



THE INTERNATIONAL EMERGENCY MANAGEMENT SOCIETY Newsletter - ISSUE 29 - May 2017

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Group photo from first TIEMS Workshop in India

The International Emergency Management Society

TIEMS continues its international development, and is spreading out its activity more and more worldwide, with members and chapters.

New members and chapters add valuable expertise and cultural diversity to the TIEMS international network, which comprises of users, planners, researchers, industry, managers, response personnel, practitioners, social scientists, and other interested parties within emergency management and disaster response. This network constitutes a large international multidisciplinary group of experts, with different educational backgrounds and various experiences. Read more about this network and its activities in this newsletter.

Joseph Pollack
TIEMS Newsletter Editor

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Message from TIEMS President

I am proud to present this 29th issue of TIEMS regular newsletter with reports and announcements from TIEMS and others worldwide activities and operations.

TIEMS ORGANIZATION UPDATE

The one page description of TIEMS, is informing about how TIEMS has developed since its inauguration and the focus the society has today with four main activities:

1. **International Conferences, Workshops and Exhibitions**, where networking and exchange of experience to learn from each other is the prime focus. In 2017 TIEMS is arranging 13 events worldwide in 7 countries
2. **Research and Technology Development Projects**, where TIEMS today participates in two EU projects; ASSETS and HERACLES, with update reports in this newsletter
3. **Task Force Groups**, where TIEMS can provide international experts for local assistance in a disaster situation. TIEMS International Group of Experts (TIGE) comprises 86 top international experts from TIEMS chapters worldwide, with different background and expertise.
4. **TIEMS Academy**, providing educational material available on-line worldwide, and establishing an international on-line certification of Qualifications in International Emergency and Disaster Management (**TIEMS QIEDM Certification**).

TIEMS 13 chapters worldwide provide the local expertise and add the cultural dimension, which is important to know in an international disaster situation. A dialogue is on with more countries, which have shown interest to become part of TIEMS international network of chapters and members, and more chapters are expected being established the coming years.

For TIEMS worldwide constituency, TIEMS provides learning from each other, an opportunity to serve as a TIEMS Director or Officer, and thus add value to TIEMS work

towards more resilient societies worldwide, and networking with other experts with different background and experience.

REPORTS FROM TIEMS EVENTS & CHAPTERS

TIEMS arranged its first workshop in New Delhi in India 10th February this year on higher education in disaster management. Experts from all over India participated and it was observed a high standard on presentations, and that Indian experts have a lot to add to TIEMS worldwide activities and operations.

I am therefore pleased, to announce that TIEMS 2017 Annual Conference will be held in Visakhapatnam in India, 7 - 10 November in cooperation with the 3rd World Congress on Disaster Management, which is arranged by the Disaster Management Initiatives and Convergence Society (DMICS) in India.

Both the report from TIEMS India Chapter Workshop 10th February this year, and the announcement of TIEMS 2017 Annual Conference in cooperation with 3rd World Congress on Disaster Management is enclosed in this newsletter.



Oslo 8th May 2017
K. Harald Drager
TIEMS President

TIEMS is strengthen its chapter in India with new board members and an advisory board with members from all Indian states this year, and look forward for increased TIEMS activity in India in the years to come.

In this newsletter we have started with presenting the different TIEMS chapters with introducing the chapter board members and describing the focus and activities of the

chapter. First out is TIEMS USA Chapter, and below in the newsletter, you can find the names, pictures and affiliations of TIEMS USA Chapter board members, and a brief description of the chapter activities with the TIEMS 2016 Annual Conference last year in San Diego. This year the TIEMS 2017 USA Chapter Conference will take place at the University of Maine 12 - 16 June. The announcement of this year's conference in Maine is enclosed in this newsletter.

In the upcoming newsletters the other 12 TIEMS chapters will be presented showing the strength of TIEMS Chapters and International Expert Network.

TIEMS RTD PROJECTS

The HERACLES EU project main objective is to design, validate and promote responsive systems/solutions for effective resilience of cultural heritage sites against climate change effects, considering as a mandatory premise an holistic, multidisciplinary approach through the involvement of different expertise.

This will be operationally pursued with the development of a system exploiting an ICT platform able to collect and integrate multisource information in order to effectively provide complete and updated situational awareness and support decision for innovative measurements improving cultural heritage site resilience, including new solutions for maintenance and conservation.

TIEMS participate in the project with a team of four TIEMS members, from Croatia, USA and Norway, and is responsible for adding value with expertise on end user requirements, risk and vulnerability analysis, guidelines and datasheets for virtual training courses, risk management procedures for end users, demonstration and result analysis, dissemination and communication and an impact, exploitation and business model.

Enclosed in this newsletter is a HERACLES report from the consortiums visit to the two cultural sites in Crete; the Minion Knossos Palace and the Heraklion Fortress. HERACLES

is a fascinating project with high ambitions, and it shows that emergency management and disaster response expertise is of importance in different settings.

The ASSET projects is about epidemics and pandemics and is now in its fourth and last year. In this newsletter is a report on the ASSET project citizen consultations, performed at the same time in 8 European cities. The response to questions put forward to more than 400 randomly selected citizens are summed up and statistically presented. The ASSET citizen consultations show that citizens across Europe are willing to follow the advice from health authorities. In an emergency situation, citizens even supported the infringement of individual rights for the collective good.

However, citizens emphasized that public health authorities must communicate in an honest and transparent matter. Citizens do not want to be protected from the realities of a situation; rather they want to know what the uncertainties and risks are. Participants in the meeting urged general practitioners (GPs) and authorities to increase their online presence and to engage in dialogue with their publics. The public desires clear and updated information on vaccination and pregnancy and believe that improved communication and dialogue can restore trust and build better relationships between health authorities and publics. Finally, citizens in the meetings expressed a desire for opportunities to provide input for policy development and action in the case of epidemic or pandemic crisis.

The findings of these consultations underline that participatory governance is the way forward, not only in public health, but for authorities in most settings in order to build trust towards the public.

MISCELLANEOUS ARTICLE

An excellent article by Epidemiologist Donato Greco, is recommended reading. Its title is: ***Let us make Peace with Germs!***

Have a good and interesting reading!

Editor's Message

This issue is important for those of us concerned with learning the best practices in security and public health.

As you know, we are collecting pictures from all our chapters, members, and their events! That is because we will be showcasing the society's outreach. Hopefully, we will be able to put a smiling face on each of our volunteers!

Let me take the opportunity of this editorial to showcase one volunteer in particular. Dr. Carl Taylor and his team who are proposing a "tailor"-made open source & purpose-built credentialing system.

In his own words:

"Much of my professional career (apart from healthcare and health research) has been in medical disaster response.

For the past 15 years, part of that medical disaster response has focused on tools and processes to connect hospitals to manage medical surge capacity. My Kenyan team and I have developed AMS. AMS is a medical surge capacity tool. It is free to good hospitals or public health response agencies. To review please see <http://ams.xchlive.org>.

In disasters I resent untrained people wandering in, I am not untrained [...], We do not seek donations. If AMS adds value to assist hospitals in responding, then consider it yours. If it does not or is not needed, then at least I have offered."

Ask Carl or myself for credentials to the system. You reach us through TIEMS Secretariat.

Reach out to the team if you would like to tell the world about a promising or interesting initiative.

Dr. Carl Taylor's AMS system and it's codebase will eventually be made available through ow2.org with whom I hope many members from TIEMS will want to collaborate. In deed we will be needing your help to support an advisory board for the community AMS and the many other open source applications for the hospital & emergency response domain.

Would you like to know more about getting involved in supporting emergency managers with open source technology?

Would you like to contribute domain knowledge, expertise or guidance to developer communities making today's open source information systems?

Get involved today by letting your colleagues in the TIGE know!

Stay up to date with the latest news by reading our newsletter. Read more for special **deals** and the most relevant **events!**



Joseph Pollack
TIEMS Regular Newsletter Editor



The International Emergency Management Society

TIEMS ORGANIZATION UPDATE

TIEMS - www.tiems.org

MISSION



TIEMS prepares the world for emergencies. We are a global forum for education, training, certification, and policy for emergency and disaster management. We do not respond to emergencies: we ensure that others are ready to respond. This is important internationally because some parts of the world otherwise have limited support for preparation.

As the international community discovers and develops new technologies, methodologies, and best practices, we offer conferences, ongoing forums, and training courses that rapidly and continuously spread the knowledge to every corner of the community. As policy makers grow to understand both the need for preparation and the support TIEMS provides, we expect to influence policy choices that strengthen cooperation among regional communities before a disaster strikes.

CHAPTERS

Chapters provide a regional focus for TIEMS activities. This is important because every region has unique circumstances and challenges, so there is no planning process that applies everywhere.

Currently we have chapters representing:

Belgium/Netherlands/Luxembourg, China, Finland, India, Iraq, Italy, Japan, Korea, Middle East and North Africa, Nigeria and West Africa, Romania, United States of America and Ukraine.

Each chapter is autonomous. Some of its members are also members of international TIEMS, and

others are only members of the chapter, with local rules governing membership. The chapter establishes local activities and coordinates with the rest of TIEMS as needed.

The TIEMS Secretariat, located in Brussels, is available to the chapter for administrative support. The chapter reports annually to the Secretariat about chapter activities, plans and finances.

ACTIVITIES

- **International conferences, workshops and exhibitions**, held worldwide, focus on Emergency Management and Disaster Response topics
- **Research & Technology Development** projects support initiatives, coordination and participation
- **Task Force Groups** provide an international group of experts to assist with emergency operations worldwide
- **TIEMS Academy**, providing international education, training and certification programs in Emergency Management and Disaster response

MEMBERSHIP

As a member of the TIEMS, you are part of an international community of leaders and practitioners in emergency management, with diverse backgrounds in engineering, science, government, academics, military, and industry working together to make the world a safer place. Membership affords unique opportunities to learn, serve, and network.

Learn: From the multi-disciplinary, multi-national TIEMS community and through special programs.

Serve: By helping us in our mission to reduce the impacts of disasters and emergencies worldwide.

Network: With regional and international colleagues to develop valued personal and professional relationships, and enhanced opportunities.

You are welcome to join us as a TIEMS member.



K. Harald Drager
TIEMS President

The International Emergency Management Society (www.tiems.org)

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E-mail: r.miskuf@squaris.com,

TIEMS - International Group of Experts (TIGE) 2016-2017

TIEMS UNIT	NAME	COUNTRY	POSITION	TIEMS UNIT	FIELDS OF EXPERTISE
TIEMS Board of Directors	K. Harald Drager	Norway	President	Board of Directors	International organizational development, emergency, disaster and risk management and project management
	Guosheng Qu	China	Vice President Vice President	Board of Directors China Chapter Board	Seismic risk and earthquake disaster assessment and management. Disaster preparedness and capacity buildings for USARs. Earthquake disaster information quick collection, real-time estimation and emergency response. Earthquake disaster on-site coordination and operation, Search and rescue. Multi-hazards risk assessment and management. Project management and research as well as international task force group developments.
	Jaroslav Pejcoch	Czech Republic	Secretary and Chair of TIEMS Advisory Board	Board of Directors	Information systems for disaster management, Training and simulation. Risk Analysis, Information sharing and distribution. Critical Infrastructure Protection. Exercising Methods and Tools. Information @ Communications in Disasters. Information Security in Disasters.
	Ji (Jack) Zhang	China	Treasurer Vice President	Board of Directors China Chapter Board	IOT and Big-data applications in risk management and infrastructure protection; 3D simulation online emergency training sys; Risk management and early warning IT solution provider.

	Snjezana Knezic	Croatia	Director Chapters & Membership TIEMS Proceedings Editor in Chief	Board of Directors	Disaster management (theory and implementation); Consequences of climate change processes; Flood management; Forest fires; Risk assessment; Critical infrastructure (NOT ICT, but transportation, water supply and similar systems); Decision support systems and Information systems design for disaster and emergency management; Some aspects of business continuity related to decision making processes
	Jean- Paul Monet	France	Regional Director Europe	Board of Directors	Incident command CBRNe Robotics Industrial risks Forest and Bushfires Disaster aerial support
	Jae-Kwon Kim	Korea	Regional Director Asia President	Board of Directors Korea Chapter Board	Disaster analysis & assessment (geotechnical landslide & tunnel, subway, railway), Civil engineering, construction project management and railroad safety, emergency, disaster, hazard and risk management
	Thomas V. Robertson	USA	Regional Director North America Treasurer	Board of Directors USA Chapter Board	Organization Development Virtual Simulation Risk Communication Governance and Resilience International Education
	Mohammed Shuaib	Iraq	Regional Director Middle East & Africa Board Member	Board of Directors Iraq Chapter Board	Epidemiological analysis in disasters and catastrophes. Crisis management. Disability management. Preventive measures before emergency. Administration of medical services in emergencies
	Neil Dufty	Australia	Regional Director Australia, New Zealand & Oceania	Board of Directors	Early Warning System Design, Disaster Education and Engagement, Emergency Communications including Social Media, Evaluation of Disaster Management Performance, Social Resilience-building

TIEMS Advisory Board	Meen Poudyal Chhetri	Nepal	Chair of TIEMS Paper Review Committee TIEMS Proceedings Co- Editor	Advisory Board	Effective Disaster Management Theory and Policy, Climate Change, Earthquake Disaster Prevention Technologies, and Mitigation and Management of Floods and other Disasters
	Sandro Bologna	Italy	Chair of TIEMS International Program Committee Board Member	Advisory Board Italy Chapter Board	Critical Infrastructures and Communities Resilience Evaluation and Planning
	Joseph Pollack	USA	TIEMS Regular Newsletter Editor Board Member	Advisory Board USA Chapter Board	Statistics (GIS, Demographics, surveying), Training Systems, Law and Policy for Technology and Emergency Management, Disaster Management
	Alex Fullick	Canada	TIEMS Special Issue Newsletter Editor	Advisory Board	Risk Assessment. Risk Management. Business Impact Analysis. Crisis Management. Crisis Communications. Business Continuity Management. Business Continuity Planning. Disaster Recovery Planning. Emergency Response & Operations. Project & Program Management.
	Samantha Ridler	UK	TIEMS Social Media Editor	Advisory Board	Social Media, Business continuity planning, Alternative Finance models, Crowdfunding, Education.
	George Markowsky	USA	Chair of TIEMS Education, Training and Certification Programs	Advisory Board USA Chapter Board	Cybersecurity, Computer Support Systems, SCADA, Educational Technology, and Nuclear Power Systems
	Yukio Fujinawa	Japan	Chair of TIEMS Disaster Early Warning Task Force Group Board Member	Advisory Board Japan Chapter Board	Earthquake disaster information: earthquake early warning and earthquake prediction.
	Chen Ran	China	TIEMS Emergency Medicine Committee (TEMC) President	Advisory Board	Epidemic diseases, health statistics, program design & assessment and health management.

	Shakir Katea	Iraq	TIEMS Task Force Activity Officer Board Member	Advisory Board Iraq Chapter Board	Risk assessment, Incident command, Emergency response.
	Nina Frolova	Russia	TIEMS Research, Technology and Development Coordinator	Advisory Board	Earthquake loss assessment in emergency mode; seismic risk assessment taking into account technological accidents; multi-hazards risk assessment and management.
	Ranko Britivic	Croatia	Officer for Sponsorship, Partnership & Exhibitors	Advisory Board	Disaster Law, EU projects, Civil Protection Education and Training activities.
	Wenlong Yang	China	TIEMS Asia Secretariat Officer	Advisory Board	Community emergency management. Seismic Hazard Analysis. Emergency education and training. Design and Plan of Disaster and Emergency Safety Experience Hall. Emergency industrial park planning consultation.
TIEMS USA	Kay Goss	USA	President	USA Chapter Board	Emergency management planning, training, higher education, standards, accreditations, certifications, and technologies
	Brent Woodworth	USA	Vice President	USA Chapter Board	

Chapter Board	Carl Taylor	USA	Board Member	USA Chapter Board	<p>Disaster Planning, Training and Response for Health Professionals.</p> <p>Emergency Medical Operations Management.</p> <p>Medical Surge Capacity and Situational Awareness.</p> <p>Software Design and Development for Disasters for Health Facilities.</p> <p>Informatics, Risk Analytics and Big Data.</p> <p>Simulation and Visualization for Disaster Planning and Exercises.</p> <p>Geo Mapping.</p> <p>Founding Partner- Fraser Institute for Health and Risk Analytics - Princeton NJ</p> <p>CEO XCH LLC. Globally involved in software and tools for disaster response - Florida and Kenya.</p> <p>Member of the Crisis Mapping Community.</p> <p>Contributor to the Understanding Risk Community.</p> <p>Former Executive Director National Center for Disaster Medical Response.</p> <p>Founder of Advanced Regional Response Training Center.</p> <p>BS in Political Science</p> <p>JD (Juris Doctor of Law).</p>
	Nathaniel Forbes	USA	Board Member	USA Chapter Board	<p>Business continuity management (BCM), IAEM member, traumatic stress intervention, #Persuade! for presenters</p>
	Josef Leitmann	USA	Board Member	USA Chapter Board	<p>Post-disaster reconstruction.</p> <p>Post-disaster needs assessments. Disaster recovery frameworks. Urban resilience. Financing for disaster risk management.</p> <p>Climate change mitigation and adaptation. Urban environmental management.</p> <p>Natural resource management. Clean energy.</p>

	James Hagen	USA	Board Member	USA Chapter Board	
	Murray Turoff	USA	Board Member	USA Chapter Board	Emergency Management Information Systems. Emergency Management Education. Planning and Forecasting Methods. Delphi Design and Collaborative Methods. Interactive Systems Design and Evaluation. Information Systems. Management Science. Decision Support Systems and Modelling.
	John Light	USA	Working on a Fellowship Grant to TIEMS USA	Working on a Fellowship Grant to TIEMS USA	Human-Computer Interaction. Information visualization. Software lens technology. Internet of Things. Ubiquitous computing. Neuroscience application to computing. Linux kernel hacking. Software optimization. Software threat analysis. Communication protocol design. Brain lateralization theory.
TIEMS Middle East & North Africa Chapter Board	Ayman Fadil	Saudi Arabia	President	Middle East & North Africa Chapter Board Chapter Board	Disasters Risk Management, Economics of Disasters
	Naill Momani	Jordan	Board Member	Middle East & North Africa Chapter Board	Disasters Risk Management, Earthquakes Consequences Management
	Mohamad Zhagal	Jordan	Board Member	Middle East & North Africa Chapter Board	Information, Communication and Technology of Disasters Management
	Hassan Taibah	Saudi Arabia	Board Member	Middle East & North Africa Chapter Board	Crowd management, risk communication, social vulnerability
TIEMS Iraq Chapter Board	Ayad Jasim Matar	Iraq	Board Member	Iraq Chapter Board	Risk assessment, Incident command, Emergency response training

TIEMS Nigeria & West Africa Chapter Board	Ismail Sani	Nigeria	Executive Director	Nigeria & West Africa Chapter Board	He is a Media/Public relations expert with speciality in Disaster and rescue operation management. He is the Proprietor of a radio station called Platinum Radio FM and Executive producer of "Rescue Team" radio public enlightenment programme on disaster and rescue operation. - TIEMS Representative/ Executive Director
	Audu Mohammed Bida	Nigeria	Chairman and Head of Training	Nigeria & West Africa Chapter Board	He is a retired Air Vice Marshal in the Nigerian Airforce and former Director General of the National Emergency Management Agency (NEMA). He is Chairman and Head of Training
	Yushau Shuaib	Nigeria	Board Member and Director of Special Duties	Nigeria & West Africa Chapter Board	He is public relations expert with speciality in disaster management. He was a former spokesperson of the National Emergency Management Agency (NEMA). He is Director of Special Duties in TIEMS Nigeria & West Africa.
	Sanya Adejokun	Nigeria	Board Member and Director of Publicity	Nigeria & West Africa Chapter Board	He is a journalist trained to cover rescue and disaster management. He is the former Chairman of Journalist Against Disaster (JADI). He is Director of Publicity in TIEMS Nigeria & West Africa
	Jibrin Ndace	Nigeria	Board Member and Director of Mobilisation	Nigeria & West Africa Chapter Board	He is a journalist but trained to cover disaster and rescue operation - He is our Director of Mobilisation TIEMS Nigeria/ West Africa Chapter

