

**The International Emergency Management Society.
11th Annual International Conference Proceedings, 2004**

Facing New Challenges

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WELCOME FROM THE TIEMS VICE PRESIDENT and HOST OF 2004 CONFERENCE

The expansion of The International Emergency Management Society into the Southern Hemisphere marks the evolution of a truly global organisation. The recent workshop in Seoul, Korea and subsequent high interest from Chinese delegates has heralded this expansion.

It is an honour and a privilege to be involved in the inaugural conference in Australia to be held in the Shire of Yarra Ranges, Melbourne. This event has received much support at many levels including Emergency Management Australia (EMA - the Federal agency responsible for emergency management) and the Office of the Emergency Services Commissioner in Victoria.

The 2004 conference features many prominent Australian and international practitioners and academics from diverse backgrounds. As another first this conference will be digitally videotaped for the benefit of TIEMS members unable to attend and will contribute to establishing a library for posterity. This combined with the five star venue of the Sebel Lodge Yarra Valley setting a new standard in the professionalism of the annual conference. The concurrent establishment of an Australian TIEMS Chapter also provides a further platform for the TIEMS network

The setting of the Yarra Ranges is arguable one of the most scenic places to visit in Victoria. I would like to take the opportunity to especially thank the Shire of Yarra Ranges CEO, Rob Hauser, who has provided an enthusiastic organising committee lead by Director of Physical Services, John Ross, and comprising Councillor Robyn Hale, Conal Creedon, James Martin, Jacqui Reiter, Tina Bishop, Joan White, Mark McGuire, Roxanne Jenkins, Sandra Staggard. A special thanks to James Martin, Fiona Symon and Courtney Colour Graphics for their professional work in producing the brochures and other publications relating to the conference. The technical support of the Shire's IT Team lead by Craig Whalley and the field support provided by the Shire's Emergency Planning and Safety Unit, Glenn Hunt, Don Collard, Kevin Johnson and Daniel Johnson are also fundamental to the success of this event.

I take this opportunity to thank Alan Jones, John Stoop and Ross Newkirk for their effort in collating, reviewing, and editing the papers, Ulrich Raape for his fantastic work on the website and of course the President, Harald Drager, whose vision to globalise TIEMS is now a strong reality.

It would be remiss of me not to thank our sponsors, Det Norske Veritas, EMA, the OESC, Courtney Colour Graphics and QANTAS for their support. For those attending the conference I bid you safe travel and for those TIEMS members unable to be here, don't despair, you will have the opportunity at least to view the proceedings in video and written formats in due course.

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FORWARD FROM THE TIEMS PRESIDENT

As President of TIEMS, it has been a pleasure to deal with all that have contributed in making TIEMS 2004 a success. We have accepted abstracts for 66 papers and two workshops from authors representing 20 countries for presentation at the conference in the Shire of Yarra Ranges in Australia. Those papers included in the conference proceedings were selected to make contributions of quality to emergency management. The number of participants is expected to be close to 300 or more illustrating the good international foundation of TIEMS, and that the program is of interest far beyond the authors themselves.

Borders do not limit catastrophes for instance the Chernobyl catastrophe was an accident that had enormous consequences in neighbouring countries. When natural hazards like earthquakes happen (eg., the city of Bam in Iran) the stricken country will most often need international help to deal with the tragedy. The threat from international terrorism calls for global cooperation to understand the root of terrorism and fight the threat. The financial scandals of large international enterprises show the need for global emergency management for securing business continuity. The threatened spread of new diseases, calls for open and trustful global communication and immediate actions when new cases are detected. These examples show the need to address emergency management in a global perspective and in a non-political atmosphere. This is The International Emergency Management Society (TIEMS) mission.

The participants and sponsors of this conference are all engaged in important and far-reaching subjects of emergency management. The group feels that open international gatherings like the TIEMS conferences give an excellent opportunity for exchange of ideas and discussions on ways and means to make our environment safer. This also leads to increased international cooperation in this highly non-border problem area.

The published papers of these proceedings give a broad international view of emergency management and through them TIEMS hopes to stimulate a continuous and ongoing international / global debate on emergency management.

TIEMS is a non-profit society with limited financial resources. TIEMS 2004 in Shire of Yarra Ranges would not have been possible in the form it is presented without the financial support and help of TIEMS 2004 participants and sponsors. TIEMS is thankful to all of you.

Special thanks go to Norm Free, John Stoop, Ross Newkirk and Alan Jones all of whom have worked closely on the proceedings and conference arrangements. Special thanks also goes to Ulrich Raape, who has been responsible for the TIEMS WEB-site, and announcing the event. The proceedings will also be published on TIEMS WEB-site, www.tiems.org

Finally we offer special thanks to the Council of Shire of Yarra Ranges, who have supported the conference and formed a local organising committee, preparing all practical details of the conference. Organising of the conference has been hectic at times, but seeing the fruitful result of the work, is very satisfying.

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CHANGING PERSPECTIVES

A FOREWARD BY THE CONFERENCE PROGRAM CHAIRMAN

This year the 11th Annual Conference of TIEMS in Australia, Melbourne confirms a change in perspectives that have emerged in previous conferences. Contributions from all across the world indicate a shift in focus in various aspects of emergency management. This shift in perspective is taking place from a disaster preparedness emphasis to a prevention and risk management perspective.

A need for a reactive approach and disaster preparedness is still necessary and inevitably will remain so due to the instantaneous nature of catastrophic events. Earthquakes have destroyed the city of Bam in Iran with a tremendous death toll and have taken many lives in Marokko. Such major events put high demands on large scale preparedness. Modern information and communication technology devices may support a timely reconnaissance on the extent of the damage in order to allocate adequate resources but cannot prevent natural disasters.

