hazards and disasters. Related to perceptions of risk we seem to react much more strongly if events can be linked to human mistakes, misconduct or intention. However, there is a current debate of whether it is at all possible to make such a distinction due to the large impact humans have had on the natural environment. Perceptions, however, of whether an event was due to natural forces or had man-made or technological causes have been shown to have considerable influence on peoples reactions, actions and recovery. Similarly, knowledge, familiarity

and confidence in information are important factors in explaining risk perceptions. Since many risks are "invisible" or "undetectable" to human senses and require equipment or specialised knowledge for detection or estimation, trust in experts or authorities and confidence in the information that is given often become key factors. The role of knowledge and attitudes within interpersonal information networks has been underlined in this context, as well as the roles of various media. Risk perception and risk communication research and practices often aim at providing facts and views to decision-making processes and to the social debate concerning risk and safety.

For more information or references about the perception of risks contact Professor Britt-Marie Drottz Sjöberg.

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<http://www.svt.ntnu.no/psy/Britt-Marie.Drottz.Sjoberg/>



**This summer school is a co-organization of the ISCRAM  
Community and the TIEMS Dutch Chapter**



The Information Systems for Crisis Response and Management (ISCRAM) Community 2006 Summer School aims to provide the participants with an intense interactive learning experience on the use of information systems and technology to support collaboration and decision making among 'real' or on-site crisis response teams and 'virtual' or on-line experts.

The Summer School is aimed at students in PhD programs in Information Systems, Computer Science, Organization Research, Management Science, and Operations Research or in other fields with research interests related to crisis management.

**For more details please visit: [www.tiems.org](http://www.tiems.org)**

**Or email: [Ron.deMilde@tiems.org](mailto:Ron.deMilde@tiems.org)**

(TIEMS Dutch Chapter)

# Forthcoming Events / Conferences

TIEMS is dedicated to highlighting to its members events and conferences, which we feel may benefit your professional development in forthcoming months.

TIEMS members and friends are encouraged to submit information about forthcoming events that may be of interest for the TIEMS community to [info@tiems.org](mailto:info@tiems.org) and we will endeavour to publish it in the most appropriate issues (February, June or October)

## March

### **Australasia 2006 iETRI World Conference on Global Disaster Management and Response**

March 1-2, 2006  
Sydney, Australia

Bringing together disaster management and response organisations with emergency product manufacturers and suppliers including training and education, equipment and personnel

[www.ietri2006.com](http://www.ietri2006.com)

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### **International Symposium on Management and Systems for Disaster Prevention**

March 9-11, 2006  
Kochi, Japan

Organized by the Center of Excellence for Social Management Systems Kochi University of Technology. This symposium will review disaster prevention systems for better effectiveness and efficiency. Participants will discuss how to research and investigate causes of disaster, how to design and operate software and hardware infrastructures, and how to build systems. Disaster prevention as a system will also be discussed from a management point of view.

[ismd@kochi-tech.ac.jp](mailto:ismd@kochi-tech.ac.jp)  
[www.kochi-tech.ac.jp/coe21/ismd/](http://www.kochi-tech.ac.jp/coe21/ismd/)

### **New Orleans, the Mississippi Delta, and Katrina: Lessons from the Past, Lessons for the Future.**

March 22-24, 2006  
Kochi, Japan

This three-day workshop will focus on the environmental and societal challenges surrounding the New Orleans / Mississippi Delta in the wake of Hurricane Katrina, exploring whether scientific and technical knowledge can have a more beneficial societal influence when placed in an interdisciplinary context where the ethics and values dimensions of both knowledge and societal/environmental needs are made explicit.

[frode@unt.edu](mailto:frode@unt.edu)  
<http://newdirections.unt.edu/katrina/>

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### **The Third International Conference on Early Warning: From Concept to Action**

27-29 March 2006  
Bonn, Germany

Sponsored by the International Strategy for Disaster Reduction this conference will bring together a wide variety of governmental and nongovernmental actors, scientists, and practitioners to stimulate and help to implement concrete early warning projects on all continents that will bridge existing gaps.

[ewc3@un.org](mailto:ewc3@un.org)  
[www.ewc3.org/](http://www.ewc3.org/)



Presented in conjunction with the International Emergency Management Society (TIEMS)  
28/29 March 2006 – Rome, Italy  
<http://ciip.casaccia.enea.it/cnip06>

## April

### **2006 National Hurricane Conference**

10-14 April

Orlando, Florida

Organised by Florida Shore and Beach Preservation Association the conference aim is to improve hurricane preparedness, response, recovery, and mitigation in order to save lives and property in the United States and the tropical islands of the Caribbean and the Pacific. The conference serves as a national forum for federal, state, and local officials to exchange ideas and recommend new policies to improve emergency management.