TIEMS Italy Chapter Board	Simona Cavallini	Italy	President	Italy Chapter Board	Economics of security with specific competences in the analysis of interdependencies between infrastructures (and critical infrastructure protection in general), in the definition of security and resilience strategies and policies, in socio-economic impact assessment of critical events, in information sharing issues in emergency response (interagency cooperation included) and in the analysis of optimal security investments.
	Alessandro Lazari	Italy	Secretary	Italy Chapter Board	Policy and strategy on Critical Infrastructure Protection and Resilience
	Vittorio Rosato	Italy	Board Member	Italy Chapter Board	Risk Analysis of Critical Infrastructures Simulation models of Critical Infrastructures
	Paolo Trucco	Italy	Board Member	Italy Chapter Board	Industrial Risk Analysis and Management, Network Enabled Operations, Resilience engineering
TIEMS Romania Chapter Board	Stela Petrescu	Romania	Board Member	Romania Chapter	Accumulated experience from Romanian hazard and risk mitigation project regarding earthquakes, floods and landslides. Active involved since 2007 in the Romanian Red Cross (RRC). The RRC is a national humanitarian NGO, offering emergency assistance during occurred disasters, prevention measures and education, sanitary education, various social activities for vulnerable young and elder people on voluntary basis.
TIEMS Finland Chapter Board	Adrian Boukalov	Finland	Board Member	Finland Chapter Board	ICT
	Lauri Halme	Finland	President	Finland Chapter Board	Specialist Lecturer: Transmission Lines and Electromagnetic Screening. International Standardization

TIEMS BeNeLux Chapter Board	Carmelo Di Mauro	Luxembourg	Coordinator for re-establish a BeNeLux Chapter Board		Risk Management Strategies, Resilience and Communication
TIEMS India Chapter Board	Kailash Gupta	India	Managing Trustee	India Chapter	Disaster research, including quick response research; mass-fatalities management; strategic management and institutional building; response and preparedness; crisis participatory governance; amateur radio communications
	Gaurav Natani	India	Trustee	India Chapter	Insurance planning for disaster risk reduction and management; Risk communication via social media
	Neelay Srivastava	India	Secretary	India Chapter	Geoinformatics Applications, ICT, DM Planning, Hazards Mapping-(Flood, landslide, chemical disaster), Risk and damage/loss assessment, Earthquake Risk Reduction
TIEMS Korea Chapter Board	Young Jai Lee	Korea	Board Member	Korea Chapter Board	Disaster management, Business Continuity Risk-Based Decision making
	Jihyeob Ryu	Korea	Board Member	Korea Chapter Board	Early warning system design in landslide and debris flow. Disaster management. Risk assessment and management. Emergency management planning, training, education
	Changsam Jeong	Korea	Board Member	Korea Chapter Board	Hydrology, Meteorology Hazards Mapping-(Flood), Frequency analysis, Optimization
	Dongkeun Yoon	Korea	Board Member	Korea Chapter Board	Disaster management, Disaster planning and policy, Risk assessment, Vulnerability assessment, Flood mitigation measures, Big-data application in hazard and risk analysis, Hazard mapping
	Heekyung Park	Korea	Board Member	Korea Chapter Board	Urban infrastructure & Disaster management, Community Resilience, Policy & Strategy decision support modelling, Integrated Disaster Management

	Namyong Park	Korea	Secretary	Korea Chapter Board	Emergency, disaster, risk management, crisis communication and decision support
TIEMS China Chapter Board	Shan Chunchang	China	President	China Chapter Board	National policy making in emergency management. Emergency system and response plan making and fulfilment.
	Ning Chunlin	China	Secretary	China Chapter Board	Emergency industry. Heavy facilities on emergency rescue and management.
	Xiang Yao	China	Deputy Secretary	China Chapter Board	International risk management and training base construction.
	Hui Ding	China	Board Member	China Chapter Board	Risk management, Standardization on DRR and EMS.
	Tiemin Liu	China	Board Member	China Chapter Board	Risk management, Resilience and Work-safety research, DRR and EMS solutions.
	Jiaqi Ji	China	Board Member	China Chapter Board	Emergency management.
	Jing Li	China	Board Member	China Chapter Board	Remote Sensing, GIS, and their applications in Emergency Management.
	Bin Yang	China	Board Member	China Chapter Board	Emergency Industry DRR and EMS solutions.
	Weimin Gui	China	Board Member	China Chapter Board	Risk management, Emergency management.
	Huadong Guo	China	Board Member	China Chapter Board	Emergency management.
	Lan Xue	China	Board Member	China Chapter Board	Risk management, Resilience and DRR and EMS research.
	Qiang Zhang	China	Board Member	China Chapter Board	Risk management, Resilience and NGO EMS research, DRR solutions.
	Chunlin Liu	China	Board Member	China Chapter Board	Risk management, Resilience research, DRR and EMS solutions.
	Xiaoning Zhang	China	Board Member	China Chapter Board	Emergency management.
	Guanghui Yin	China	Board Member	China Chapter Board	Earthquake management, EMS and DRR solutions.
TIEMS Japan Chapter Board	Haruo Hayashi	Japan	President	Japan Chapter Board	Disaster Psychology, Emergency Response and Recovery
	Norio Maki	Japan	Secretary	Japan Chapter Board	Planning, Disaster Reduction, and Recovery

	Keiko Tamura	Japan	Board Member	Japan Chapter Board	Disaster reduction for Person with Special Needs, Relief Operation and Individual Recovery
	Hidenori Tanaka	Japan	Board Member	Japan Chapter Board	Disaster reduction planning, and Business continuity management
	Kenji Watanabe	Japan	Board Member	Japan Chapter Board	Business Continuity Management, Risk management for ICT
	Munenari Inoguchi	Japan	Board Member	Japan Chapter Board	ICT for disaster management, individual recovery
TIEMS Ukraine Chapter Board	Andre Samberg	Ukraine	President	Ukraine Chapter Board	Geoinformatics, ICT, GIS, public safety communications, disaster relief, policy & strategy decision support, CBRNE, first responding, situational awareness, critical infrastructure information protection, critical infrastructure protection, remote sensing, hazards mapping, standardization
	Serhii Chumachenko	Ukraine	Secretary	Ukraine Chapter Board	CBRNE, GIS, ecological monitoring. Simulation emergency situation. Emergency management, disaster relief, first responders, remote sensing, disaster mapping, hazards mapping. ICT. Risk assessment for critical infrastructure
	Pospelov Boris	Ukraine	Treasurer	Ukraine Chapter Board	Emergency management, risk assessment, stochastic models of natural and technical emergencies, innovative technologies for early detection of emergency situations, remote monitoring, technology of building optimal technical environmental security systems, wireless telecommunications critical applications, robotics, localization and liquidation of consequences of emergency situations.

	Yevhen Yakovliev	Ukraine	Chair of Board	Ukraine Chapter Board	Disaster management, Disaster planning and policy, Risk assessment of geological media, Vulnerability assessment of geological media in mining regions, Flood mitigation measures, National policy making in emergency management; Emergency system and response plan making and fulfilment
	Volodymyr Zaslavskyi	Ukraine	Board Member	Ukraine Chapter Board	Risk assessment of critical infrastructures, cybersecurity, process modelling
	Serhiy Ponomarenko	Ukraine	Board Member	Ukraine Chapter Board	Remote sensing, avionics, disaster modelling
	Serhii Stankevich	Ukraine	Board Member	Ukraine Chapter Board	Disaster mapping, disaster analyses and modelling, remote sensing
	Oleksii Mikhno	Ukraine	Board Member	Ukraine Chapter Board	Geoinformatics, geospatial analysis, remote sensing
	Robert Miskuf		Main Contact for TIEMS International Group of Experts	TIEMS Secretariat	

TIEMS 2017-2018 Event Program

13 TIEMS events in 7 countries are planned for 2017 - 2018, as listed below. Actual dates for tentative listings will be confirmed as soon as details are available.

10 February:

- TIEMS India Chapter Workshop in New Delhi, India (**report included in this newsletter**)

25 – 26 May:

- TIEMS Ukraine Chapter conference on Reforms in First Responding System and Civil Protection in Kyiv, Ukraine

12 – 16 June:

- TIEMS USA Chapter Conference in Orono, Maine, USA

28 – 30 June:

- Co-organizer of The 7th China(Guangzhou) International Fire Safety Exhibition in Guangzhou, China

Tentative July:

- TIEMS Japan Chapter Public Conference in Tokyo, Japan

24 July – 7 August:

- TIEMS Ukraine Chapter Summer School on Vulnerability Assessment of Critical Infrastructures in the Post-Soviet Era: Case Ukraine, Kyiv, Ukraine

Tentative September:

- TIEMS Iraq Chapter Conference in Erbil, Iraq

9 – 11 November (Tentative):

- Co-organizer of China Southeast Asia & South Asia Fire Safety and Emergency Rescue Technology Expo, Kunming, China

15 – 16 November:

- TIEMS Korea Annual Conference in, Ilsan, Gyunggido, Korea

7 – 10 November_

- TIEMS 2017 Annual Conference in Visakhapatnam, India in cooperation with 3rd World Congress on Disaster Management

Tentative November:

- TIEMS China Chapter Annual Conference in Beijing, China
- TIEMS Emergency Medical Committee (TEMC) Annual Conference in China

Tentative January 2018:

- TIEMS Japan Chapter Public Conference in Tokyo, Japan

REPORTS FROM TIEMS EVENTS & CHAPTERS

Workshop on Higher Education in Disaster Management: Challenges & Opportunities

National Institute of Disaster Management (NIDM) of Ministry of Home Affairs, Govt. of India and The International Emergency Management Society (TIEMS) - India Chapter co-hosted a full-day Workshop on Higher Education in Disaster Management: Opportunities & Challenges on February 10, 2017, at NIDM, New Delhi. The Workshop was supported by

- The Jamsetji Tata School of Disaster Studies, Tata Institute of Social Sciences,
- Ashoka Innovators for Public,
- The Institution of Engineers (India), Rajasthan State Centre, which also provided Workshop Secretariat facilities,
- Integrated Volunteers Network,
- Center for Development and Disaster Management Support Services, and
- Institution for Disasters, Emergency & Accidents.

2. Santosh Kumar, Executive Director, NIDM gave a welcome address and introduced the theme of the Workshop. Kamal Kishore, Member, National Disaster Management Authority inaugurated the Workshop by a video recorded message. Harald Drager, President, TIEMS, who came from Norway for the Workshop presented on Global Perspective on Emergencies and the Role Played by TIEMS in Higher Education in Disaster Management. George Markowsky, Chair, TIEMS Academy and Prof. of Computer Science, University of Maine, who came from USA gave an Overview of TIEMS Academy. Vinod Sharma, Prof. of Disaster Management, Indian Institute of Public Administration presented on Higher Education in DRR in India. Kailash Gupta, Managing Trustee, TIEMS-India Chapter and Convener of the Workshop emphasized the Need for Quick Response Research in India and it's funding. Before the end of the inaugural session, Sarthak Handa and Ashwin Naik of Ashoka Innovators for Public depicted Innovation Showcase Operation Resilience.

3. The inaugural plenary session was followed by three parallel sessions on Education, Research, and Careers. Seven papers on Education, seven on Research, and eight on careers parallel sessions were scheduled. Thus, 29 papers and presentations were scheduled at the Workshop. Program of the Workshop follows this report.

4. The Concluding Session was chaired by Chandan Ghosh, Prof. and Head of the Geo-Hazard Risk Management Division, NIDM. In this session, the summary and recommendations of the discussions in three parallel sessions were presented by parallel session moderators, George Markowsky on Education, Chandan Ghosh on



A session in progress at the Workshop on Higher Education in Disaster Management: Challenges & Opportunities, February 10, 2017, New Delhi

Research, and Harald Drager on Careers respectively. The key conclusions and recommendations of the three parallel sessions are:

4A. Parallel Session on Education

Four of the seven scheduled papers were presented in this parallel session. These were by Dipa Vengurlekar, Priya Namrata Topno, K. Jaysurya, and Parama Bhattacharyya. Their institutional affiliation may be seen in the program of the Workshop that follows this report. Some key observations and recommendations are as follows:

- It is important to link field training to education in emergency management.
- Rural councils need to be better connected.
- There are many fine materials available to teach young children about safety.
- Educational programs should make greater use of the resources and people of villages and NGOs. Both villages and NGOs have extensive experience that can be leveraged in educational programs.
- Integrate emergency management education and development.
- Online education is poised for a more important role.

- India has developed many high-quality books, pamphlets, and courses for emergency management. They should organize these and make them available on the TIEMS.academy website.



Group photograph of the participants in Workshop on Higher Education in Disaster Management: Challenges & Opportunities, February 10, 2017, New Delhi

4B. Parallel Session on Research

There were 7 presentations in the Parallel Session II on the theme of Research. Diverse areas from technology to community practice were covered at multiple levels of operation from the level of the community to sites of disaster.

The first presentation was made by Ashok R. on behalf of Sumati Sidharth and Ekanto Ghosh also on 'Integration of Disaster Management and Digital India' in which importance was given to use of mobile technology during catastrophes. The paper stressed on the role of disaster management professionals in training citizens to use social media to maintain effective communication with the rest of the world during a disaster. Emphasis was given on the term SMAC (social, mobile, analytics and cloud) components and most clarifications were sought on this area during the question-answer session following the presentation.

The second presentation was by Raman Kumar on behalf of N M Prusty also on 'Humanitarian and Development Practitioner: Higher Education in Disaster Risk Reduction and Climate Change Adaptation in India.' In this paper emphasis was given on training of manpower to deal with emergency challenges. Skill impartment at various levels such as beginner, intermediate, advance, and expert level was discussed in order to create a humanitarian system of interventions in the context of India. Clarifications were sought by delegates regarding implementation of such a system in reality.

The third presentation was made by S. Uma Maheshwari who spoke on ‘Synchronizing Research in Disaster Management: Some Suggestions’. She gave an overview of various policies in the domain of disaster and highlighted their lacunae.

The fourth presentation was made by Aditi Sharan who brought in various examples from grassroots to support the importance of imparting disaster management training to women. Women are the first responders in a community and when skilled they can perform their role effectively. The paper ‘Higher Education in Disaster Management in India: From a Gender Lens’ was critically seen, since it spoke only of women as representative of gender.

The fifth presentation was on ‘Disaster Management and Social Work Education: A Praxis of Learning and Practice’ Neera Agnimitra. She spoke on the spirit of volunteerism and the importance of social work education as a praxis of learning and practice towards a disaster resilient India. The extensive presentation highlighted the role of youth in disaster management.

The sixth presentation was made by Chinmayi Sarma on ‘Resilience Activist: The Product of Higher Education in the Process of Community Based Disaster Risk Management.’ She posits creating an institution called *resilience activist* at the community level to impart capacity building training to and at the grassroots. There was a lively discussion after her presentation on the idea of creating a permanent institution as well as defining the resilience.

The seventh and last presentation was made by Chandan Ghosh who shared valuable insights on ‘Research in Disaster Management.’ He elaborated and emphasized on the need of context specific and time specific technology for a disaster resilient India.

4C. Parallel Session on Careers

There were lively discussions in this parallel session on careers with papers presented as shown below in the program.

The main conclusions were:

Military forces can be a valuable added resource in a disaster response situation because the military personnel have general education and training in emergency situations. However, they need to be educated and trained in additional qualification needed in a civil crisis situation.

The formalities in having the military involved in civil disaster response, needs to be addressed carefully, to avoid coordination conflicts between military and civil authorities.

It is important that updated courses and additional education is provided at universities and training institutions for operative disaster response personnel, so that their qualification are always abreast with state-of-art and up to date.

Volunteers are a huge and additional resource in emergency response situations. It is important to cater for this group so that they are properly trained to understand and meet the challenges in an emergency. They may need additional education and be certified for the different education skills needed.

A proper screening of the different volunteers may be required, seeing to it that they are used in situations they can handle and not being a burden when a disaster is on.

5. There were 57 participants, including speakers and paper presenters. Participants included academicians, researchers, practitioners, policy-makers, administrators, defense personnel, entrepreneurs, activists, and students. They represented government organizations, defense establishments, research institutions, universities, business organizations, international organizations, not-for-profit humanitarian organizations, professional organizations, independent disaster management practitioners, emergency medical technicians, and nurses. As already mentioned two presenters came from Norway and USA. Within India, participants came from Aizol in Mizoram, Ambala, Bangalore, Guargaon, Hyderabad, Jaipur, Jhunjhunu, Kolkata, Lucknow, Mumbai, Moradabad, New Delhi, Pune, Rishikesh, Srinagar in Pauri Garhwal district of Uttarakhand, and Tripura. The participants represented many states and different regions of India.

6. The Program of the Workshop with speakers, presenters and titles of their papers along with information about co-organizers and supporters starts from next page.

**Workshop on Higher Education in Disaster Management:
Opportunities & Challenges
10:00 to 17:00 Hrs., Friday, February 10, 2017, New Delhi**

Co-organized by



**National Institute of Disaster Management
Ministry of Home Affairs, Govt. of India, New Delhi www.nidm.gov.in**

&



The International Emergency Management Society – India Chapter www.tiems-india.org

PROGRAM

Inaugural Session 10:00 to 12:30 Hrs.

Prof. Santosh Kumar, Executive Director, NIDM, New Delhi. Welcome Address and Introduction of theme of Workshop

Shri Kamal Kishore, Member, National Disaster Management Authority, New Delhi. Inauguration of Workshop (remotely)

Shri K. Harald Drager, President, TIEMS, Oslo. Global Perspective on Emergencies and the role played by TIEMS in Higher Education in Disaster Management

Prof. George Markowsky, Chair of TIEMS Education, Training and Certification Programs and Professor of Computer Science, University of Maine, Bangor, ME, USA. TIEMS Academy

Tea Break 15 minutes

Prof. Vinod Sharma, Indian Institution of Public Administration, New Delhi. Higher Education in Disaster Risk Reduction in India

Dr. Kailash Gupta, TIEMS-India Chapter, Jaipur. Need for Quick Response Research in India and it's Funding

Ashwin Naik, Ashoka Innovators for the Public and Chair, National Association of Social Enterprises, India & **Sarthak Handa**, Health Tech Entrepreneur. Innovation Showcase Operation Resilience

Three Parallel Sessions 12:30 to 16:00 Hrs.

(With Lunch Break 14:00 to 15:00 Hrs. at IIPA Hostel Dinning Hall)

	Parallel Session I	Parallel Session II	Parallel Session III
	Class Room 1st Floor	Conference Hall Ground Floor	Room Number 19 IIPA Ground Floor
	Education	Research	Career
	Session Moderator	Session Moderator	Session Moderator
	George Markowsky	Chandan Ghosh	K. Harald Drager
	Session Rapporteur	Session Rapporteur	Session Rapporteur
	Anil Gupta	Chinmayi Sarma	W G Prasanna Kumar
	Presenters	Presenters	Presenters
1	Dr. Anil Gupta, NIDM. History and Growth of Disaster Management Higher Education, including HR Plan on DRR	Sumati Sidharth, Ashok R and Ekanto Ghosh, Defense Institute of Advanced Technology, Pune. Integration of Disaster Management and Digital India	Maj. Gen. Amardeep Bhardwaj. Disaster Management: A Trans-National Approach to Professionalize Military Education and Training
2	Dr. Dipa Vengurlekar, Student IIHMR, Jaipur. Damage and Need Assessment with Health Management Information System: A Training Prospective	N M Prusty, Center for Development and Disaster Management Support Services & Raman Kumar, Humanitarian and Development Practitioner. Higher Education in	Navneet Shekhar Singh and Dr. Vinod Kumar Pandey, Teerthanker Mahaveer University, Moradabad. Role of Higher Education Institutions in Disaster Management: Opportunities

		Disaster Risk Reduction and Climate Change Adaptation in India	and Challenges
3	Priya Namrata Topno, TISS, Mumbai. Building Disaster Resilience through School Education.	S. Uma Maheswari, Hyderabad. Synchronizing Researches in Disaster Management: Some Suggestions	Sharad Kumar, Dr. Shakuntala Misra National Rehabilitation University, Lucknow. Community Based Disaster Preparedness: Issues and Challenges
4	Parama Bhattacharyya, TISS, Mumbai. Disaster Management through Higher Education: A Case of IFRC-TISS Online Certificate Course in Disaster Management	Aditi Sharan, TISS, Mumbai. Higher Education in Disaster Management in India: From a Gender Lens	Dr. Arun K Rana, HUDCO, Lucknow & Deepti Pandey, S.J.P.J.T. University, Vidyanagari, Jhunjhunu. Higher Education in Disaster Management: Educating Built Environment Professions to Reduce Damage
Staggered Tea Break			
5	Dr. N.P. Naithani, HNB Garhwal University & Indira Jugran, Govt P. G. College, Rishikesh. Role of Higher Education in Disaster Management	Prof. Chandan Ghosh, NIDM, Research in Disaster Management.	Farha Naz, IIIT, Allahabad & Dolly Ahuja, Torrent Power Ltd., Ahmedabad, Disaster Management: An Emerging Career Opportunity
6	Mukta Girdhar, Indraprastha University, New Delhi. Higher Education Opportunities in Disaster Management at Certificate, Bachelors, Masters, and Doctoral Level	Prof. Neera Agnimitra, Delhi University. Disaster Management and Social Work Education: A Praxis of Learning and Practice	W G Prasanna Kumar, National Council of Rural Institutes, Hyderabad & A S Vadivel, Geological Society of India, Kolkata. Volunteerism in Higher Education for Mainstreaming Disaster Risk Reduction
7	K. Jayasurya, TISS, Hyderabad. Interdisciplinary Bottom-up Approach in Higher Education for Disaster Management	Chinmayi Sarma, JNU, New Delhi. Resilience Activist: The Product of Higher Education in the Process of CBDRM	Ajay Kumar, University of Lucknow. Disaster Management in India : Issues and Challenges
8			Manoj Kumar Dash, Integrate Volunteers Network, New Delhi. Building Resilience through Volunteerism

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Concluding Session 16:00 to 17:00 Hrs.

