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## Welcome to TIEMS 2003 attendees

The Ecole des Mines de Paris is pleased to welcome the TIEMS 10th annual conference to its research laboratories in Sophia Antipolis in Provence. This is the second time this agency has hosted a TIEMS conference here. Since the 1995 conference, the rapid development of TIEMS reflects the growing perception of risks by the public and the development of methods, knowledge, and organizational patterns to prevent risks, manage crisis, learn lessons from accidents and train responders.

As a past president of TIEMS, I can appreciate the commitment of the present board of directors and its president, Harald Drager. They have applied their skills in business management to make our society more professional and responsive to the emergency management community.

The last months have been marked by a number of disasters around the world of various origins. Recently, the war in Iraq and the emergence of the SARS epidemic raised the question of postponing or even canceling our annual conference. We were determined to keep the pace and to organize this event as a model for the members of our Society showing that we are able to face emergencies and promote solutions to enhance the ability of our society to prevent and to be resilient to disasters.

Since the beginning of the activities of TIEMS, we have proposed a global approach to emergency management, associating engineering sciences and human sciences. In the early times, some people were skeptical about this approach, preferring to concentrate on the understanding and modeling of phenomena. With the development of more complex systems and organizations, the increasing number of stakeholders and the occurrence of less predictable catastrophes, our approach has been reinforced as it becomes clearer that one of the key success factors of emergency management is an adequate, flexible, international organization. This organization has the challenge to establish a strong synergy among many stakeholders and to achieve a reliable management of information before, during and after crises.

TIEMS was established to create bridges between researchers and practitioners, in order to transfer methods and techniques from the laboratories to the field. It is amazing for me to see that this association of skills and knowledge has become so successful and that almost all recent research work done in the domain of emergency management is strongly grounded on field studies and the involvement of practitioners.

My hope is that TIEMS will continue to be one of the key organizations where new trends in emergency management are created and validated. I wish you a fruitful 2003 conference and a happy time here in Provence!

Pr. Jean-Luc Wybo, Ph.D.  
Ecole des Mines de Paris,  
Conference Host



## Conference Foreword from TIEMS President

As President of TIEMS, it has been a pleasure to deal with all that have contributed in making TIEMS 2003 happen. We hope that all contributors and participants enjoy the conference.

The authors of accepted papers at this conference in Sophia Antipolis are from 22 countries. We expect more than 100 participants from over 30 countries. Despite the difficult world situation with the war in Iraq, the aggressive SARS virus and other concerns about travel, we are pleased with the number of individuals who chose to travel internationally to attend when many other conferences were cancelled for these reasons. This shows that TIEMS has a strong participating international foundation and that the conference program is of interest to individuals far beyond the authors themselves.

The incidents mentioned above as well as industrial accidents, natural catastrophes and terrorist attacks happen all over the world, and represent a continuous threat to the world society. The consequences may be of enormous scale. This has focused the world public opinion on avoidance and mitigation, and on reducing the consequences. Stricter regulations and open international communication on these problems have resulted so far. However, the potential for major disasters continue to be present, and modern society has to be better prepared for industrial disasters, natural catastrophes and terrorist attacks in order to reduce consequences and sufferings.

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

These peer reviewed published papers in the proceedings should give a broad international view of emergency management in an international perspective and they stimulate a continuous ongoing international and global debate on emergency management.

TIEMS is a non-profit society with limited financial resources. The TIEMS 2003 conference in Sophia Antipolis would not have been in the form it is presented without the financial support and help of TIEMS 2003 participants and sponsors. TIEMS is thankful to all of you.

Special thanks go to Sverre Roed-Larsen, John Stoop, Ross Newkirk and Jean Luc Wybo who have all worked closely with the proceedings and all details of the arrangements. A special thanks goes to Claire Rubin, who has been responsible for TIEMS WEB-site announcing the event.

Organising of the conference has been hectic at times, but seeing the fruitful result of the work is very satisfying.