[mail@hurricanemeeting.com](mailto:mail@hurricanemeeting.com)  
[www.hurricanemeeting.com](http://www.hurricanemeeting.com)

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### **100th Anniversary Earthquake Conference Commemorating the 1906 San Francisco Earthquake**

18-22 April, 2006

San Francisco, California

Organised by the Earthquake Engineering Research Institute (EERI), Seismological Society of America (SSA), and the California Governor's Office of Emergency Management. The 100th anniversary of San Francisco's 1906 Earthquake provides a valuable opportunity to learn from the past, assess the present, and prepare for the future.

[www.1906eqconf.org](http://www.1906eqconf.org)

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### **17th Global Warming International Conference and Expo**

20-21 April 2006

Miami, Florida

Topics at this conference include Sustainable Environment and Health for the 21st Century, Remote Sensing and Global Surveillance, Water Resources Management, Extreme Events and Impacts

Assessment, and Global Warming and the Oceans.

[gw17@globalwarming.net](mailto:gw17@globalwarming.net)  
<http://globalwarming.net/>

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### **9th Wildland Fire Safety Summit. Sponsor: International Association of Wildland Fire (IAWF)**

25-27 April 2006

Pasadena, California

The summit will include presentations on the topics of liability and legal implications; fire weather; making firefighters safer; safety in the wildland-urban interface; policy, practices, and procedures; case studies and lessons learned; and international wildland fire safety.

[blackbull@bigsky.net](mailto:blackbull@bigsky.net)  
[iawf@iawfonline.org](mailto:iawf@iawfonline.org)  
[www.iawfonline.org/summit/overview.shtml](http://www.iawfonline.org/summit/overview.shtml)

## May

### **GIS and Water Resources IV**

8-10 May 2006

Houston, Texas

Organised by American Water Resources Association (AWRA). This conference focuses on innovation and application of geographic information systems (GIS) to water resources. A special category has been added to the call for papers addressing topics related to the effects of Hurricanes Katrina and Rita, including the role of GIS in dealing with the after-effects of such catastrophes and in planning for future severe weather events.

[pat@awra.org](mailto:pat@awra.org)  
[www.awra.org/meetings/Houston2006/index](http://www.awra.org/meetings/Houston2006/index)

## **ISCRAM 06: Information Systems for Crisis Response and Management Conference**

14-17 May 2006

Newark, New Jersey

Organized by the International Community on Information Systems for Crisis Response and Management (ISCRAM). The theme of this conference is information systems as the integration medium for the "lifecycle of emergency preparedness and response" (planning, training, mitigation, detection, alerting, response, recovery, and assessment).

[turoff@njit.edu](mailto:turoff@njit.edu) or [bartel@uvt.nl](mailto:bartel@uvt.nl)  
[www.iscram.org](http://www.iscram.org)

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## **3rd i-Rec International Conference on Post disaster Reconstruction: Meeting Stakeholder Interests**

17-19 May 2006

Florence, Italy

This conference will focus on the development of effective and sustainable post disaster reconstruction strategies and will be a forum for sharing research work and experience from the field on practical issues in affected areas. The i-Rec conferences bring together professionals and practitioners from various fields such as housing, reconstruction, civil engineering, international development, humanitarian aid, architecture, urban planning, and environmental studies.

[cassidy.johnson@sympatico.ca](mailto:cassidy.johnson@sympatico.ca)  
[www.grif.umontreal.ca/pages/irechomepage](http://www.grif.umontreal.ca/pages/irechomepage)

## **Risk Communication Challenge: Proven Strategies for Effective Risk Communication.**

22-24 May 2006

Boston, Massachusetts

This program offers a combination of lectures, discussion, case studies, and attendee participation in practical learning exercises. Attendees will learn about foundational theory in risk perception and practical tools, including mental modelling, crisis communication, and media preparation, through exercises and case studies to ensure participants understand the key concepts of risk communication and acquire practical experience in how to apply those concepts.