Prof. Chandan Ghosh, Session Chair

Presentation on the summary and recommendations of the discussion by Moderators of three Parallel Sessions

Open house discussion and way forward

Vote of Thanks by Kailash Gupta

TIEMS – India Chapter Meeting 17:00 to 17:30 Hrs.

All are invited

Shri K. Harald Drager, President, TIEMS. Role of Chapters

Prof. George Markowsky, TIEMS US Chapter

Dr. Kailash Gupta, Managing Trustee, TIEMS-India Chapter. History, registration, achievements, plans, vision, crisis participatory governance

All Present. Discussions about membership, activities, secretarial facilities, resources, networking

Background

Disasters are increasing in intensity and number and may even become worse due to climate change, living in the coastal (sea and river) areas, and haphazard urbanization. Disasters inflict deaths and disabilities, affect people, disrupt businesses and gains of long-term development in a short time. World Bank has estimated that on an average direct losses from disasters go up to two percent of Indian GDP and 12% of government revenue per year. UN Office of the Coordination of Humanitarian Affairs (OCHA) asserts that seven rupees in disaster response are saved by investing each rupee in disaster preparedness.

Need of Workshop

We need professionals educated in disaster management for prevention, preparedness, mitigation, response, recovery, and rehabilitation. Higher education in the context of the Workshop includes long-term education programs, which are six-months or more duration. Training programs of less than six-month duration are excluded. In future, more disaster managers in government, business

and industry, and non-profit will come to the job with higher education in disaster management. This is the first Workshop in India focusing on Higher Education in Disaster Management.

Objective of Workshop

The objective of the Workshop is to explore the opportunities and challenges involved in higher education in disaster management globally in general and in India in particular.

The focus of the Workshop is on:

- Higher education opportunities in disaster management at certificate, bachelors, masters, and doctoral level,
- History and growth of disaster management higher education,
- Face-to-face, distance, online, and blended higher education courses,
- Quality considerations and accreditation,
- Research in disaster management,
- Opportunities in disaster management as a career, and
- Challenges of employment.

Who Should Attend?

The Workshop will provide an opportunity to bring together policy makers, disaster management administrators, higher education administrators, researchers, academicians, corporate social responsibility executives, business continuity professionals, non-profit representatives, students, parents, and others who are interested in disaster management to learn about the opportunities and challenges of higher education in disaster management, peer-learning, and networking to make India and the world disaster resilient.

Paper Submission

Papers related to the focus areas of the Workshop and registration were invited by January 30, 2017.

Papers with abstract and four keywords needed to be between 750 to 1,250 words, excluding tables, figures, annex, and references, in Arial 12 font, 1.5 spacing, A4 size paper with 2.5 cm margin all around. Papers should have title and author or authors name, affiliation, contact details (email address and cell phone number), and address. Papers need to be submitted (which implies registration) by using MS Office Word to:

Dr. Ritu Raj at ritu.nidm@nic.in

with a copy to

Dr. Kailash Gupta at kailashgupta@my.unt.edu

Preliminary Program and Updating

Preliminary Program with invited speakers and accepted papers is available at www.tiems.info website and some of the supporters' websites listed below. The Preliminary Program may be updated intermittently. Please keep checking the latest version.

Registration

A delegate (without paper presentation) may also register by sending an email to above addresses by January 30, 2017. The email need to contain name, gender, qualification, occupation, affiliation, email address, mobile phone number, and address. Delegate whose registration is accepted will be informed intermittently.

Papers and registration were accepted based on the relevance of the paper, relating to the focus of the Workshop, prospective participants profile, early registration, diversity of the participants, and other criteria. The organizers reserve the right to change or cancel the program, reject papers and registrations even after acceptance, depending on the exigencies of the evolving situation. There is no registration fee. All participants have to make their own arrangements for travel and accommodation. Help in booking may be provided at the Indian Institute of Public Administration (IIPA) Hostel, subject to availability.

Publication of Papers

The papers submitted to and presented at the workshop will be published in TIEMS Special Issue Newsletter and also published in TIEMS Library on TIEMS web-site, www.tiems.org. Selected papers will be considered for publication in *The Indian Journal of Social Work*, the flagship publication of Tata Institute of Social Sciences.

Workshop Venue

The Workshop will be held at National Institute of Disaster Management, 5B, IIPA Campus, I.P. Estate, M.G. Road (also known as Ring Road), (near ITO and Vikas Minar, the tallest building in New Delhi), New Delhi – 110002. Popularly known as ITO area, which is in downtown.

Important Dates

Deadline for paper submission and registration to ritu.nidm@nic.in, with copy to kailashgupta@my.unt.edu was January 30, 2017.

Workshop time, day, and date: **10:00 to 17:00 Hrs., Friday, February 10, 2017**

Contacts

Workshop Secretariat is at The Institute of Engineers (India)

Rajasthan State Centre

Gandhi Nagar, Tonk Road, Jaipur.302015

Telephone: +91 141 270 0413 / 270 6327

Chairperson: Praveen Jain +91 992 909 8862

The office hours are from 14:00 to 20:00 Hrs., Monday to Saturday

Workshop Secretariat is functioning from Jan. 11 and will close on Feb. 20, 2017

For further details please contact:

Dr. Ritu Raj

Research Associate

National Institute of Disaster Management, (Ministry of Home Affairs, Govt. of India)
5B, IIPA Campus, I.P. Estate, M.G. Road, New Delhi – 110002
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Dr. Kailash Gupta

Honorary Managing Trustee

The International Emergency Management Society - India Chapter C 56 Opp. TPS, Shastri Nagar,
Jaipur 302 016

Tel.: +91 941 404 7890, +91 141 228 1888, kailashgupta@my.unt.edu

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Workshop Co-Organizers
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National Institute of Disaster Management

NIDM came into being under section 42 of Disaster Management Act, 2005, by re-designating National Centre for Disaster Management of Indian Institute of Public Administration, New Delhi, which has been working since 1995. NIDM has been assigned nodal responsibilities for human resource development, capacity building, training, higher education, documentation, research, and policy advocacy in the field of disaster management. NIDM is performing a crucial role in bringing disaster risk reduction to the forefront of the national agenda. NIDM has a multi-disciplinary team of professionals working in various aspects of disaster management. The vision of NIDM is to create a disaster resilient India by building the capacity at all levels for disaster prevention, mitigation, and preparedness.

The International Emergency Management Society – India Chapter

TIEMS started in 1993 is registered in Brussels as an international, independent, and not-for-profit voluntary organization of disaster and emergency management professionals (www.tiems.info). TIEMS has international network of experts that is valuable for exchanging expertise and experience, and can ensure that culturally appropriate best solutions for disaster management would be used. TIEMS organizes workshops, conferences, and conducts research. TIEMS Newsletter with about 100 pages of contemporary disaster management news, developments, research, events, and incidents is issued three times a year and sent to about 100,000 people around the world. TIEMS has 13 chapters in different countries and regions of the world, including TIEMS–India Chapter, which was registered on April 9, 2015, under the Rajasthan Public Trust Act, 1959. TIEMS-IC proactively and pro bono got Jaipur selected as one of the 100 Resilient Cities pioneered by Rockefeller Foundation, is disaster management partner of world's largest free Jaipur Literature Festival, and designed and conducted an elective disaster management course for the first time in the fifty year history of Indian Institute of Management, Ahmedabad in 2014-15.

Workshop Supporters

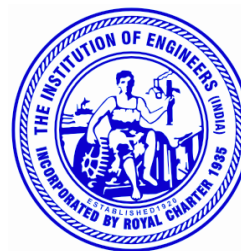


The Jamsetji Tata School of
Disaster Studies, Tata Institute of
Social Sciences – www.tiss.edu



Ashoka India
<http://india.ashoka.org/>

Ashoka Innovators for Public



Institution of Engineers (I)
Rajasthan State Center -
<http://leirajasthansc.org>



Integrated Volunteers Network
www.ivn.org.in



Center for Development and Disaster Management
Support Services - www.strategycenter.in



Institution for Disasters, Emergency & Accidents
www.innovoidea.in

The Jamsetji Tata School of Disaster Studies, Tata Institute of Social Sciences

The Jamsetji Tata Centre for Disaster Management (JTCDM) was established in 2006 consolidating over 60 years of TISS experience in disaster response. The JTCDM pioneered disaster higher education in India. It is now a School with vision to emerge as a trans-disciplinary academic entity engaged in disaster studies offering quality educational programs, research and extension services. The School seeks to influence disaster discourse, policy and practice through critical thinking based on values of social and environmental justice and equity. It proposes to house The Centre for Disasters and Development, The Centre for Disaster Management, and the Centre for Geo-informatics. The School offers doctoral and masters' programs in disaster management, along with several diploma and certificate programs. All courses are built on synergies between the natural, technological and social sciences and engagements emphasize holistic, people-centered and participatory approaches to disaster management.

Ashoka Innovators for Public

Ashoka is the largest association of social entrepreneurs with system changing solutions for the world's most urgent social problems and a platform for the growing global network of people dedicated to creating an Everyone A Changemaker™ world. Ashoka has changed the framework of the citizen sector, by introducing the notion that there is nothing more powerful than a bold, new idea in the hands of an exceptional entrepreneur. It pioneered the field of social entrepreneurship and created opportunities for social entrepreneurs around the world to connect, collaborate, and provide value to one another, multiplying the capacity of each social entrepreneur to improve more lives and to change the world. Since its founding over 36 years ago, Ashoka has selected and supported a fellowship of over 3,500 leading social entrepreneurs worldwide, building a global network spread in more than 70 countries.

The Institution of Engineers (India), Rajasthan State Centre

The Institution of Engineers (India) was established in 1920 and was incorporated by Royal Charter in 1935. IEI is the largest multi-disciplinary professional body that encompasses 15 engineering disciplines and gives engineers a global platform to share professional interest. IEI provides a vast array of technical, professional and supporting services including R & D to the government, industries, academia and the engineering fraternity, operating from 105 centers located across the country. Successful completion of Section A & B examinations in different engineering disciplines conducted by IEI is considered equivalent to bachelor's degree in engineering. IEI has 0.7 million members. Rajasthan State Center located at Jaipur, has about 24,000 members of which about 6,000 are corporate members. It has been conducting a large number of technical activities.

Integrated Volunteers Network

Integrated Volunteers Network (IVN) is the network of India volunteers and voluntary organizations, who are committed to help and save the nation with their voluntary efforts to ensure building resilience through voluntarism. IVN secures two human hours of contribution per volunteer per week and 100 human hours per volunteer per year, to save and help the environment in complementing resilient growth of the nation. IVN aims to strategize and plan for developing integrated sustainable development models for communities/villages by factoring global frameworks including Sendai Framework for Disaster Risk Reduction 2015–2030 and Sustainable Development Goals to local actions. IVN has a mixed group of volunteers in terms of sectoral experience, geographical presence, cast, age, gender, and culture, who are connected with digital platform for cross-cultural learning and sharing of good practices across India to generate a spirit of brotherhood, peace, and harmony.

Center for Development and Disaster Management Support Services

CDDMASS is a not-for-profit company registered under Section 25 of Company Act, 1956. CDDMASS is working in strategic gap areas of social development, disaster management, public systems management, and sustainable business practices. CDDMASS work includes district disaster management plans and community resilience strategy for state governments. CDDMASS provides qualitative technical support and strategic management input in the social development and humanitarian sectors with the vision of “to see different pillars of society harnessing their potential to help communities overcome challenges to lead a life with dignity.” The organization

aims to bridge the gap between strategy and reality. The organization besides its in house core group of experts also has wide Network of Associates that consists of persons of eminence well known both nationally and internationally drawn from various areas of development.

Institution for Disasters, Emergency & Accidents

Institution for Disasters, Emergency & Accidents (IDEA) is an organization founded by a group of intellectual enthusiastic and works basically in the field of disaster and emergency management to make India resilient, smart, safe, and healthy place to dwell. Our prime goal is to make people self-sufficient by inculcating skill based knowledge into day-to-day activities. IDEA conducts various training and educational activities mostly related to health, including first-aid and basic emergency life support, triage, mass casualty management, various modules of disaster management, multi-hazard mapping (GIS), early warning system, evacuation mock drills, life saving techniques, psycho social aid and counseling, stress relief techniques, and other training programs tailor made according to the need of specific group of people.

TIEMS USA Chapter Update

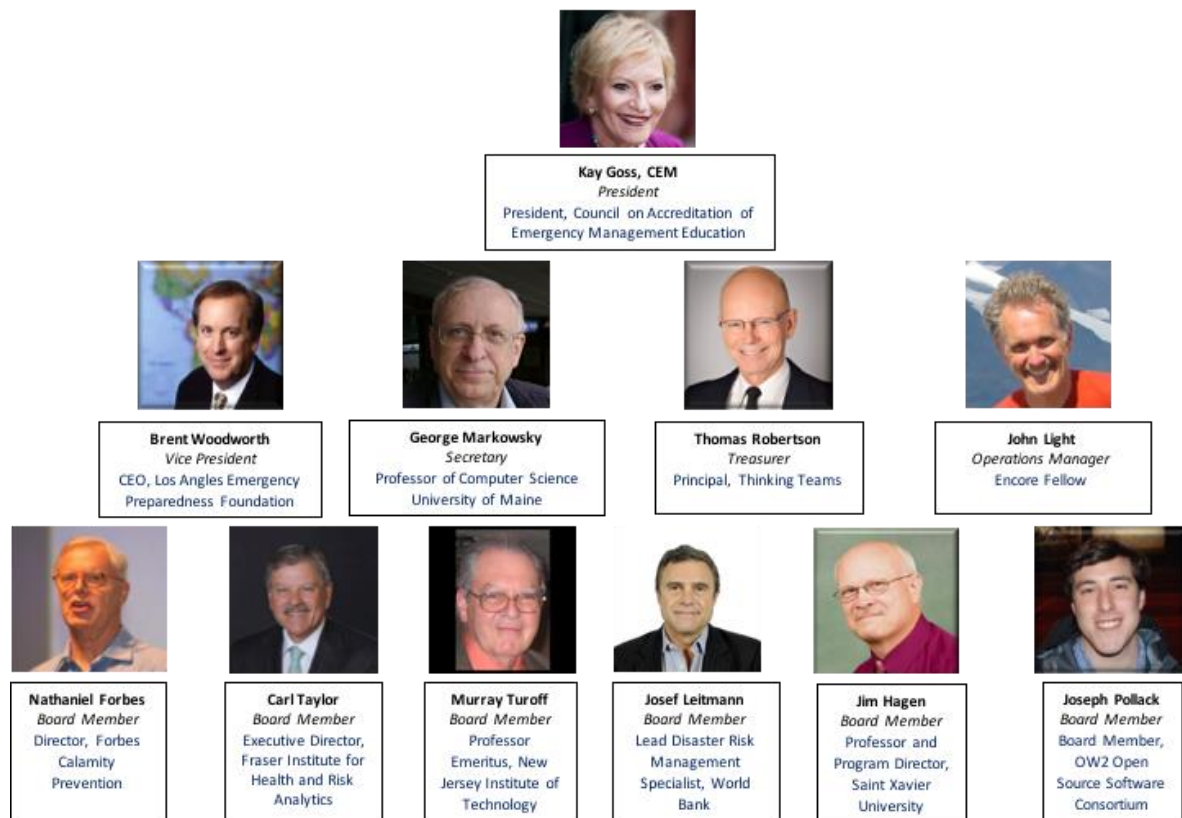
The TIEMS USA Local Chapter began 2017 after hosting a successful TIEMS 2016 Annual Conference in San Diego, California with the collaboration and support of San Diego Mayor Kevin L. Faulconer, the City of San Diego Department of Homeland Security, and San Diego State University. Attendees from 11 countries 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.

Kay Goss, President of the TIEMS USA Board of Directors, was pleased to welcome five new members to the Board, to begin terms in 2017:

- Nathaniel Forbes, Forbes Calamity Prevention
- Josef Leitmann, World Bank
- George Markowsky, University of Maine
- Carl Taylor, Fraser Institute for Health and Risk Analytics
- Murray Turoff, New Jersey Institute of Technology.

In addition, we were pleased to welcome John Light to our team, as Operations Manager. John is working under a Fellowship Grant generously provided by a local organization that supports non-profits. The TIEMS USA Chapter Board of Directors organization chart is shown in the figure below.

TIEMS USA Chapter Board of Directors



Plans for the coming year include the 2017 TIEMS USA Conference, to be held June 12 – 16, 2017 at the University of Maine, Orono, Maine, USA. The theme for this conference is Emergency Management, Homeland Security, and Cyber Security, and we look forward to welcoming US and international participants for a week of workshops, presentations, stimulating discussions, and social activities in the uniquely beautiful Maine coastal region.



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.



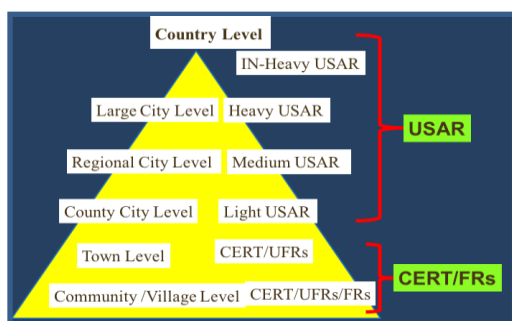
We were next treated to a particularly moving presentation and performance by **Nathaniel Forbes**, Director of Forbes Calamity Prevention, on Food and Disasters: The Impact of Hunger. He used recorded accounts and videos, as well as spoken words, to convey to our minds and hearts our interconnectedness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



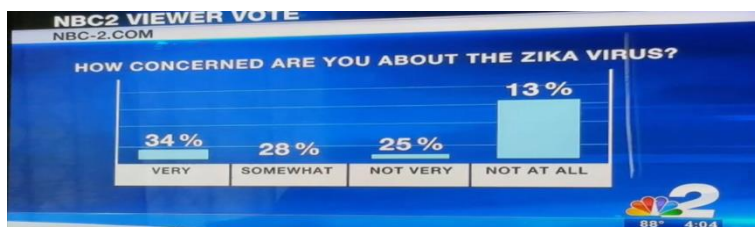
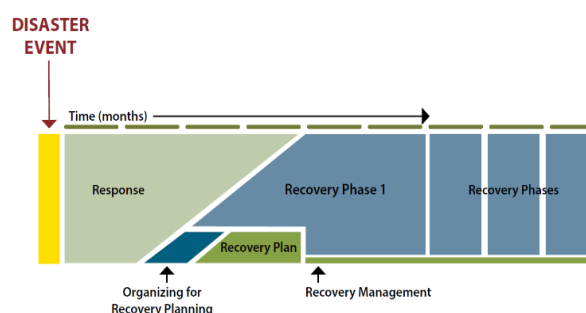
As noted throughout the conference, the world is rapidly urbanizing, and losses due to natural disasters and climate change are on the rise. **Dr. Josef Leitmann** of the World Bank made the case that investing in urban resilience would not only make our cities safer, but also prevent a reversal of the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

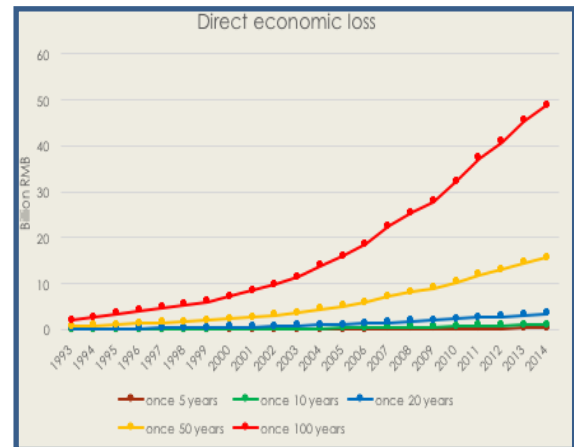
The economic advantage of investments in planning and preparation versus disaster response is often cited, as is the challenge of motivating these expenditures when disasters are in a hypothetical future. **Matt Campbell**, FEMA National Coordinator for Community Planning and Capacity Building, presented 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 providing 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 IEREC 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.