In the case of major hazards characterized by a more gradual progress or evolving broad spatial extent, (such as in the case of a gas release or spreading of a disease), a timely oversight of such critical situations is required in order to take precautionary measures to prevent escalation of disaster consequences. Risk communication, disease control and contamination control are required to support adequate emergency preparedness.

In order to be prepared for major emergencies, organizational learning from previous events and training of emergency staff is becoming more and more important. Cooperation between professionals is not only a matter of best practice experience, but should be planned while integrated tools for a high quality performance are being developed. This should be done at least one step before the vulnerability and crisis resistance of critical infrastructures are discussed. This is particularly true when designing modern high-tech environments such as airports, railway stations, power supply plants and other objects which are vulnerable to terrorist attacks. This conference's discussion shifts the focus more toward prevention and eventually pro-action in the design of complex and critical infrastructure, objects and projects.

Finally, investigating major events in order to learn from deficiencies in the system has gained importance. Independent assessment of incident/accident handling and management is important in order to provide the public confidence in the professionals who design, construct and manage the world they live in.

Throughout the program conference in keynotes addresses and through the individual contributions of participants, these themes are presented and new issues at stake in emergency management are explored. We do not need to have a disaster to recognize the potential of major hazards. Recent examples in designing new railway infrastructure in middle Europe demonstrate that we should recognize during design stage factors such as: climatic change in the Alps regions, establishing Trans European Networks in seismic activity areas, multiplying passenger and hazardous materials traffic volumes and urban development that coincide in a relatively small region. Designs should call for a risk prevention strategy in the early phases of the design process by establishing methods for safety impact assessment on an integral systems level. This could be a theme for a subsequent TIEMS conference.

John Stoop
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Chairman, TIEMS International Program Committee

EDITOR'S INTRODUCTION TO THE 11TH ANNUAL INTERNATIONAL EMERGENCY MANAGEMENT CONFERENCE (2004)

The papers in this conference explore several important elements involving *Facing New Challenges in International Emergency Management* – the overall conference theme. This peer reviewed collection of conference papers clearly demonstrates that TIEMS conferences are not focused on simply providing an opportunity to tell heroic tales of emergency practice and response, rather they provide a forum for critical analysis and sober second thought as well as reporting on “test bed” new technical and policy approaches critical to emergency management and mitigation against emergencies. The editor has organized the papers into eight topic areas that speak to key areas of emergency management. In most of these topic areas, the reader will find papers written by a cross section of TIEMS contributors: practitioner, academic researcher, industry, government, or policy contributor. This provides the reader with a useful balance of views. In each topic area, one will find new approaches to long standing problems, the identification of new or emerging challenges facing emergency management, and novel approaches (particularly in applying information technology) to mitigating emergencies. An important general tone underpinning most of the topics is the desire to strengthen mitigation against a wide variety of emergencies. In one sense this shows that this professional organization is dedicated to eliminating itself! If mitigation of emergencies was really achieved there would be no need for future conferences on emergency management. Sadly, the profession is far from such an achievement. Perhaps the papers in the topic areas discussed below will contribute to helping move the profession forward toward this goal.

It is not the intention of the editor to single out individual papers for special consideration or to give special emphasis to particular topic areas. Readers naturally will be attracted to the topic areas closest to their personal or professional interests; but, the editor encourages them to read further in related topic areas as there one will find cross stimulating ideas. It is natural, given the nature of TIEMS that the papers in the *Emergency Management, Response & Training* topic are most numerous. The reader will find these papers involve many applications from around the world and a full development of concepts ranging from organizational learning through system evaluation, information technology architectures, to business continuity and industrial accidents. The *Disaster Management & Recovery* topic explores technology that enables disaster management, explores using community risk analysis to develop a disaster management plan, considers recovery issues in developing countries, and identifies an emerging concern about addressing flash flood disasters. In the topic area *Community Vulnerability and Safety* papers explore among other ideas the concepts of community understood vulnerability, risk perception and communication, issues of counter terrorism, knowledge transfer and the value of educating children regarding emergencies to develop resilient communities. *Risk Identification and Management* remains an area of challenge to society, governments and to the emergency planning profession. In this topic area are interesting discussions of developing country level risk management programs, the challenges of risk identification and management in industry, the application of information technology to help control communicable disease and a report showing that even after experience with a

SARS outbreak agencies still have difficulties in addressing directly risk identification and management.

Safety is a central focus of several topic areas. *Transportation Accidents and Safety* is an area of increasing interest to the emergency management profession – particularly due to a continuing pattern of major transportation emergencies around the world. The importance of independent accident investigation and evaluation is discussed in this topic area. The reader is encouraged to explore further ideas and achievements in the topic areas *Infrastructure Safety and Security, Hazards of Contaminant Transport, and Earthquake Response*.

A conference obtains much of its value through its papers and the discussions and debates around the paper presentations. In many cases the “icing on the cake” in conference value comes from the special conference workshop presentations, and keynote presentations. Many of these are not available in written format. We are pleased to provide in the non peer reviewed section of these conference proceedings entitled *Conference Presentations* many of these special presentations.

This is a conference for emergency management but it is really a conference for the people of the world. There would not be a TIEMS if it were not for the existence of a group of professionals dedicated to making people safe. We hope that these papers and the discussions they stimulate lead to improving the safety and security of people around the world.

**Ross T. Newkirk, Ph.D., RPP,
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Proceedings Editor.**

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