[contedu@hsph.harvard.edu](mailto:contedu@hsph.harvard.edu)  
[www.hsph.harvard.edu/ccpe/programs/RCC.shtml](http://www.hsph.harvard.edu/ccpe/programs/RCC.shtml)

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## **June**

## **Debris Flow 2006: First International Conference on Monitoring, Simulation, Prevention, and Remediation of Dense and Debris Flows**

7-9 June 2006

Rhodes, Greece

This meeting will study the fundamental mechanical principles as well as theological properties and phenomenological aspects of debris flows, modelling techniques

[kbanham@wessex.ac.uk](mailto:kbanham@wessex.ac.uk)  
[www.wessex.ac.uk/conferences/2006/debris06/](http://www.wessex.ac.uk/conferences/2006/debris06/)



## **The International Emergency Management Society Annual Conference 2006**

**23<sup>rd</sup> to 26<sup>th</sup> May 2006, Seoul, South Korea**

Further Details & Conference Registration Available From:

**[www.tiems.org](http://www.tiems.org)**

### **ISCRAM / TIEMS Summer School**

14-22 June 2006

Tilberg University, Netherlands

The Summer School aimed at PhD students seeks to provide participants with an intense interactive learning experience on the use of information systems and technology to support collaboration and decision making among 'real' or on-site crisis response teams and 'virtual' or on-line experts.

[www.tiems.org](http://www.tiems.org)

[Ron.deMilde@tiems.org](mailto:Ron.deMilde@tiems.org)

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### **Ethical Aspects of Risk Conference**

14-16 June 2006

Delft, The Netherlands

This conference will bring together moral philosophers, sociologists, psychologists, and engineers to reflect on the ethical issues concerning "acceptable risk." Cost-benefit analysis, the role of emotions, and the role of the public will all be discussed.

[ethicsrisk@tbm.tudelft.nl](mailto:ethicsrisk@tbm.tudelft.nl)

[www.ethicsrisk.tbm.tudelft.nl](http://www.ethicsrisk.tbm.tudelft.nl)

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### **Geohazards: Technical, Economical, and Social Risk Evaluation**

18-21 June 2006

Lillehammer, Norway

The objective of this conference is to provide a roundtable for engineers, geoscientists, social scientists, public authorities, and insurance companies to discuss the human, environmental, and economic consequences of geohazards. A few of the main topics include social and human dimensions, risk assessment and management, and the impacts of climate change.

[info@eci.poly.edu](mailto:info@eci.poly.edu)

[www.engconfintl.org/6ag.html](http://www.engconfintl.org/6ag.html)

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### **16th World Conference on Disaster Management**

Emergency Management and Business Continuity Working Together

18-21 June, 2006 - Toronto, Canada

The Canadian Centre for Emergency Preparedness (CCEP) is pleased to announce that it has entered into a partnership agreement with the International Association of Emergency Managers (IAEM), DRI International, and DRI Canada to jointly present the 16th World Conference on Disaster Management (WCDM) in Toronto, June 18-21, 2006. This premier event will feature over 80 Educational Sessions on pandemic planning, lessons learned from Hurricane Katrina, COOP, standards, risk management, data forensics, crisis communications, ICS/IMS, interoperability, public alerting systems, public/private partnerships, plus much more.

[www.wcdm.org](http://www.wcdm.org)

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### **NZ Security & Civil Defence Conference**

19-21 June 2006

Wellington, New Zealand

New Zealand Security & Civil Defence is an important forum for current and emerging operational and planning issues around both national security and civil defence/emergency preparedness and response. Issues covered include: All Hazards Emergency Management & Recovery; Biosecurity - Avian/Bird Flu & also Agriculture Based Threats; Counter Terrorism; Security; Critical Infrastructure Protection; Communications Strategies; Natural Disasters; Planning, preparedness, and service continuity. The audience at the conference will be predominantly personnel from emergency services, law enforcement, Defence, central Government, regional/local authorities, critical infrastructures and other essential services organisations

[www.iir.com.au/security](http://www.iir.com.au/security)

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**Risk Analysis 2006: 5th International  
Conference on Computer Simulation in  
Risk Analysis and Hazard Mitigation**

19-21 June 2006

Malta

This conference is concerned with all aspects of risk analysis and hazards mitigation, ranging from specific assessment of risk to mitigation associated with both natural and anthropogenic hazards. Engineers and managers involved in the development of simulated risk analysis as well as researchers in academia and industry who are concerned with these problems are encouraged to attend.

[kbanham@wessex.ac.uk](mailto:kbanham@wessex.ac.uk)

[www.wessex.ac.uk/conferences/2006/risk06](http://www.wessex.ac.uk/conferences/2006/risk06)

## September

**ESREL 2006**

Safety and Reliability for Managing Risk

The purpose of the conference is to present and discuss innovative as well as traditional methods and applications for improving the design and operation of products, processes, equipment and installations from a safety point of view, while taking into account the realistic constraints on the available physical and economical resources. Consideration is also given to the societal factors influencing the use of risk assessment and risk management methods. Safety and Reliability Workshops can be organized within the programme to provide additional forums for an open exchange of ideas