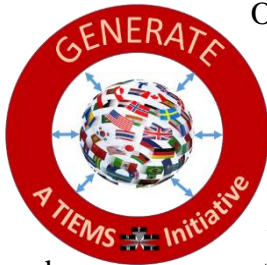
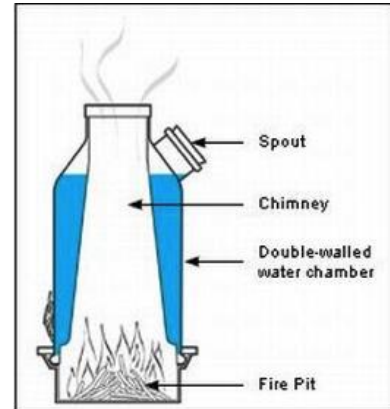
The TIEMS China Chapter was established in April of 2009, and has since held six annual conferences, the last of which had 650 attendees from government, academia, and industry. Bin Wen extended a warm welcome to everyone, to attend their 2016 Annual Conference being held



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.



ANNOUNCEMENTS OF TIEMS 2017 EVENTS

TIEMS USA 2017 Annual Conference



Mount Katahdin

Emergency Management, Homeland Security, and Computing

University of Maine

June 12-16, 2017

Preliminary Brochure

George Markowsky

May 7, 2017

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The International Emergency Management Society (www.tiems.org)

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E-mail: r.miskuf@squaris.com,

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1 Introduction

1.1 Welcome

Homeland security events often lead to emergency management situations. As with many other disciplines, computing is playing an ever more important in emergency management. Different aspects of computing, such as cybersecurity, modeling, and virtual reality are important both for protecting critical assets, for preparing for disasters, and for training.

This year, the TIEMS USA Annual Conference is dedicated to the theme Emergency Management, Homeland Security, and Computing. Presentations from US and international leaders will provide unique insights on these important topics, and interactive sessions will create an exceptional opportunity to discuss local and international perspectives. Please join us and add your ideas to the discussion. Learn, network, and enjoy beautiful Maine in the summer!

1.2 Registration Fees

	Prior to June 1	June1 or Later
Invited Speakers	\$0.00	\$0.00
Contributing Authors	\$200.00	\$250.00
NGO & Government Emergency Managers	\$200.00	\$250.00
TIEMS Members	\$300.00	\$350.00
Non-Members	\$400.00	\$450.00

1.3 Registration

Registration is available at <http://tiems.info/tiems-2017-usa-chapter-conference.html>. Housing information is available below, and the most up-to-date housing information will be available at <http://tiemsusa.org/>.

1.4 Conference Housing

There are two hotels in Orono, one of which is within walking distance of campus. We have reserved a block of rooms at each hotel. The conference rates are only good until May 22, 2017, so please reserve early. To get the special rate mention that you are with the University of Maine TIEMS USA Conference. If there are any problems, please contact us.

University Inn Academic Suites

5 College Avenue

Orono, ME (within walking distance from UMaine Campus)

207-866-4921

800-321-4921

\$99.00 + taxes, includes breakfast.
 Black Bear Inn \& Conference Center
 4 Godfrey Drive
 Orono, ME (approx. 3 miles from UM Campus)
 207-866-7120
 \$92.00 + taxes, includes breakfast.

Also, the Bangor area has lots of other hotels, but they are further from campus. We will be adding hotels as we negotiate a conference rate.

2 Sponsors and Sponsorship Levels

2.1 Sponsors

2.1.1 Platinum

University of Maine Cybersecurity Lab

2.1.2 Silver

University of Maine System

2.2 Sponsorship Levels

The following sponsorship levels are available:

2.3 Platinum (\$10,000 or above)

- Includes 4 registrations to the conference
- Includes an invitation to speak at the conference
- Includes sponsorship of the conference dinner, of the Acadia Excursion, or of one of the three receptions – sponsor's supplied banner to be displayed during the event
- Includes a display table for literature at the meeting site
- The sponsor's logo will be displayed on the meeting website with a link to the sponsor's website

2.4 Gold (\$5,000)

- Includes 3 registrations to the conference
- Includes sponsorship of a conference lunch or one of Monday's tutorial sessions – sponsor's supplied banner to be displayed during the event
- Includes a display table for literature at the meeting site

- The sponsor's logo will be displayed on the meeting website with a link to the sponsor's website

2.5 Silver (\$2,500)

- Includes 2 registrations to the conference
- Includes sponsorship of a conference coffee break – sponsor's supplied banner to be displayed during the event
- Includes a display table for literature at the meeting site
- The sponsor's logo will be displayed on the meeting website with a link to the sponsor's website

2.6 Bronze (\$1,000)

- Includes 1 registration to the conference
- The sponsor's logo will be displayed on the meeting website with a link to the sponsor's website

2.7 Supporter (\$250 and up)

- The sponsor's logo will be displayed on the meeting website with a link to the sponsor's website

This information is also available at :

<http://tiemsusa.org/a-homepage-section/2017-conference-sponsorships/>

3 Monday – June 12, 2017

3.1 Location: DPC – Business Building

The registration will be in the lobby of DPC. We will reserve one of the larger rooms for the two tutorials.

3.2 Schedule

8:30 AM - 9:00 AM Registration DPC Lobby

9:00 AM - 10:20 AM Cybersecurity Tutorial Part 1 by George Markowsky
(**Gold Sponsorship Available**)

10:20 AM - 10:40 AM Coffee Break (Silver Sponsorship Available)

10:40 AM - Noon Cybersecurity Tutorial Part 2

Noon - 1:30 PM **Lunch (Gold Sponsorship Available)**

1:30 PM - 2:50 PM Virtual Reality Tutorial Part 1 by Chuck Carter (Gold Sponsorship Available)

2:50 PM - 3:10 PM Coffee Break (**Silver Sponsorship Available**)

3:10 PM - 4:30 PM Virtual Reality Tutorial Part 2

4:30 PM - 6:00 PM Reception at the Hudson Museum (Platinum Sponsorship Available)

3.3 Cybersecurity Tutorial

This tutorial will be divided into three parts. The first part will deal with cyberwarfare and cybercrime, the second part will survey some of the tools and techniques used for cyberoffense and cyberdefense. The third part will show how to set up your own cybersecurity lab.

In the first part of this tutorial, we will show that cyberwarfare can be thought of as the latest embodiment of military intelligence. The ubiquity of computing devices has blurred the distinction between kinetic and nonkinetic forms of warfare. This tutorial will survey the precursors of cyberwarfare, the current state of cyberwarfare and some scenarios for how it might develop in the future. We will discuss how cyberwarfare relates to cybercrime, terrorism, hacktivism, and citizen action. We will also name the most active parties in the cyberwar space and what their strategies are. Cyber warfare is a real phenomenon and is a major force in the political landscape. Cyber warfare has the capability to engage the individual citizen.



Figure 1: Hudson Museum Entrance

We will discuss how people can avoid being collateral damage in the constant cyber warfare that is taking place on the Internet.

In the second part of the tutorial, we will discuss some key concepts necessary for understanding cybersecurity. These include some basic networking concepts such as IP addresses, protocols, scanning and packet captures. Exercises will include reading and understanding simple scanning results and packet captures.

The third part of the tutorial will discuss the building of a cybersecurity lab based on Kali Linux. From 2006 through 2012, a group called Offensive Security put out a series of collections of hacking tools that were called BackTrack. BackTrack Version 5 was released on August 13, 2012 and contained over 300 penetration testing (“hacking”) tools. Offensive Security decided to revise

their entire approach and on March 13, 2013 the first version of their revised toolkit, Kali 1.0, was released. We will discuss the use of virtual machines in building a cybersecurity lab and experimenting with some of the material presented in the first two parts of the tutorial. All the tools discussed in this tutorial are open source and available free of charge. No prior cybersecurity experience is required to attend this tutorial.

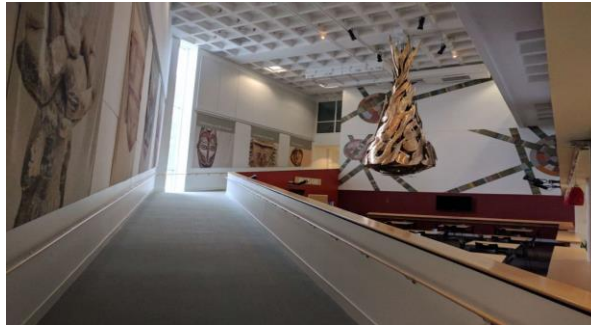


Figure 2: Hudson Museum Interior

OBJECTIVES

To survey the cyberwarfare, cybercrime and cybersecurity landscape and to a better understanding of what is happening out in cyberspace. To provide basic knowledge of some key concepts in cybersecurity. To provide basic knowledge that can be used for protection in cyberspace. To provide instruction on how to set up a comprehensive, personal cybersecurity lab that can be used for further study.

INTENDED AUDIENCE

Anyone interested in cybersecurity who would like to gain some understanding of what is happening behind the scenes. The tutorial contains a lot of valuable information that is accessible to people who do not have a technical background, as well as technical information that can help people get started exploring this fascinating area on their own.

3.4 Virtual Reality Tutorial

(VR - What is it?) In this portion of the conference Chuck Carter from Eagre Games will discuss how new off the shelf game software can be used by literally anyone desiring to make VR products, games and experiences with little to no knowledge of programming or art. Software like Unreal Engine leads the way for the vast majority of immersive and real time gaming and VR movie making projects. The ease of use for early adopters looking to make VR based content is opening the door to virtually anyone who has a fast computer and one of the many commercial headsets readily available. Carter will show why this is important and just how easy it is to make your own VR projects.

3.5 Hudson Museum

(From Wikipedia) “The Hudson Museum is an anthropology museum that is operated by the University of Maine and is located in the Collins Center for the Arts in Orono, Maine. The museum’s collections include Maine Native American baskets and basket-making tools, Precolumbian ceramics, weapons and gold work, and baskets, jewelry, ceramics, textiles, clothing,

tools, weapons and contemporary art from Native American peoples around the United States and the Arctic area.” For more information please go to :

<http://umaine.edu/hudsonmuseum/>.



Figure 3: Sample Virtual World

4 Tuesday – June 13, 2017

4.1 Schedule

8:00 AM - 8:30 AM Registration Neville Hall Lobby

8:30 AM - 9:25 AM Opening Session

- Welcome to the University of Maine–Provost Hecker
- U. S. Senator Susan Collins (Invited)
- Welcome by TIEMS President Harald Drager
- Welcome by TIEMS USA President Kay Goss
- Logistics, Overview of the Conference George Markowsky



Figure 4: Sample Virtual World

9:25 AM - 10:10 AM Harald Drager – “The International Emergency Management Society – Focus on more Resilient Societies Worldwide”

10:10 AM - 10:30 AM Coffee Break (**Silver Sponsors University of Maine System**)

10:30 AM - 11:15 AM Kay Goss – “The Future of Emergency Management: Technology, Training, Standards, Certifications, and Accreditation”

11:15 AM - Noon Vilma Schifano Milmo – Title to TBD

Noon - 1:30 PM Lunch (**Gold Sponsorship Available**)

1:30 PM - 1:40 PM Introduction to Session 2

1:40 PM - 2:25 PM George Markowsky – “The TIEMS Academy”

2:25 PM - 3:10 PM Tony Enerva – “Terrorism, Active Shooter and Premises Liability Claims Resulting from Work Place Violence”

3:10 PM - 3:30 PM Coffee Break (**Silver Sponsorship Available**)



Figure 5: Sample Virtual World

3:30 PM - 5:00 PM Panel Discussion–Spatial Information and Emergency Management – Randall Berry, Matt Dube, Tony Enerva, Tora Johnson, Cathleen McAnneny

5:00 PM - 6:30 PM Reception at the VEMI (Virtual Environment and Multimodal Interaction) Lab (Platinum Sponsorship Available)

4.2 Abstracts

4.3 The VEMI Lab

The Virtual Environment and Multimodal Interaction (VEMI) Laboratory, directed and operated by Dr. Nicholas Giudice and Dr. Richard Corey, is part of the School of Computing and Information Science at the University of Maine. The VEMI lab is an educational, research, and development facility based on a collaborative model where faculty, undergraduate, and graduate students across more than a dozen disciplines learn about scientific research, creative design, and technical skills using the latest virtual and augmented reality technologies. Its mission is to conduct world-class research and to provide students with the training they need to be leaders in today's IT-workforce or research-driven careers. For an overview of some of VEMI's projects, see:

<https://umaine.edu/vemi/projects/>.



Figure 6: Sample Virtual World

5 Wednesday – June 14, 2017

5.1 Schedule

8:00 AM - 8:30 AM Registration Neville Hall Lobby

8:30 AM - 8:40 AM Introduction to Session 3

8:40 AM - 9:25 AM Tom Robertson – “Communicating with the Public During Emergencies: Old and New Challenges in the Digital Age”

9:25 AM - 10:10 AM Marc Glasser – “Technology, Opportunity & Emergency Management”

10:10 AM - 10:30 AM Coffee Break (Silver Sponsorship Available)

10:30 AM - 11:15 AM Ray Soucy – “Cybersecurity Challenges in the Public Sector”

11:15 AM - Noon George Markowsky – “Overview of Crisis Management Software – Open Source and Commercial”



Figure 7: Hudson Museum Display Area



Figure 8: Hudson Museum Mammoth Exhibit



Figure 9: Entrance to the VEMI Lab

Noon - 1:30 PM Lunch (**Gold Sponsorship Available**)

1:30 PM - 1:40 PM Introduction to Session 4

1:40 PM - 3:10 PM TIEMS USA Annual Meeting

3:10 PM - 3:30 PM Coffee Break (**Silver Sponsorship Available**)

3:30 PM - 4:15 PM TBD

4:15 PM - 5:00 PM TBD

5:00 PM - 7:30 PM Reception and Lobster/Steak Dinner at the Wells Conference Center (**Platinum Sponsorship Available**)

5.2 Abstracts

5.2.1 Cybersecurity Challenges in the Public Sector

Networks within the public sector represent a set of unique challenges in cybersecurity. The reality at the state and local levels is that many of the networks lack even basic controls necessary to protect against cyber threats.



Figure 10: Pictured above is the VEMI Lab Director of Operations Dr. Richard Corey demonstrating some of the Lab's virtual environments to Senator Angus King.



Figure 11: The Entrance to Wells Conference Center

In this talk, we'll focus on the current landscape, the conditions that got us here, and possible steps to improve cybersecurity in this space.

5.2.2 Overview of Crisis Management Software – Open Source and Commercial

There are many programs, both commercial and open source, that are available for crisis management. This talk surveys some of the most popular programs and gives a brief introduction to them. It addresses such factors as ease-of-use and comprehensiveness. This talk does not assume any prior experience with such programs.



Figure 12: Page Farm and Home Museum Barn

6 Thursday – June 15, 2017

6.1 Schedule

8:00 AM - 8:30 AM Registration Neville Hall Lobby

8:30 AM - 8:40 AM Introduction to Session 5

8:40 AM - 9:25 AM Bruce Fitzgerald – Title to be determined

9:25 AM - 10:10 AM Vince Quintana – Title to be determined

10:10 AM - 10:30 AM Coffee Break (**Silver Sponsorship Available**)

10:30 AM - 11:15 AM Troy Jordan – “Cyber Attacks on Power Plants”

11:15 AM - Noon George Markowsky – “The Metric at the End of the Rainbow”

Noon - 1:30 PM Lunch (**Gold Sponsorship Available**)

1:30 PM - 1:40 PM Introduction to Session 6

1:40 PM - 2:25 PM Contributed Papers

2:25 PM - 3:10 PM Wayne M. Maines – “Tabletop exercises should be interesting and realistic?”

3:10 PM - 3:30 PM Coffee Break (**Silver Sponsorship Available**)

3:30 PM - 4:15 PM Contributed Papers

4:15 PM - 5:00 PM Closing Session

5:00 PM - 6:30 PM Reception at the Page Farm and Home Museum Barn
(**Platinum Sponsorship Available**)

6.2 Abstracts

6.2.1 The Metric at the End of the Rainbow

It is common to see statements such as the following which come from

<https://www.dhs.gov/science-and-technology/csd-elsmu>.

Defining effective information security metrics has proven difficult, even though there is general agreement that such metrics could allow measurement of progress in security measures and, at a minimum, rough comparisons of security between systems. ... However, general community agreement on meaningful metrics has been hard to achieve. This is due in part to the rapid evolution of IT, as well as the shifting focus of adversarial action.

However, this page neglects to state the real reason that agreement on meaningful metrics has been hard to achieve: it is not possible to construct a reasonable metric! This talk, which is based on results that have been known for a long time will demonstrate that under reasonable requirements for a reasonable metric, it is not possible to construct a metric that meets these reasonable requirements. Hence searching for such a metric is like searching for a pot of gold at the end of the rainbow.

6.2.2 Tabletop exercises should be interesting and realistic?

As we all continue to expand our emergency management planning, training and response efforts we need to make it REAL. One of the most cost effective and practical tools that we utilize is the tabletop exercise. In today's climate both time and money are shrinking resources. It is essential that we use our limited resources wisely. This presentation will review a sample tabletop exercise and demonstrate some of training techniques that can be incorporated to make it real, fun and help engage the audience in an active participatory manner. Wayne will also discuss how to prepare a tabletop lesson plan and provide examples of support materials. Striving to include formal procedures and practical exercises to help bring both new and sometime reluctant partners, to the table. Using these simple techniques, you can create a foundation for building new and stronger partnerships in your community.

6.3 Page Farm and Home Museum

The mission of the Page Farm and Home Museum is to collect, document, preserve, interpret and disseminate knowledge of Maine history relating to farms and farming communities between 1865 and 1940, providing an educational and cultural experience for the public and a resource for researchers of this period.

Through its collections and programs, the Page Farm and Home Museum contributes to the educational mission of The University of Maine. Thousands of patrons come to the Page Farm and Home Museum each year to learn about the industry, agriculture, economy, and home-life of the late nineteenth and early twentieth centuries. The Maine Experiment Station barn, a post and beam structure, is the centerpiece of the Museum. The three story building, built in 1833, is the last original agricultural building on the University of Maine campus. The quiet and unassuming exterior belies the rich cultural heritage that it represents. A restored one-room schoolhouse from Holden, used by students from 1855 to 1950, was moved to the Museum grounds in 1994. The Winston E. Pullen Carriage House and the Blacksmith Shop were constructed in 2003. A quarter-acre Heritage Garden rounds out the Museum. Heirloom varieties of herbs, flowers, and vegetables that were grown from 1865 to 1940 are cultivated here.

The Museum has become home for the state's most important collection of farm technologies and artifacts of rural culture. The Museum assures that future generations will be able to gain valuable and practical insights into Maine's rural past. The Page Museum is about farming, and until recently, Maine was about farming. Some would claim that Maine's farming days are not yet over. Blueberries, potatoes, and aquaculture have all taken great strides in recent years. Agriculture promotes tourism both in the bucolic nature of the area and the tastes that become identified with Maine. In this part of Maine, with its often-shaky economy, the future of farming matters. However, there are many different ideas on what direction it should take. The Page Museum is more than a window to the past: In our exploration of conditions and philosophies of the past, we offer suggestions and ideas for the future.



Figure 13: Page Farm and Home Museum Exhibits

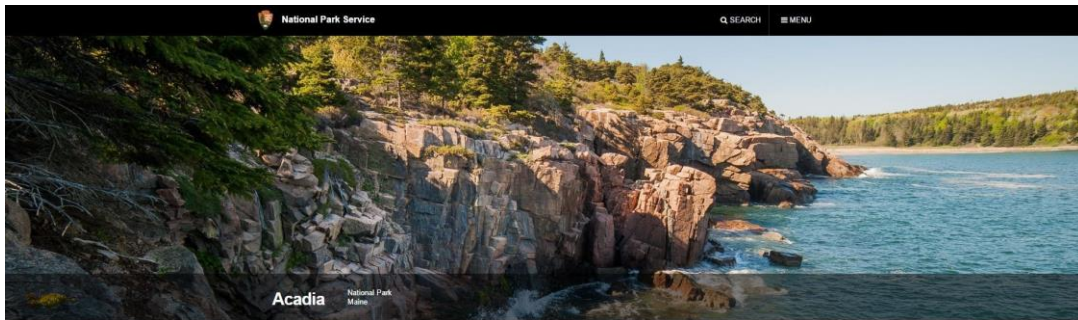


Figure 14: A View of Acadia National Park

7 Friday

All Day Excursion to the Coast of Maine and Acadia National Park.