**K. Harald Drager, Norway**  
**TIEMS President**  
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## Introduction to the 10th Annual TIEMS (2003) Conference: Emergency Management in a Changing World

After 10 years of TIEMS conferences, some new trends and focus are appearing, based on some observations in the real world of emergency management. Old threats, familiar to the public, still manifest themselves as earthquakes, hurricanes, flooding and wildlife fires. But as seen in the USA and the rest of the world, new threats such as terrorism have become the major threat in the today's public perception. Not only has the bombing of the WTC had an enormous impact, but also, more in general, the vulnerability of our society towards any type of threat has become clear. This ranges through an ever broader set of significant problems that include for example in the transportation sector the impact of contagious diseases on cruise vessels and the spreading of SARS by aviation, or in the agricultural sector by foot and mouth disease, BSE or swine plague. Over the past few years, various regions in the world have seen the propagation of unforeseen and new phenomena, which are unpredictable and beyond our control.

Technologically related disasters continue to shocked our society several times, such as with various tunnel fires in the Alps region, sinking of crude oil tankers contaminating the coast of Europe and the degradation of railway safety on the old European networks. New areas of concern emerge regarding resources and expertise which are required to cope with oncoming disaster and emergency handling. Developing countries and regions which culturally differ from Western countries have to adjust existing concepts and means to fit in emergency management and mitigation with their needs and capabilities.

During the preparation of the conference, the TIEMS International Program Committee has received contributions all over the world dealing with these old and new challenges. A variety of issues have been submitted, covering areas of natural disaster, strategic risk decision making, critical infrastructures, cultural and economical aspects, governance and application of ICT in training and operational emergency management. In addition to these issues, several key-note speakers have been invited to elaborate on specific major issues, covering terrorism, ICT applications, the spreading of new contagious diseases and policy making consequences of infrastructure design and operation in Europe. Experts from the European Union, industry, academic and knowledge networks will share their insights and exchange views with the conference participants in order to achieve common concerns and views with respect to emergency management issues. During the preparation of the conference, it became apparent that a region specific approach might become necessary to deal with specific conditions. A dedicated approach might become necessary to cope with new and old challenges in a cost-effective manner. In order to develop such dedicated approaches, a international common body of knowledge and experience needs to be developed across many disciplines and sectors.

This 10th TIEMS conference helps to lay the basis for continuing the development of emergency management as a prerequisite for coping with the challenges of this new millennium.

Dr. John Stoop, The Netherlands.  
Chairman International Conference Program Committee  
And Proceedings Associate Editor



## Editor's Introduction to the 10th Annual TIEMS (2003) Conference:

It is always a pleasure to review all of the paper submissions and see the final result through to publication. This year, participation in the conference was somewhat reduced from previous years' experience largely due to the difficult situation in the world. We can be pleased that this conference had sufficient support to continue when many other professional associations had to cancel or at least delay their conferences.

While there are fewer papers than normal, their content remains interesting. We are pleased to see good professional practice papers as well as the more scientific and academic ones. It is a hallmark of TIEMS that it provides for an interchange between theory and practice.

It is good to see a number of papers on Risk Analysis as this is an area in need of significant development. In both the United States and Canada national level policy statements indicate that risk analysis is critical for securing critical infrastructures. It is also clear that there will be an increasing interest in risk analysis in the health care system due to diseases like SARS.

TIEMS authors continue to push at the information system frontiers with advances in practical and theoretical decision support systems. It is good to see that there are social science related perspectives here as well that address important dimensions of the human condition.

This is a peer reviewed publication. Abstracts are reviewed in the first phase and recommendations made to authors. The final papers are reviewed by an international program committee. Since the language of communication is English, it is sometimes a challenge for international authors whose first language is not English. Since TIEMS has a main purpose to foster cross cultural communications on emergency management, the program committee is tolerant of translation challenges. In general the committee assesses the merit of the substance more than the style of expression.

In the interest of clarity and to deal with the inevitable challenges of cross-cultural communication (especially when the author's first language is not English) the editor has sometimes had to make extensive revisions to several papers. The editor's intent was neither to change the substance of the author's argument and information nor to make significant changes to style. These papers are identified in the proceedings with the phrase "post submission edited". Readers are advised to contact the original authors for further clarification if required.

Dr. Ross Newkirk, Ph.D., Canada.  
Chairman International Conference Program Committee