7.1 Schedule

Platinum Sponsor – University of Maine Cybersecurity Lab

8:30 AM - 10:00 AM Bus Travel to Bar Harbor, Maine

10:00 AM - 1:00 PM Shopping and Lunch on your own in Bar Harbor

1:00 PM - 4:00 PM Tour of Acadia National Park with Tea and Popovers at Jordan Pond House

4:00 PM - 5:30 PM Return to Orono, Maine

5:30 PM Conference Ends



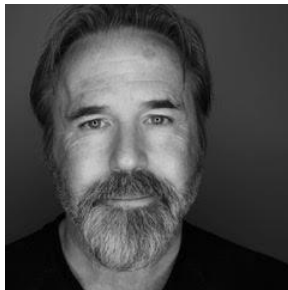
Figure 15: Another View of Acadia National Park

8 Speaker Bios

8.1 Randall Berry

Assistant Planning, Training, and Operations Officer with Androscoggin Unified EMA.

8.2 Charles Carter



Charles Carter

Once upon a time Carter helped create Myst and 26 other video games including the Command and Conquer and Red Alert franchises, Marvel Ultimate Alliance 2, Nox, Pacman World Rally, Kyrandia and many others – Carter worked on TV shows like Babylon5 (as a digital Matte Painter) as well as having contributed work on Star Trek the Experience and Disney's Mission to Mars motion rides. His illustration and animation work has been seen on the BBC, National Geographic, US Dept. of Defense, Homeland Security, Scientific American, NASA, Caltech and JPL as well dozens of additional publications and organizations.

Currently Carter is the founder of Eagre Games.

8.3 K. Harald Drager



K. Harald Drager

K. Harald Drager, Oslo, Norway, is the founding member of the worldwide acting society TIEMS (The International Emergency Management Society - www.tiems.org), which he took the initiative to establish in 1993. He was the International Vice President of TIEMS since its inauguration until 2002, when he took over as TIEMS President, a position he was re-elected to for the 5th time in 2013. He has brought in new ideas and new people in TIEMS and succeeded the organization to span worldwide. TIEMS has under his leadership become a well recognized organization with growing activities in Asia, Europe and America and now TIEMS activity in Africa and Oceania is emerging. TIEMS has developed to a global well known organization with local chapters in many regions/countries, and TIEMS arranges each year workshops and conferences all over the world with focus on disaster risk reduction. TIEMS has also initiated development of a global education, training and certification network program, GENERATE as the fundament of TIEMS Academy, and TIEMS participates in research and development activities to improve systems, methods and equipment in emergency management for achieving better societal resilience. He has extensive experience from industry and research activity, especially in emergency and risk management, and he acts as the Managing Director of QUASAR Invest AS in Norway, a consultancy in global safety, emergency and disaster management. He has a Master's degree in control engineering from the Norwegian Technical University in 1966 and a Master's degree from Purdue University in USA in industrial engineering in 1973.

His specializations are international organizational development, emergency, disaster and risk management and project management. He has done consultancy work for numerous clients internationally amongst others the World Bank/International Finance Corporation, NATO and the European Commission, and he has been project manager of several international research and development projects for methods and software development in risk, emergency and disaster management. He was employed by Det norske Veritas, <http://www.dnv.com/> in 1967, and was a member of the Board of Directors of the company for 5 years until he left the company in 1983 and founded his own consultancy, AS QUASAR Consultants and later QUASAR Invest AS. He took the initiative to establish Safeware Quasar

Ltd, <http://www.safeware-int.com/>, in 1994, a 50 % owned company of AS QUASAR Consultants until 2009, providing bespoke chemical compliance software and training solutions. He has published numerous papers internationally on emergency, risk and disaster management.

He was TIEMS representative in the EU funded NARTUS (2006 – 2009) project with the responsibility for consensus building and establishing the

PSC Europe Forum, <http://www.psc-europe.eu/>, an all-stakeholder forum for public safety communication. PSC Europe Forum is today a self-governed sustainable organization and is a leading global advocate for standardization and research initiatives in public safety communication. He is leading TIEMS R&D teams in the EU funded projects; ASSET (2014 -2017), <http://www.asset-scienceinsociety.eu/>, which are dealing with pandemics and epidemics, and in HERACLES (2016 – 2019), <http://www.heracles-project.eu/>, which is about Cultural Heritage Resilience Against Climate Change. He has been a member of the advisory boards of several EU projects, ACRIMAS, OPTI-ALERT, CRISMA, ARCHIMEDES, EDEN, TAWARA-RTM, PHAROS, DRIVER and TARGET.

He was a European Commission appointed evaluator for the EU Security Calls for FP7 2013 and the Horizon 2020 Call for Secure Societies in 2014. He was appointed Professor Chair for 4 years in 2014 at King Abdul Aziz University in Jeddah, Saudi Arabia. He was also appointed Visiting Professor at North Western University in Xian in China in 2016 for 2 years.

8.4 Matthew P. Dube

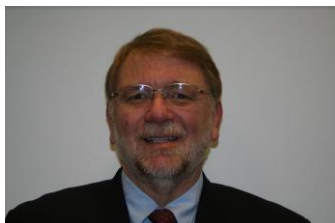
Assistant Professor of Computer Information Systems

B.A. University of Maine, Mathematics and Statistics, 2007

M.S. University of Maine, Spatial Information Science and Engineering, 2009

Ph.D. University of Maine, Spatial Information Science and Engineering, 2016

8.5 Tony Enerva



Tony Enerva

Tony Enerva has been Program Director and Associate Professor of Rural Public Safety Administration & Criminal Justice at the University of Maine at Fort Kent since 2005. He holds a Juris Doctorate from the University of Minnesota, a Master of Science in Criminal Justice Administration and a Bachelor of Arts in Public Administration from San Diego State University. Tony's academic interests and teaching responsibilities include law, public safety, criminal justice, emergency management, homeland security and conservation law enforcement. He has been teaching in higher education for thirty years. Tony has served seven years as a part-time police officer with the Fort Kent Police Department, trained 125 part-time police officers on campus through the Maine Criminal Justice Academy and serves as chair of the University of Maine Ad Hoc committee to develop a system-wide, online bachelor's degree in homeland security/emergency management. Tony was invited to participate in the first cohort of faculty to attend the annual higher education conference on homeland security at the Naval Post Graduate School in Monterey, CA.

8.6 Marc Glasser

Marc Glasser, MS, CPP, CORE, FABCHS, CHS-V, CDEP (or Marc Glasser, MS, CPP)

Marc Glasser's career spans over three decades of public and private sector service including law enforcement, homeland security, emergency management, academics, research and training. Marc has worked in over 90 countries. Marc is most excited about technology and innovation. He is the founder and CEO of the recent start up Esilient™. Esilient™ is a subsidiary of the State of Washington company Alpha Green LLC. Esilient™ promotes Technology Empowered Resilience™ through innovative technology application. It is the mission of Esilient™ to advance cutting-edge technology from early stage development to industry-wide adaption resulting in "resilience best practices". Esilient™ evaluates possible technical initiative advantages and disadvantages in terms of both micro (single industry-specific) and macro (multiple-industries) in addition to innovation (new applications, combinations and relationships) perspectives.

Marc was the CEO of RM (Resilience Management) LLC. RM LLC is a security, crisis management and business continuity services company. Marc's US Government service included serving as a Special Agent with the US Department of State and US Department of Transportation. He managed the critical infrastructure branch and staff protecting the US National Air Space (NAS) for an eight state region with approximately 200 staffed and 1,100 unstaffed facilities. He managed a Federal Continuity of Operations (COOP) program involving 12 western states and the South Pacific. He served as a Federal Emergency Response Official (FERO) and Regional Emergency Transportation Representative team member in support of the National Response Framework (NRF) Emergency Support Function #1 involving Federal responses to incidents of national significance. He has supervised or conducted over 600 threat and vulnerability assessments addressing natural disasters, technical disruptions and terrorist risks. He conducted Federal criminal and civil investigations and presidential appointee-level suitability investigations. He has served in a Fusion Center and as a FBI Joint Terrorism Task Force (JTTF) and FBI Organized Crime Task Force member. He served on three US Secretary of State's Protective Details. He served as a US Department of State Diplomatic Courier ensuring the integrity of Top Secret materials. He is a graduate of the Federal Law Enforcement Training Center (FLETC), Glynco, Georgia. During college Marc served as a Texas Department of Corrections Correctional Officer and a Maximum Security correctional facility.

He has presented at national and international conferences. He participates on multiple professional associations, academic and editorial boards. His publications include industry practitioner and academic peer-reviewed journal articles. He has been a professor at six universities, teaching and developing curriculum, in over 50 different course subjects. He holds a Master of Science in Crisis and Emergency Management from the University of Nevada, Las Vegas and a Bachelor of Science in Law Enforcement and Police Science from Sam Houston State University. His professional accreditations include CPP, CORE, FABCHS, CHS-V, CDEP as well as FEMA HSEEP and COOP certified.

Marc has traveled to 100 countries and has lived in 17 cities in three countries and currently lives in the Seattle area. Marc enjoys spending time with family and friends, reading, researching, writing, culture, traveling, nature and the outdoors and supporting sustainability practices. For more information please see Marc's LinkedIn profile at www.linkedin.com/in/marcglasser or contact him at marcglasser.me.

8.7 Kay Goss



Kay Goss

Kay C. Goss, CEM[®] is a founder and the President of the Council on Accreditation of Emergency Management Education, former Associate FEMA Director in charge of National Preparedness, Training, and Exercises, as well as serving in EM leadership positions at the state, private and nonprofit sectors. Ms. Goss is on the part-time Faculty at UNLV's Executive Master's Program in Crisis and Emergency Management. Ms. Goss is also a Fellow at the National Academy of Public Administration and President of the TIEMS USA Board.

8.8 Tora Johnson

University of Maine at Machias Tora Johnson has been awarded a Lifetime Achievement Award for her work with GIS -- by the National Geospatial Technology Center of Excellence.

"The University is very proud of Tora's lifetime achievement recognition for her GIS research and community engagement," UMM President Joyce Hedlund said. "We are particularly pleased that Tora has been able to collaborate and partner with many Washington County communities and other communities throughout the state of Maine, providing them invaluable services while enabling her UMM students to have real-life experiences."

Johnson holds a B. S. in Biology from University of Oregon and an M.Phil. in Human Ecology from College of the Atlantic, and is currently pursuing a PhD in Natural Resource Policy at the University of Maine. Since 1996, she has taught marine, environmental, and geographic information systems (GIS) at the college level. She teaches GIS and environmental studies at UMM and serves as the director of the GIS Laboratory and Service Center.

Before her son was born in 1996, Tora made a career of teaching and crewing aboard several of the large sailing vessels that ply the coast of New England, as well as commercial fishing in Alaska. Her current human ecological research focuses on political conflicts over marine and coastal resources and the uses of maps in decision-making. Using in-service projects through the UMM GIS Services Center, Tora and her students work with local towns, organizations, and businesses to conserve Downeast Maine's natural resources, and plan for a prosperous and sustainable future.

Johnson was the Principal Investigator for a statewide GIS education initiative in GIS education involving nine colleges and universities. She also served on the original National Visiting Committee for

the GeoTech Center. A writer, Johnson's award-winning book, *Entanglements: The Intertwined Fates of Whales and Fisherman*, was released in 2005.

8.9 Troy Jordan

Network Systems Security Analyst, Network Maine.

8.10 Cathleen McAnneny

She is currently a Professor of Geography at the University of Maine, Farmington. Her degrees are B. S. and M.A. from Ohio State University and a Ph.D. from Michigan State University. Cathleen McAnneny's research interests have focused on the effects of the physical and social environments on health. As of late the issue of access to health care in rural areas is a focus and in particular access to oral health care. Recently she has established a partnership with the Maine Dental Access Coalition and is a member of the Rural Health Care Round Table. Dr. McAnneny has also looked at the impacts of paper mills on their local communities. Along with her interests in health and health care, Cathleen has worked with the Six Campus GIS Curriculum Consortium on pedagogical challenges in teaching GIS including the role of misconceptions in students' struggle with the material. The results of these efforts have been 22 presentations at the annual meeting of the Association of American Geographers and the International Geographic Union and the International Medical Geography Symposium.

8.11 Wayne M. Maines

Dr. Maines is currently the Executive Director of Safety, Health Services, Transportation and Security for the University of Maine System. He also spent 10 years as the Corporate EHS Manager for a global chemical company and 4 years as the Director of The Institute for Safety and Health Training at West Virginia University. He is a nationally known speaker in the fields of emergency management, safety and civil rights. This past year Wayne helped teach Incident Command by reenacted the Battle of Little Round Top at Gettysburg National Park using modern day Incident Command. Working with forty Law Enforcement Officers and civil war experts they explored the "Fog of War." Wayne has a BS degree from Cornell University and a master and doctorate from West Virginia University. Wayne has over 800 hours of Emergency Management and Safety Training. For many years he was an instructor and responder performing; High Angle Rescues, Hazardous Materials Response, Industrial Firefighting, and Confined Space Rescue activities. He continued to conduct training at the national, regional and state level.

8.12 George Markowsky

Dr. George Markowsky is Professor of Computer Science and Director of the Cybersecurity Lab in the School of Computing and Information Science at the University of Maine. He teaches cybersecurity at the University of Maine and coaches the Cyber Defense Team. In 2013-2014 he was a Visiting Scholar in the Department of Computing Security at the Rochester Institute of Technology.

8.13 Vilma Schifano Milmoe

Since April 2014, Ms. Milmoe has been a Senior and confidential advisor to the Superintendent and Deputy Superintendent of EMI, and officials of FEMA and DHS, and other federal departments and

agencies. In her position she coordinates GAO, OIG, and other engagements, and responds to Congressional inquiries and other major actions. Ms. Milmoie also builds and leads teams on major projects and initiatives. She serves as the executive officer over major actions across EMI, NTED, and NPD, and serves on the NTED Economies and Efficiencies Working Group. Ms. Milmoie serves on DHS and FEMA wide working groups such as the Presidential Transition Working Groups, and represents the Superintendent and other senior officials as required. She develops briefings and reports for senior leadership meetings and working groups such as the FEMA Training Council, Human Capital Governance Board and FEMA Stats. Also serves as 2nd Vice President of the international network of Women in emergency Management (inWEM). Honoree of inWEM 2015 Hall of Fame. She has been working in the emergency management field since 1996. She is a graduate of the Emergency Management Executive Academy and holds a Masters in Public Administration from Marywood University.

8.14 W. Vince Quintana

Vince Quintana is currently the principal human factors test engineer at Bath Iron Works working on the US Navy's next generation DDG 1000 Destroyer. His US Navy background includes over twenty years of experience conducting operational ASW (anti-submarine warfare) in all of the world's major oceans on six different US Surface Navy tactical ASW platforms, using active and passive sonar systems in conjunction with non-acoustic sensors. As an ASW specialist and developer of training and training path systems, he was instrumental in the creation of multi-level, multi-sensor ASW training systems which encompassed every aspect of the global ASW problem across all ASW platform domains including sub-surface, surface, air and theatre level ASW surveillance systems.

He has received US Navy decorations for his work on US Navy special ASW operations, and for the development of advanced operational training methods and training evaluation methods. He has also received several patents and awards for the development of next generation mobile digital computer systems and devices at both the human computer and network level. Most recently he has been working on team dynamics to determine what permits teams to function well in difficult environments, and for determining training, training evaluation, and usability testing methods for advanced computer based command and control systems. Vince Quintana is also a Research Associate of the UMaine Cybersecurity Lab.

8.15 Thomas Robertson

Thomas Vincent Robertson, Ph.D. is Director, North American Operations for TIEMS. Dr. Robertson established the TIEMS USA Local Chapter; organized TIEMS USA Conferences in 2014, 2015, and 2016; is Technical Manager for TIEMS in the ASSET Program (Action plan in Science in Society in Epidemics and Total Pandemics), a four-year European Union funded program, and HERACLES, a three-year EU program to develop technologies to protect cultural heritage sites from the effects of climate change. He has presented papers on risk communication, communities of practice, and virtual simulation in emergency management in the US, France, Italy, China, Japan, Belgium, and Saudi Arabia. Previously he was Associate Technical Group Director of The BAE Systems Advanced Computing and Decision Systems and Senior member of the management team leading business units performing contract R&D in resilient computing, advanced compilers, adaptive system engineering, cognitive collaboration, and C2 systems. He was also Vice President and General Manager of Atlantic Aerospace Electronics Corporation where he managed the development and delivery of algorithms,

hardware, software, and systems for signal and image processing, and highspeed communications. He earned BS, MS, and Ph.D. degrees in Electrical Engineering from Purdue University. His Master's Thesis - "Modeling a Cockroach Stretch Receptor" - developed an analog computer model simulating nerve impulse generation. His Ph.D. Thesis - "Multispectral Image Partitioning" - developed techniques and software for automatic recognition of objects and land use in digital ERTS/LANDSAT satellite imagery.

8.16 Ray Soucy

Ray is a Senior Cyber Security Engineer with Networkmaine, the University of Maine System's business unit responsible for providing connectivity to Maine's research and education community. Through its Maine School and Library Network and MaineREN efforts, Networkmaine provides connectivity to nearly 1,000 public and private institutions throughout the state of Maine, ranging from elementary schools, to universities, to cutting-edge research institutions.

The 7th China (Guangzhou) International Fire Safety Exhibition

June 28-30, 2017

www.cfe.cn.com



China (Guangzhou) International Fire Safety Exhibition (CFE), the most influential and record-breaking fire event in Southern China, will be held in 2017 in Guangzhou. CFE 2016 has attracted more than 350 exhibitors, 22,000 visitors from over 50 countries and covered in 25,000 sq.m. Launching 2,000 new hi-tech products world premier, accumulating 150 million yuan income and one billion offline orders. Concurrent, The First International Safety Forum themed “Global Fire Intelligence” has been held to provide an extraordinary platform for 20,000 professionals in the industry. CFE has been engaging in building the world’s flagship fire platform with large scale, authority, specialty and significance for fire industry.

Warmly welcome people in fire industry to attend CFE 2017 and closely cooperate with us!

Date: June 28-30, 2017

Venue: Guangzhou Pazhou Poly World Trade Center Expo

Opening Hours: June 28-29 9 am- 5 pm, June 30 9 am- 2 pm

Entry: By Registration Form (Kindly check the attachment)

PRODUCT GROUPS

Fire Equipment

Fire Construction

Automatic Fire Alarm System

Fire Detection System

Network System of Fire Alarm Monitor in City

Automatic Sprinkler System

Spray Extinguishing, Foam and Dry Power

Gas and Aerosol Extinguishing Device

Fire Doors, Shutter and Other Accessories

Fire-Protective Paint

Fire-Proof Sealing Material

Smoke Prevention and Ventilator Device

Fire Retardant Material

Smoke Prevention and Ventilator Device

Fire Fighting Equipment:

The International Emergency Management Society (www.tiems.org)

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E-mail: r.miskuf@squaris.com,

Fire Engines, Fire Robots, Fire Aero craft, Fire Motorcycle, Fire tank;
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Fire pumps, Fire nozzle& Monitors
Fire Lighting equipment, Poison Prevention and Smoke Evacuation System and Equipment
Fire Communication Commanding System, Extinguisher and Bottled & Maintained Equipment
Fire Hose and its Accessories

Emergency Rescue Equipment

Rescue Equipment
Emergency Engineering
Safeguard Equipment
Communication System
Emergency Medical Equipment
Linkage Equipment for Disaster Detection

Health & Safety Equipment

Occupational Garments
Protection Products in workplace
PPE

TIEMS 2017 Annual Conference

TIEMS 2017 Annual Conference will be arranged in cooperation with the 3rd World Congress on Disaster Management in Vishakhapatnam, Andhra Pradesh, India, 7 - 10 November this year.

We are in the process of agreeing an MOU with DMICS (Disaster Management Initiatives and Convergence Society in India - <http://www.dmics.in/>), who is organizing the 3rd World Congress on Disaster Management, and we ask our members and other potential participants to put the dates in your calendar, and more news will be published soon with details and call for papers.

Below is the web-site of 3rd World Congress of Disaster Management, with the following link: <http://www.wcdm.info/>. TIEMS has supported the first and second World Congresses of Disaster Management in India earlier.

See also the electronic brochure at: <http://www.wcdm.info/assets/brochure.pdf>

This collaborative event is going to be a spectacular event with a large number of participants.

Looking forward to see many of our readers at the collaborative event in November this year.

The screenshot shows the official website for the 3rd World Congress on Disaster Management. The header includes logos for the Government of Andhra Pradesh, NDMA Government of India, and DMICS. The main banner displays the event title, dates (November 07-10), and location (Vishakhapatnam, Andhra Pradesh, India). Below the banner, there are three main sections: 'Official Statements' featuring a quote from Ban Ki-moon, 'The Mission of Third WCDM' detailing the congress's goals, and 'Know About DMICS' providing background on the organizing society. Each section includes a 'Read More' button.

TIEMS RTD PROJECTS

The HERACLES Project

HERACLES EWSLETTER

N°3 - April 2017

HERACLES

This project has received funding from the European Union's Framework Programme for Research and Innovation HORIZON 2020 under Grant Agreement 700395

Funding 6.564.313.75 Euro
Starting date 1st May 2016



CASE STUDIES

CRETE, GREECE:

1. *Minoan Knossos Palace*
2. *Venetian coastal fortress of Koules*

GUBBIO, ITALY

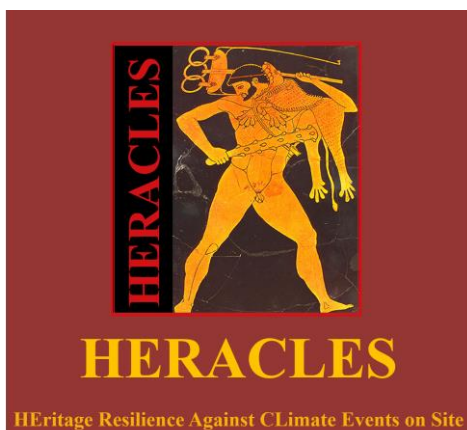
3. *Medieval Wall and High Town*

*THE MONUMENT, ITS HISTORY AND
PRESERVATION STATE*

The Venetian Sea-Fortress is an emblematic monument for the city of Heraklion. Better known as Koules ("Su Kulesi"), the Ottoman name, which prevailed over its original one, Castello a



Mare or Rocca a Mare. It is situated at the edge of the NW breakwater of the Venetian harbour. The large limestones used for its construction come partly from the Hellenistic fortifications of the city. In the past, at the same place was a rectangular beacon-tower, called by the Venetians, Castellum Communis. The tower was destroyed by the earthquake of 1508 and since 1523 it was decided that a larger fortress, built according to the bastion-system, had to replace it. The shape of the fortress is roughly quadrangular, with a semi-circle bastion at the SE side. Its outer walls are inclined and the main entrance is situated to the West, giving way to the Venetian fortified mole. On the western, southern and north-eastern façades, the marble emblem of Venice (i.e. the lion of St. Marco) was embedded. On the ground floor, to the left of the main corridor, there are barrel-vaulted rooms which hosted barracks, warehouses, prison cells and water-tanks. Light and air came into the rooms through the roof. All around the building there were openings for the cannons. A staircase and a ramp for the cannons lead to the upper



The International Emergency Management Society (www.tiems.org)

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E-mail: r.miskuf@squaris.com,

terrace, around which there were other cannon-openings, barracks, a mill and a beacon. The surrounding walls ended up in a straight parapet, protecting the inner corridor. The battlements were added during the Ottoman occupation period.



Roccca a mare fortress, (F. Basilicata, 1636-38, collection of the Biblioteca Comunale of Bologna)



Candia map (XVII Century, G. Corner)

The first attempts of restoration started in 1959 by the curator of antiquities Stylianos Alexiou. More work has been done by M. Borboudakis during the period 1972-75, according to the approved study suggested by A. Lampakis to make the fortress accessible to the public. No additional work had been executed during the following years, resulting in the decay of the monument. The binding mortar of the masonry has been badly weathered and the balusters, although recent restored, were almost ready to collapse. Salt black hard crusts were covering part of the walls, sea and rain water were entering from the broken skylights at the roof of the galleries. All the iron elements used in the monument were heavily corroded.



During the first decade of 2000, the Greek Ministry of Culture, anticipating the problems that the monument was facing, decided to take new measures for its protection and safeguarding. Under the direction of the Ephorate of Antiquities a National Strategic Reference Framework Project concerning the Restoration and Conservation of the Venetian Fortress (Koules), took place (2011-2016). In the conservation program the main concern was related to the static and reinforcement aspects of the monument.

In the conservation program the main concern was related to the static and reinforcement aspects of the monument. In order to achieve the desired result, previous interventions to masonries, both indoors and outdoors, have been removed, the lions' relieves have been consolidated and preserved, and the old frames of the cannon openings at the ground floor have been replaced with stainless ones. Restoration works aimed to the cleaning and protection of the stone surfaces from hard salt crusts and biodeterioration signs, where it

was possible without losses of the material. In addition, the three lions' emblems on the facades of the monument were cleaned and consolidated in order to achieve compactness.

It has to be mentioned that during the restoration program (2009), the School of Mineral Resources Engineering of Technical University of Crete had performed analysis of stone masonry identifying four types of sedimentary stones: brecciated fossiliferous limestones, microbrecciated limestone, calcarenites sandstones, and bioclastic/biomicritic fossiliferous limestone.



St. Marco lion before and after restoration

The continuous exposure to marine aerosol of the fortress has produced severe weathering of the building stone (biocalcarene), which is a porous material susceptible to the action of soluble salts and environmental conditions. The same problem concerns the materials used for restoration works.

RISKS/HAZARDS AND TECHNICAL ASPECTS



The fortress of Koules is surrounded by a number of major sources of pollution, as indicated in the image above. Specifically:

- Local airport of N. Kazantzakis is situated 2 km to the East
- Local installations of the Public Power Corporation are located 9 km to the West
- Industrial Area of the city of Heraklion is found 4 km to the SE of the monument.

All the above infrastructures contribute significantly to the air pollution load of the monument. According to statistics, during

the summer period there are more than 150 landings and take-offs per day. Many of these take-offs follow



the direction of the airstrip airport fortress burdening the atmosphere with air pollutants. Finally, smokestacks of the ships from the nearby port constitute an additional source of air pollutants.

The immediate contact of Koules with the sea makes the fortress vulnerable to salty northern winds, which are often very severe, reaching 9, 10 or even 11 in the Beaufort climax/scale. Especially during the winter season high waves are often literally covering the monument.

The fortress of Koules is affected by climate conditions coupled with the pollution, which can initiate and accelerate deterioration mechanisms for both original and restoration materials. Geophysical measurements recently carried out, have revealed that caves at the foundations of the monument are present and repeated at regular intervals, showing that are made deliberately for the circulation of seawater under the construction. Unfortunately, in the past, these caves/tunnels have been considered as resulting from the foundation erosion and for this reason were filled with concrete in order to stabilize the structure.

Crusts of salts and black hard encrustations are observed on the walls in several rooms at the interior of the monument. Similar black crusts have also been observed at the areas around the joints both internally and externally to the monument. These crusts are rough and inhomogeneous and appear aggressive to the materials.

The cumulative effect of the weathering factors at the monument is unambiguous, since it has been acting for more than five centuries. Macroscopic investigation indicated that the deterioration of the stone, along with the detachment of the grain aggregates, proceeds to selective pitting, resulting to the formation of deep interconnected cavities. The stone appears to have suffered an irregular loss of material, which follows the alveolar weathering pattern. Furthermore, a number of cracks have been detected around the monument and their restoration is important.



Examples of weathering degradation

Due to this vicinity with the sea, it is expected that sodium chloride will prevail among the sea salts. Crystallization of sodium chloride (absorbed from the atmosphere or as seawater spray) plays a role in the decay process of the stones, together with stress due to water adsorption.

*KNOWLEDGE TO BE ACQUIRED THROUGH THE HERACLES
PROJECT*

Here are presented part of the HERACLES activities more related to the study of the Fortress itself.

The role of the photonics for Cultural Heritage group IESL-FORTH, in the framework of HERACLES project works that are focused on the Venetian Sea-Fortress (Koules) is twofold:

- a. It will contribute to the remote, non-destructive, high detail/accuracy in-situ analysis of the composition and possibly of the origin of the various weathering features encountered on the monument, such as efflorescence salts and other crusts, as well as to the monitoring of their progress and expansion on the areas of interest. This will be performed using portable instrumentation based on optical and laser spectroscopic analysis (LIBS, Raman, multispectral imaging etc.). Moreover, novel imaging techniques, as for example portable 4-D surface /volume topography, will be employed to non-destructively characterize, delineate and map materials aiming at gathering complementary high-resolution information for their composition and morphology. Among the aims of this work will be to assess how the climatic conditions influence the creation and expansion of these features, aiming at setting the alerts that would call for immediate action and preservation, as well as to evaluate the effectiveness of the treatments and /or the criticality and necessity of new restoration interventions.
- b. It will perform (ex-situ) analyses, based on laser spectroscopy, in the laboratory on samples taken from areas under investigation of the monument, in order to characterize the structural, chemical and physical properties of the materials (ancient, new, as well as alteration forms).

The installation of a meteorological station and a wave recorder in the Venetian fortress "Koules" will be carried out by IACM-FORTH.

Both the meteorological and the wave data will play a pivotal role to the restoration processes of the Koules monument. Site calibration and microclimatic modelling rely heavily on the existence of accurate climatic data, spawn over long periods of time. Also, the available satellite weather data for the region will be correlated with the ground meteorological station time series (ground-trouthing and calibration). The combined use of these datasets as inputs for the computational predictions will improve the accuracy of the models and will lead to more realistic weather forecasting for the region.

The meteorological station will be installed on a 3-meter metal mast, which will be protected from lightning strike and will be able to withstand wind speeds exceeding force 9 in Beaufort scale. The installation position will be chosen, in order to minimize interventions on the monument of the Venetian fortress. The mast will be equipped on its highest point with a Franklin type lightning rod, which will be properly grounded outside the building.

The meteorological station will provide raw data (times series of wind speed and direction, temperature, humidity, rainfall, barometric pressure, solar radiation and UV Index), as well as graphical plots, all available online and accessible via the HERACLES project web page. All weather parameters will be recorded at 1 minute intervals. Every one to five minutes the weather station will generate and send a report for display on the website and will upload the raw data (in ASCII format) to the database.

An autonomous wave recorder will be installed in shallow waters, in the nearshore zone of Koules, to monitor sea level, wave height, wave period and sea temperature. Data will be collected and be analyzed to study the nearshore wave conditions that affect the monument.

Within the frame of the HERACLES project the contribution of the Crystal Engineering, Growth & Design Laboratory of the Department of Chemistry, University of Crete, will be focused on the current state of preservation of the stone building and architectural elements of the Koules which will be tested and evaluated in-situ. For this purpose, the mechanical properties of the aforementioned dominant lithotypes will be examined through the application of the micro drilling resistance measuring system. Thus, it will provide crucial information regarding the several parameters affecting the monument. Moreover, it will be made possible to evaluate the implementation and hence the performance of different consolidants and application methods used in the past, in terms of depth of penetration and development of consolidating compounds inside the stone mass (pores, discontinuities).

The University of Perugia (UniPg) will support all partners involved in the activities in Koules, by providing support for interpreting material properties and monitoring data in the perspective of structural vulnerability aspects of the fortress. UniPg will also carry on inspections of the fortress to identify possible aspects of structural vulnerability, including a visual survey of existing cracks in the masonry and the identification of the factors most likely causing the same cracks (e.g. settling of the foundations due to coastal erosion, excessive vertical loads and past earthquakes). Inspections will profit by the use of infrared imaging to discern between surface cracks and cracks passing through the whole width of the walls, as well as to detect the possible presence of voids and discontinuities in the masonry and to detect qualitative differences in materials properties from one portion to the other of the fortress.

Additionally, UniPg will carry on the microclimate dynamic monitoring of the fortress, in order to assess its local environmental conditions in terms of air temperature, surface temperature, relative humidity, wind speed, wind direction, and air quality by means of a brand-new portable experimental equipment specifically developed for the scope of the HERACLES project, i.e. payload. Therefore, such monitoring equipment will be used to map over both space and time of the above-mentioned parameters from different heights, i.e. at pedestrian level and above the fortress height by means of drone (where possible), in order to (i) investigate the parameters variability and (ii) evaluate their impact on the ancient fortress structure. This kind of experimental monitoring campaign will be replicated by UniPg in all the case studies of the project.

The Institute of Nanostructured Materials (ISMN) is a CNR research institute with expertise in the field of synthesis and characterization of materials.

The ISMN will contribute to the HERACLES activities with the expertise in material science diagnostics and synthesis of new or modified materials applied to CH. It will be done through:

- (i) micro- and nano-physico-chemical and morphological study of ancient artefacts (in particular stones and mortars) for the determination of their material composition, provenance, production processes and manufacturing technologies;
- (ii) assessment of the conservation state and study of chemical-physical phenomena at the micro and nano-scale for the identification of degradation agents and mechanisms;
- (iii) design, synthesis and validation of new, long-lasting, reliable and nontoxic materials and methods for conservation and their tailored application and validation.

Studies in laboratory will be carried out in order to characterize the structural, chemical and physical properties of the original and new materials to be used in the restoration processes. These (ex-situ) analyses will be focused on the identification/classification of materials and determination of their composition and structure by using X-Ray Diffraction and X-ray Photoelectron Spectroscopy (XPS).

X-ray Photoelectron Spectroscopy (XPS) is a surface-sensitive quantitative spectroscopic technique that measures the elemental composition at the part per thousand range, empirical formula, chemical state and electronic state of the elements that exist within a material. XPS can be used to analyse the surface chemistry of a material and is routinely used to analyze a wide range of materials from inorganic compounds, glasses, ceramics, stones, etc.

Together with X-Ray diffraction (XRD), the nature of the crystalline compounds will be also assessed.

The Institute for Electromagnetic Sensing of the Environment (IREA) is a CNR research institute active in scientific and technological development in the field of remote sensing and in situ diagnostics and monitoring of the natural and built environment, based on electromagnetic sensing. It focuses on the study of methodologies and technologies for acquisition, processing, fusion and interpretation of data derived from electromagnetic sensors on satellites, aircraft and in situ for territorial management, supervision, security and risk assessment. With reference to the Venetian Sea-Fortress (Koules), in cooperation with e-GEOS, IREA will carry out analysis of satellite data acquired by imaging radar sensors, specifically the sensors of the Italian COSMO-SKYMED constellation, for the reconstruction of point clouds and monitoring of long-term deformation. Data of such sensors are characterized by very high resolutions, lower than 3x3 sqm., and will allow providing 3D geo-localized points with deformation time series useful to for the assessment of the stability of the site and for the structural analysis. IREA will be also involved in in-situ monitoring of the subsurface and structures by means of the Ground Penetrating Radar; in particular, it will exploit advanced data processing based on microwave tomography for a 2D/3D reconstruction of the subsoil and the inside of structures with the aim to provide information at support of the structural health assessment. Finally, IREA has expertise in the use of TeraHertz electromagnetic waves for the millimetric and sub-millimetric diagnostics of the surface and very shallower regions with aim to detect defects as delamination and fractures. IREA will make available its THZ system for studies in laboratory aiming at the morphological characterization of samples and materials.

UNINOVA, as a materials research institute linked to the New University of Lisbon, will be involved in all tasks considered necessary by the consortium for the evaluation of the state of conservation of materials, analysis of degradation phenomena and characterization of building materials such as stone, binders, mortars and new materials to be developed for use in the three case studies of the HERACLES project, i.e. the Medieval Town of Gubbio, the Knossos Palace and the Koules fortress. A multidisciplinary approach in

close proximity with the remaining partners is envisaged and will consider a set of non-destructive analytical techniques for the characterization of these materials, contributing with the equipment available at Uninova. Such methodologies give the opportunity for the minerochemical characterization through X-ray diffraction in the usual Bragg- Brentano geometry and X-ray fluorescence using a wavelength dispersive system. Observation of samples taken at the site through optical microscopy will allow for macroscopic constituents observation and the use of scanning electron microscopy will allow for a microstructural evaluation of the samples. Techniques, such as Ellipsometry for dielectric measurements or Atomic Force Microscopy for surface profiling, are also possible as well as measurements on the thermal behavior of materials through thermal differential analysis coupled with thermogravimetry.

PRESENTATION OF THE PROJECT

Heracles PRESENTATION, “New Humanism for the XXI Century”, 24-25-26th OCTOBER 2016, Perugia

The aim of this meeting was:

- a) To discuss and identify contributions of the Chairs to the UN 2030 Agenda for Sustainable Development, through independent but also joint projects;
- b) To identify how the Chairs can increase their contribution to the implementation of the International Hydrological Programme for the current biennium (2016-2017) and the entire IHP-VIII phase (2014-2021);
- c) To define mechanisms to increase the cooperation between regional/similarly-themed Chairs, e.g. initiating the establishment of an information sharing system among all Water Chairs.

A further aim of the meeting was also to discuss and express opinions on the concept of the “New Humanism for the XXI Century” in Education, Culture and Science. In other words, interdisciplinarity as the factor to address many of the current issues, including the achievement of water security and peace.

During her presentation, Giuseppina Padeletti evoked the different aspects around HERACLES project, that meet the UNESCO Chairs aims. The relevance of the Cultural Heritage in the life of people and in their education was underlined, as well the importance of projects like HERACLES, that provide solutions to maintain and preserve the cultural heritage to be passed on to future generations.

POLICY SEMINAR AND WORKSHOP 'CULTURAL HERITAGE, DISASTER RESILIENCE AND CLIMATE CHANGE: THE CONTRIBUTION OF EU RESEARCH AND INNOVATION', 7th december 2016, European Commission, Brussels

The event focussed on how to increase disaster resilience of cultural heritage sites in the face of climate change and natural hazards. It was organised by European Commission, DG Research and Innovation, Climate Action and Resource Efficiency Directorate, Sustainable Management of Natural Resources Unit, with the support of:

JPI CH – Joint Programming Initiative on Cultural Heritage and Global Change

EASME - Executive Agency for Small and Medium-sized – Enterprises

REA – Research Executive Agency.

DG Research and Innovation organized this full day event with policy makers, stakeholders and researchers and innovators to discuss the latest developments on cultural heritage at risk.

The initiative consisted of a policy seminar and a workshop gathering EU research and innovation projects. The aim was to open a confrontation between policy makers, stakeholders and the community of researchers and innovators on 'what is new under the sun' for heritage at risk. The open debate evoked the ideas to increase disaster resilience of cultural heritage sites facing natural hazards and extreme climate-related events; risks that are threatening cultural heritage sites; the innovative solutions to prevent and mitigate their environmental, economic and social impacts and the recent results from EU research and innovation projects through the use of earth observation and smart technologies. The aim is to foster knowledge sharing, improve synergies and find common actions for the future.

During the day, G. Padeletti talked about the multidisciplinary and holistic approach of the HERACLES project, and about the expected results and the innovative solutions.

FOCUS NEWS: 2018- European Year of Cultural Heritage

The 2018 will be the European Year of Cultural Heritage. The aim of the European Year of Cultural Heritage is to share our common cultural heritage and its potential for identification, participation and development with each other in the light of a heterogeneous European social structure and against the background of current economic challenges.

It is the best witness to Europe's rich history, which has been strongly influenced by values such as diversity, tolerance and intercultural dialogue. The European Cultural Heritage Year builds in particular upon the fact that our shared cultural heritage is always both local and European. The European Year highlights this dimension and uses it to respond to current challenges. It also builds on new opportunities to preserve and develop cultural heritage while underscoring the need to do so, because our cultural heritage is an essential, unique, irreplaceable part of Europe's social and economic potential which is closely tied to many other areas and is thus the foundation of our shared development in Europe.

The programmatic focus for the year is "Society in Transition", which reflects ongoing and diverse social change in Europe. Three aspects in particular are to be discussed during the European Year: cultural diversity, demographic change and sustainability. This will give the European Year its political and economic relevance.

The ASSET Project Citizen Consultations



share and move to face nasty bugs

TITLE: CITIZEN CONSULTATION
SUBTITLE: Policy Report

ASSET Project • Grant Agreement N°612236

ASSET

Action plan on SiS related issues in Epidemics And Total Pandemics

7th RTD framework programme

Theme: [SiS.2013.1.2-1 Sis.2013.1.2-1]

Responsible partner: DBT

Nature: **Report**

Dissemination: **PU**

Contractual delivery date: **2016-12-31 (m36)**

Submission Date: **2017-03-17 (m39)**

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www.asset-scienceinsociety.eu

ASSET Action plan on Science in Society related issues in Epidemics and Total pandemics

DOCUMENT MANAGEMENT

PROJECT FULL TITLE	Action plan on SiS related issues in Epidemics And Total Pandemics
PROJECT ACRONYM	ASSET
	Coordination and Support Action: project funded under Theme SiS.2013.1.2 “Mobilisation and Mutual Learning (MML) Action Plans”
GRANT AGREEMENT	612236
STARTING DATE	01/01/2014
DURATION	48 months

D4.3 Report

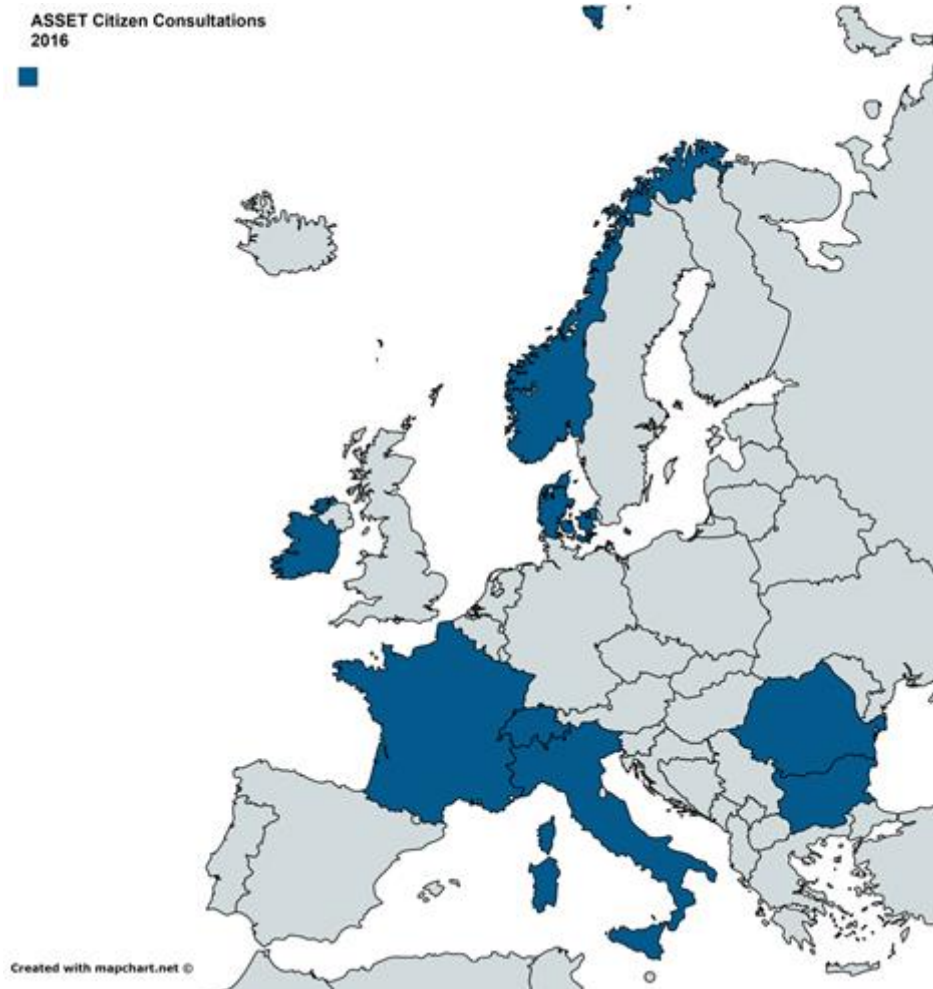
Task: 4.3

Leader: DBT – **Other contributors:** LYON, DMI, EIWH, FFI, ISS, NCIPD, UMFC

History of changes:

Vn	Status	Date	Organisation / Person responsible	Reason for Change
V1	Draft	26/02-2017	DBT/ John Haukeland	
Vf	Final	17/03-2017	DBT/ John Haukeland	Partner input

Participating countries

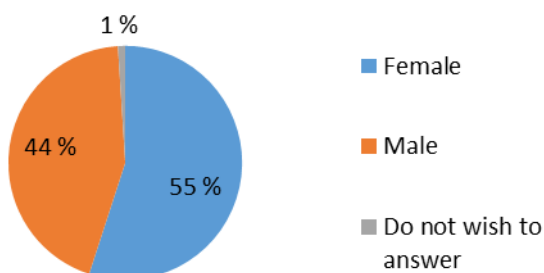


Bulgaria (67 participants)
Denmark (58 participants)
France (47 participants)

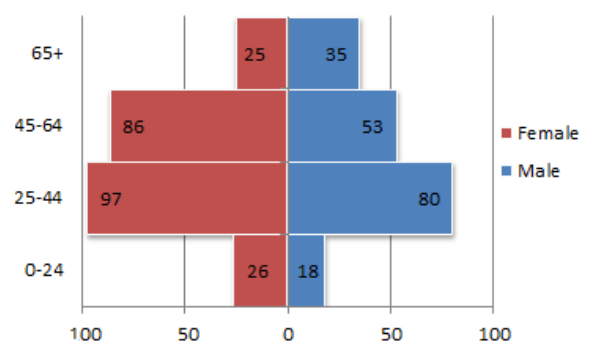
Ireland (51 participants)
Italy (66 participants)
Norway (50 participants)

Romania (51 participants)
Switzerland (35 participants)

Gender distribution



Population Pyramid



Preface

Health authorities face multiple challenges when responding to epidemic or pandemics treats. Oftentimes they are faced with the challenge of making decisions in conditions of sparse and uncertain information, and available options for action are often less than ideal. In addition, authorities struggle with disseminating information to relevant communities, and they struggle with rumors, parallel information systems, and bridging gaps in cultures, traditions and understandings of health care practices. The present report is a deliverable of the ASSET (Action Plan of Science in Society related issues in Epidemics and Total pandemics) project, and it collects on results from eight day-long citizen consultations in countries across Europe on policy options and issues in epidemic preparedness and response. The ASSET Project is born in the wake of the H1N1 pandemic in 2009-2010, which most of the citizens could remember. However, for more than 100 young people taking part in the citizen consultations, this summer's debate on the Zika virus, or last year's Ebola epidemic were their main references. This is the ASSET Policy Report.

Its purpose is twofold.

1. In the first part of the policy report, we will account for the rationale behind involving citizen in complex decision-making, and how we did so;
2. In the second part of the policy report, we will analyze and present the results based on the citizen's input deliver six concrete policy recommendations to politicians and decision-makers across Europe.

We hope you will enjoy this report, and if you only were to take one thing away from it, we hope it will be a better understanding, of the merits of citizen participation.

Copenhagen, February 2017

John Haukeland and Lise Bitsch

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Executive Summary

The ASSET citizen consultations show that citizens across Europe are willing to follow the advice from health authorities. In an emergency situation, citizens even supported the infringement of individual rights for the collective good. However, citizens emphasized that public health authorities must communicate in an honest and transparent manner. Citizens do not want to be protected from the realities of a situation; rather they want to know what the uncertainties and risks are. Participants in the meeting urged general practitioners (GPs) and authorities to increase their online presence and to engage in dialogue with their publics. The public desire clear and updated information on vaccination and pregnancy and believe that improved communication and dialogue can restore trust and build better relationships between health authorities and publics. Finally, citizens in the meetings expressed a desire for opportunities to provide input for policy development and action in the case of epidemic or pandemic crisis. The method used in the ASSET citizen consultations present an integrated and participatory strategy for the purpose.

The policy recommendations from the ASSET citizen consultation relate to specific thematic areas of action, and each recommendation is therefore grouped under its attendant area. The six concrete policy recommendations were:

- Trust in information
 - The GPs should be trained to adapt to the changing society, and decision-makers should be urged to be visible and present at the internet, as the use of the internet is increasing.
- Risk Communication
 - Build a transparent and clear risk communication to restore trust towards society
- Pregnancy and vaccination
 - Update, clarify and standardize influenza vaccination advice materials for pregnant women
- Ethics
 - In an emergency situation, public health interests should infringe upon the individual freedom
- Citizens' voices
 - The citizens believe that honesty and transparency can increase the public trust (no matter how bad the situation is), and that it is their right to know and understand the accurate situation.
- Lessons learned and Citizen Participation

Citizens' voices

"Open and honest communication from the authorities. Say what you know and what you are uncertain about. Full disclosure."

Danish citizen

Citizens' voices

"There should be two-way communication between citizens and the government not only in crisis! During a crisis, information given in advance is the most important thing."

Bulgarian citizen

Public health authorities should devote more resources to collect citizen input to policies on epidemic preparedness and response.

The ASSET Project

Background

ASSET is a four-year European research project. The project combines experts with many different backgrounds, e.g. public health, vaccine and epidemiological research, social and political sciences, law and ethics, gender studies, science communication and media. The aim of the project is to develop a participatory and integrated, transdisciplinary strategy to preparedness measures.

A milder than expected evolution of the H1N1 pandemic led to mistrust between the public and public health authorities, with the public in particular questioning the relationship between the industry and authorities. International public health authorities still struggle with this mistrust evident from the Ebola epidemic and the Zika Virus outbreak.

The aim of the public consultation in the ASSET project is, therefore, to engage European citizens in the debate of pandemic crisis prevention and management. Citizen meetings with around 50 people each was held in eight countries: Bulgaria, Denmark, France, Ireland, Italy, Norway, Switzerland and Romania.

Why 50 citizens?

Statistical theory tells us that by $n=30$, the sample will roughly have a normal distribution, meaning that the sample is representative of the population, assuming randomness.

For each additional citizen added to the sample of 30, the sample will become more representative.

The project objective and WP4 objectives:

- 1) Make a concrete and policy-relevant example on EU level coordinated public consultation with a link to parliaments;
- 2) Give input to policy-making about policies on pandemic crisis, in terms of expression of informed ideas and opinion from near-representative samples of citizens;
- 3) Engage citizens in the debate of pandemic crisis prevention and management.

For further information: <http://www.asset-scienceinsociety.eu/>

The design

The design underlying the ASSET citizen consultations was developed in response to the practical challenges of making multi-site citizen participation possible. The following criteria were considered essential:

- Clear link to policy-making: It had to address issues of immediate relevance to policy-makers
- Both international and national: It had to pertain to both international and national decision-making.
- Clear and comparable results: Results had to be comparable across countries and they had to be easy to communicate to policy-makers

- Informed citizens: Citizens had to be provided with balanced information required to understand the issues debated among policy-makers
- Deliberation: Citizens should be given the opportunity to discuss their views with each other before reaching their own conclusions

In order to meet these objectives, groups of citizens (approximately 50) met in their respective countries to deliberate on an identical set of questions, using identical meeting designs and information material. The different meetings and their results are linked through an online web tool. The method provides policy-makers with in-depth information about trends in national and international opinions, but differs in important ways from conventional opinion polls. Unlike opinion polls, the method provides respondents with balanced and scientifically based information as well as an opportunity to deliberate for a full day with other citizens prior to rendering their judgments. Thus, it encourages the exploration of more substantive questions and well-considered responses, allowing policy-makers to assess which policies will be well received if people are properly informed about the rationale behind them.

The method used for citizen consultation is inspired by the WWViews method (<http://wwviews.org/>). The method has been adjusted in various ways, based on evaluations from partners participating in WWViews on Global Warming in 2009, WWViews on Biodiversity in 2012 and WWViews on Climate and Energy and scientific observations published in the following years. The most essential break from the WWViews method is that the ASSET design allowed for citizen input already prior to the consultations. This came about by systematically applying digital methods to scope public debate online on issues related to the ASSET objectives. This in turn inspired the ASSET information material.

Questions and information material for the citizens

The questions posed to the citizens across Europe were selected to be of direct relevance to the policy-makers concerned with policies on pandemic crisis or threats and to provide decision makers with information about public opinion on different policy measures to do so. The questions had to be identical in all countries in order to allow for cross-national comparisons. To ensure comparability of results and clear communication to policy-makers, the questions and response choices were predefined in all sessions but the open policy recommendation session. The questions were clustered in six themes:

1. Personal freedom and public health safety;
2. Communication between citizens and public health authorities;
3. Transparency in public health;
4. Access to knowledge;
5. Qualitative policy recommendations (open session);
6. Evaluation

Prior to the citizen consultations, participants received balanced information from a 20-pages booklet written by the Danish Board of Technology in close collaboration with the ASSET project partners. The booklet provided basic information about the controversies on pandemic preparedness and response and different points of view on how to deal with it.

Information videos (each 4-10 minutes long) were made by the Danish research and science communication company GoVisual for the four closed themes, repeating the most essential

information available in the booklet and ensuring that all citizens would participate in the meetings with the necessary information. All information material was translated into local languages.

Selecting the participating citizens

Guidelines for selecting the participating citizens were made in order to ensure the reliability of the results. The citizens at each meeting should reflect the demographic distribution in their country with regards to age, gender, occupation, education and geographical zone of residency (i.e. city and countryside). A further criterion was that they should not be experts on public health issues, neither as scientists nor as stakeholders. Where appropriate, the national partners added further demographic criteria of relevance to their national context. Finally, citizens were asked if they were members of a health organization, this was also used as selection criteria in order to avoid an overrepresentation of participants more concerned with, e.g. vaccination than the population at large.

Based on reports from the partners, the guidelines have been followed, albeit with some local variation due to economic and other practical limitations. While some meetings ended up with fewer than 50 citizens, most ended up with more than 50 citizens on the ASSET Day. The European average was 53 citizens per meeting. Some countries or regions recruited citizens from their entire geographical area, whereas others recruited from a smaller area in order to cut expenses. Nevertheless, the sample of citizens consulted in ASSET is large and diverse enough to give a clear sense of general trends in national and international public opinion.

The ASSET Day

All citizen consultations followed the same schedule: the citizens, divided into tables of 5-8 people, were led through a program, divided into four thematic sessions and an open session, by a head facilitator and a number of group facilitators.

Each thematic session was introduced by the head facilitator and an information video. The participants then engaged in moderated discussions at their tables, the purpose of which was to give all participants time to listen to other opinions and reflect prior to voting. Group facilitators were trained in advance to provide unbiased facilitation at the tables. Each thematic session concluded with citizens casting their votes anonymously on alternative answers to a total of 24 questions (five to six questions in each thematic session). Votes were counted by the staff and immediately reported to <http://citizenconsultation.asset-scienceinsociety.eu/en-gb/results> thereby enabling international, quantitative comparisons.

Most meetings were either opened or closed by ministers or high-level government officials. The citizens were apprised of the means by which policy-makers would be informed of the results.

Follow-up

Following the ASSET day, the data was analyzed by the partner based on the output of the web-tool and a two-day workshop.

In addition to the quantitative data from the closed-ended questions in the first four sessions in the questionnaire, we added an open-ended question in session 5 to provide the citizens with the opportunity to express their personal opinions and include themes that were not embraced in the

former sessions. More specifically, the citizens were asked to write policy recommendations as an answer to the following question: *“Considering the issues debated today, what is your most important recommendation to national and international policy-makers?”*

To analyze the qualitative data from session 5, we used and developed a new analytical strategy based on the use of digital methods. The use of digital methods makes it possible to visualize complex datasets. More precisely, the different set of techniques provides the opportunity to gather, organize and visualize issues to create an overview of the complexity and to observe, explore and investigate the relations within. The two-folded function of visualizations is both suitable for analysis and representation.

Making the citizens’ views heard

The outcomes of the ASSET Project and its citizen consultations are being disseminated on a European level. The target groups for receiving the ASSET results are politicians, international and non-governmental organizations and interest groups engaged in policy-making about pandemic preparedness and response. The ASSET results are especially significant for policy-makers and stakeholders because they represent the informed and considered views of a broad range of citizens from across Europe concerning complex issues about policies on pandemic crisis or threats.

The ASSET partners have set up a comprehensive dissemination strategy aimed at presenting and discussing the results of the citizen consultations with the relevant policy-makers and stakeholders. Dissemination already began in January 2016, 8 months prior to the citizen consultation, with a workshop with ASSET’s High-Level Policy Forum in Copenhagen to secure stakeholders’ interest in the project and its results and to guide the process to be most relevant to the target group. Next, the results will be presented at the European Parliament in April 2017. This will then be followed by a presentation and discussion of the results with the High-Level Policy Forum.

In addition to the presentations made by the partners at a European level, all national ASSET partners have employed their own strategies to reach key target groups. The goal is to make those engaged in public health policy-making aware of the results and to take them into consideration.

Policy Recommendations

The key findings in this report highlight the results from the citizen consultations that the partners find to be most significant and interesting to policy-makers. We invite others to explore the results to see what they find to be significant on our [web-tool](#). The key findings were selected during the policy workshop in Copenhagen with the partners.

The key findings were identified in the workshop and subsequently developed and refined by an editorial group. The key findings are structured in the following way: first, a clear message to decision-makers (the key finding); second, factual observations from the ASSET voting results that underpin the message (sometimes the same observations underpin more than one key finding); and third, an assessment drawn from the observations. The key findings are structured in six messages:

- Trust in information
 - The general practitioners (GPs) should be trained to adapt to the changing society, and decision-makers should be urged to be visible and present at the internet, as the use of the internet is increasing

- Risk Communication
 - Build a transparent and clear risk communication to restore trust towards society
- Pregnancy and vaccination
 - Update, clarify and standardize influenza vaccination advice materials for pregnant women
- Ethics
 - In an emergency situation, public health interests should infringe upon the individual freedom
- Citizens' voices
 - The citizens believe that honesty and transparency can increase the public trust (no matter how bad the situation is), and that it is their right to know and understand the accurate situation
- Lessons learned and Citizen Participation
 - Public health authorities should devote more resources to collect citizen's input to policies on epidemic preparedness and response

Trust in information

Clear message

The GPs should be trained to adapt to the changing society, and decision-makers should be urged to be visible and present at the internet, as the use of the internet is increasing.

Observations

One of the topics discussed at the citizen consultations was trust in authorities and information before and during a pandemic or epidemic outbreak. The results are showing that the most trusted and used source of information are GPs. When the participants were asked who they consult first when they get ill 57 % answered their GP (Figure 1). The pivotal role of health care workers (HCW) and GPs is underlined by people's opinion on the distribution of scarce resources, where 64 % answered that priority should be given to HCW and other people working in the fields important for society. After the GPs, the internet is the most used source of information, but at the same time the results show that people trust the internet less than any other source of information apart from newspapers. There is also a clear finding when asking what information people need from the public health authorities in the case of an epidemic. People want do's and don'ts for how to act.

Figure 1. When you are ill who do you consult first? n. 425

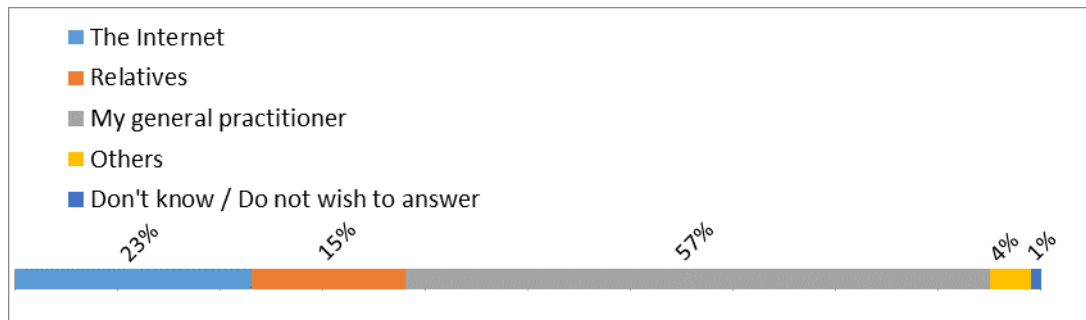
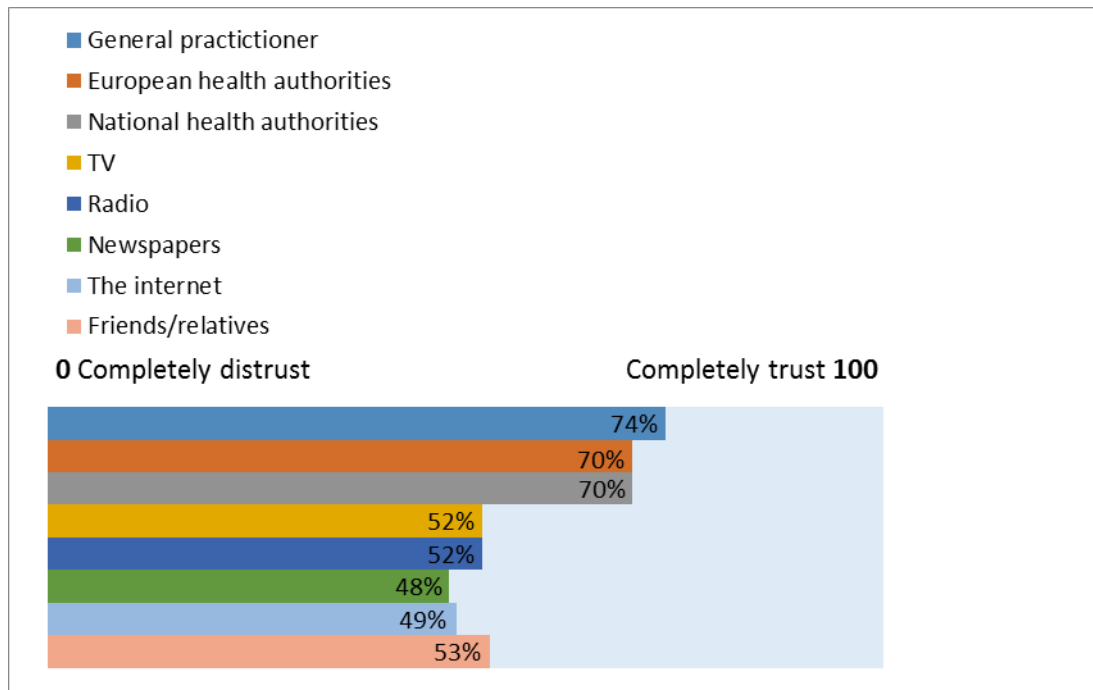


Figure 2. How much do you trust each of the following sources of information regarding the recent Zika epidemic? n. 425



Assessments

GPs are the most used source of information followed by the internet. There is a decreasing trend with age for the internet as a source of information. However, the data shows that citizens do not really trust the internet. As the case of the Zika was used as an example, the level of trust could perhaps be different for other examples, but the trend in the discussions was that people use the internet even though they want a second opinion afterwards. This may be referred to as “the dilemma of the internet”: People use it, but do not trust it¹.

Considering the results, GPs should be involved in the planning and response for epidemics. They should play a stronger role in prevention and build a stronger preparedness system. Gender differences and age differences are not significant for trust in GPs, and it is therefore recommended that GPs should be engaged in informing people.

The GPs should be trained to adapt to the changing society, and decision-makers should be urged to be visible and present at the internet, as the use of the internet is increasing.

¹ See ASSET Background Material: <http://www.asset-scienceinsociety.eu/outputs/deliverables/citizens-meeting-national-materials>

In a case of emergency, it is clear to people what they want. The public health authorities should be present in social media and have clear, visible and identifiable official webpages.

Risk communication

Clear message

Build a transparent and clear risk communication to restore trust towards society.

Observations

General comment:

Almost 60% of the citizens are not satisfied with the information from public health authorities during epidemic threat, showing that there is a need for more communication from the governments.

Clear message:

71 % are in favor of a clear one-way communication from public health authorities and, according to 81% of the citizens, they should dedicate more resources to gather data on people's opinions, thoughts, questions etc. With regards to the idea of having another citizen's consultation, 58% of them think that such a dialogue process is a good idea.

When asked about the most important content of the message, the citizens answered at 67% that governments should provide information about "What to do / not to do" during an epidemic threat.

Transparency:

50% of the citizens feel comfortable with the idea that not all information is publicly available for security reasons during an outbreak. Moreover, 53% of the citizens agree for publishing scientific studies even if there is a large uncertainty about the results.

Finally, 88% are in favor of all relationships with vaccine manufacturer being declared. Public authorities should be transparent on this issue.

Trust:

The results of voting show that 70% of the citizens trust the European Health Authorities regarding epidemics, and 74% trust their general practitioner whereas only 11% trust social media for example. So, these are the sources of information identified as credible and through which the trust should be built.

Figure 3. Are you satisfied with the information from public health authorities during epidemic threats like Zika? n. 425

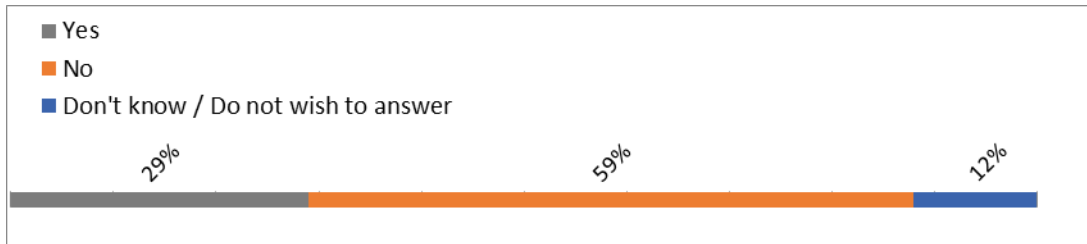


Figure 4. What is the best way to provide information in times of pandemics/epidemics? n. 425

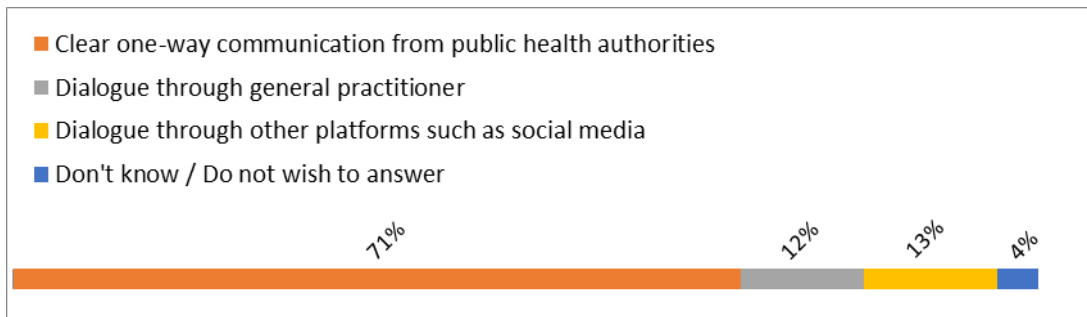
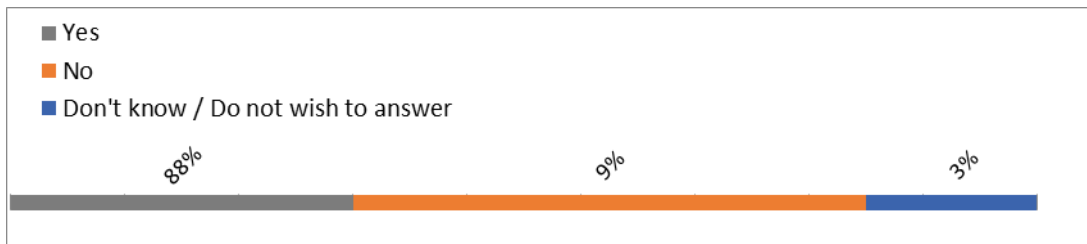


Figure 5. Do you think that all relationships with vaccine manufacturers should be declared and publicly available? n. 425.



Assessments

Citizens prefer the information to come from the public health authorities but need to be consulted too. Indeed, it is essential to stay tuned with the risk perception of the public and adapt the communication consequently. The message must be clear and focused on how the citizens should act concretely.

Public health authorities should be honest and transparent when dealing with scientific and economic aspects during an epidemic. Indeed, citizens want to be informed on the scientific details of the epidemic even if this information may change during the outbreak period. So, it seems to indicate that a careful communication of uncertainty is positively appreciated. On the other hand, if for security reasons some aspects are being hidden from the public, citizens understand it. It is very important however that any link with the vaccine industry is acknowledged to avoid the “sensation of conspiracy”. Thereby, the vaccine industry will probably avoid the rumors and their recommendations will be followed by implementation because they are trusted.

European health authorities and general practitioners are the most trusted sources of information. They should reassure the citizens on the government preparedness and coordinate themselves to agree on the message to give when asked about more details on the epidemic.

Pregnancy and vaccination

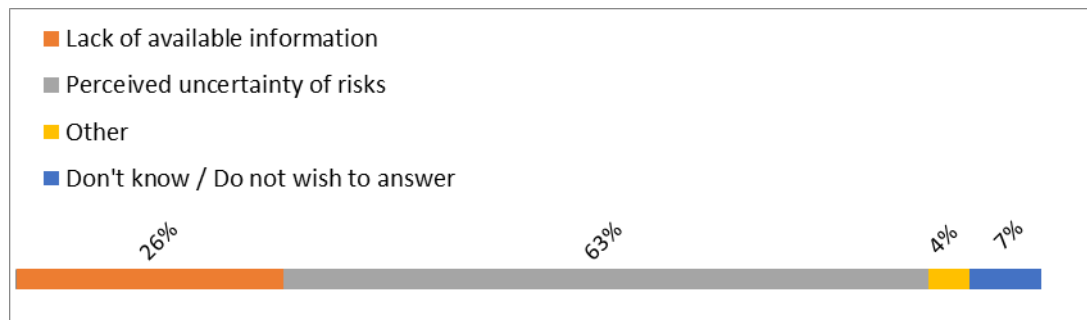
Clear message

Update, clarify and standardize influenza vaccination advice materials for pregnant women.

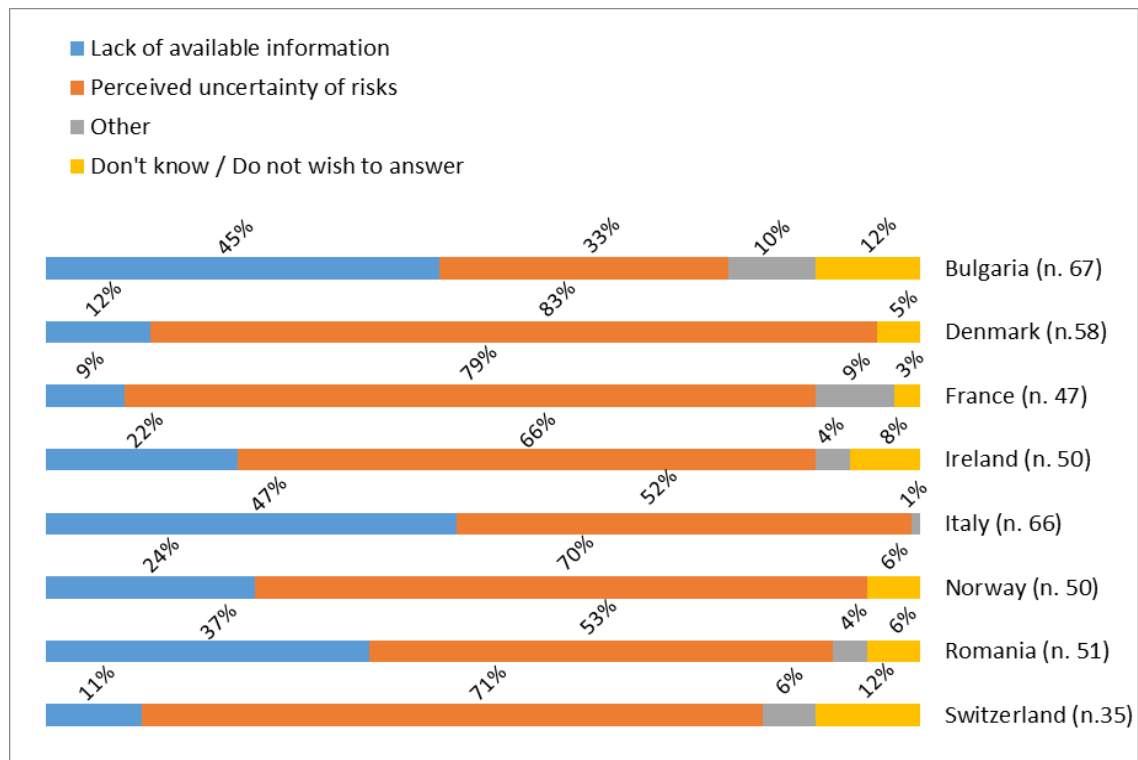
Observations

Perceived uncertainty of risks was overwhelmingly the main opinion of the participants in the voting, as can be seen in the figure below. This shows all the responses from all age groups and genders from the eight participating countries.

Figure 6. What do you think is the main reason that vaccine covers of pregnant women tend to lag behind the general population? n. 424



However, when broken down by country, Bulgaria chose *Lack of available information* as the main reason for the low vaccination, and Italy and Romania had a large number of participants also choosing *Lack of available information*. Figure 7. What do you think is the main reason that vaccine covers of pregnant women tend to lag behind the general population?



Broken down by gender, the results were slightly different, with more men than women choosing the option *Lack of available information*, perhaps inevitably as they might not know much about it as it may be considered a ‘woman’s health’ issue only. Nevertheless, the male respondents, apart from those in Bulgaria and Romania, put *Perceived uncertainty of risks* as the main reason vaccination of pregnant women tends to lag behind that of the general population.

In terms of age difference, the data shows us that all four age cohorts in the eight participating countries also voted for *Perceived uncertainty of risks* as the main reason for poor vaccination rates for pregnant women. Broken down by age and gender, the responses show us that males under 24 years of age were more likely to choose *Perceived uncertainty of risks* than their older counterparts, but this was nevertheless the majority response for all age groups. Among women, the response did not change significantly across the age groups.

Assessments

The Citizen Consultation data shows us that most respondents considered the *Perceived uncertainty of risks* as the main barrier for vaccination uptake among pregnant women. While not a majority, the high number of participants choosing *Lack of available information* as their reply makes it clear that vaccination in pregnancy is still an issue many people feel they do not know enough about to make an informed decision.

The WHO recommends all pregnant women to receive vaccinations during the influenza season, and that they should be given highest priority among all the risk groups (WHO 2012). There is limited research done on vaccine safety in pregnant women, however, studies suggest that the vaccine is safe, and there are no indications that vaccination causes harm (ECDC 2012). In general, vaccination of pregnant women serves to protect both the woman and the fetus (Klein et al 2010). Existing studies on pregnant women who have taken the influenza vaccine show no adverse risks or side effects on the mother, fetus, or the child once it is born – rather, there is a good record of administering the vaccine, particularly in the second and third trimester (WHO 2010).

Despite the strong emphasis from the WHO and national health care authorities on the need for pregnant women to vaccinate against influenza, the message is not reaching the target audience. Existing information and communication efforts have not brought with them the intended effect, and the Citizen Consultation data shows us that the apprehension toward taking any sort of vaccination while pregnant still lingers. Also, a significant minority do not feel that they have access to relevant and appropriate information.

While the Citizen Consultation data results are not statistically representative of the participating countries, it does give insight into barriers and concerns that general populations face. The message received from the respondents is that the idea of pregnant women vaccinating against influenza is met with reticence or lack of knowledge – this insight presented by the data provides us with an opportunity to address these issues through targeted policy initiatives. We wish to suggest the following recommendations:

- Update, clarify and standardize influenza vaccination advice materials for pregnant women
- Health literacy should be considered in the development of all such materials and communication efforts - plain language should be the foundation of all materials and the ability required to understand and process the information

- Educate and promote increased awareness among health professionals of the benefits of vaccination for pregnant women
- Provide clear communication strategies at the EU, national and regional level on pregnancy and vaccination -clear, consistent, unequivocal communication is essential to successfully provide information
- Use more evidence-based research to address the concerns that pregnant women have

Ethics

Recommendation

In an emergency situation, public health interests should infringe upon the individual freedom.

Observations

Mandatory vaccination could help to contain the spread of infectious diseases. Regardless of age and gender, 54% of citizens say that health authorities should make the flu vaccination mandatory in case of epidemics or pandemics. This percentage rose to 68% and 71% in Italy and Romania respectively. In Norway and Ireland, less than 40% of participants would agree to make the flu vaccination compulsory.

The large majority of citizens (85%) think that for health care workers vaccination should be rather compulsory. Note that the answer was uniform when analysing by country, age group or gender. Non-pharmaceutical interventions such as closing public services (i.e. kindergartens, offices and schools) and cancelling large international events such as Olympic game has been reported by 82% and 69% of respondents respectively as efficient measure to contain epidemics or pandemics. France turned to be the more reluctant with regard to such preventive measures.

Figure 1 represents the results of our survey concerning priority setting during epidemics or pandemics. Overall, 64% of participants want the public health authorities to give priority access to vaccines or other medications to health care workers and other professional categories such as firemen, army and police. High risk populations (e.g. people with comorbidities, children, etc.) were reported as the most prioritized group to receive scarce resources by 29% of participating citizens. Only 4% of respondents declare that there should not be discriminatory distribution, meaning first come, first served. The results for Switzerland were different as high-risk group was identified as the most important category for receiving vaccines. In Ireland, 46% of citizen voted for health care workers as primacy group while another 46% reported the high-risk group as the main category to be vaccinated first.

Another ethical consideration during epidemics and pandemics is how to use new drugs and vaccines. Overall, 43% of participating citizens were in the favour of priority fast track trail of the most promising treatments and vaccines. In total, 30% declared that public health authorities should allow patients to receive treatment with experimental drugs while 22% would follow through established guidelines and procedures (Figure 2).

Figure 8. Should public health authorities make flu vaccination mandatory in case of a pandemic or epidemic risk?

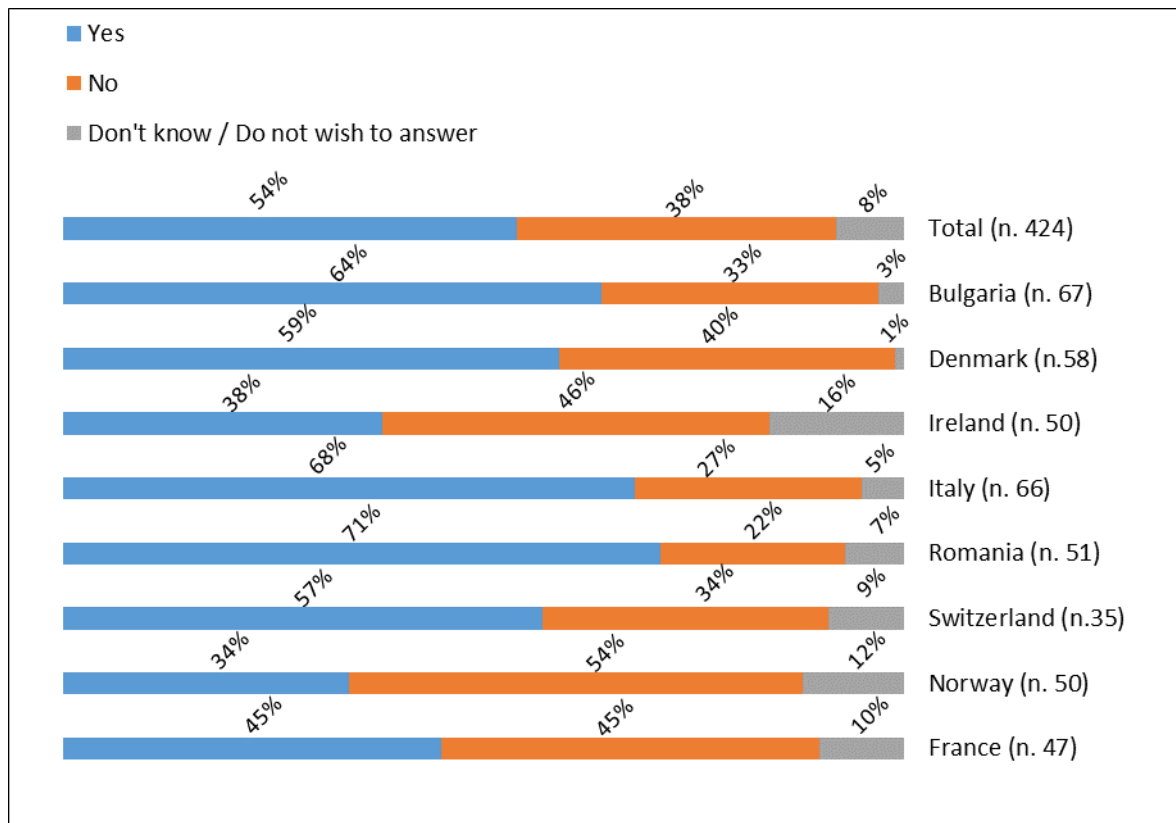


Figure 9. During epidemic outbreaks like the Ebola virus disease, how should public health authorities work with new epidemic drugs and vaccines? n. 425

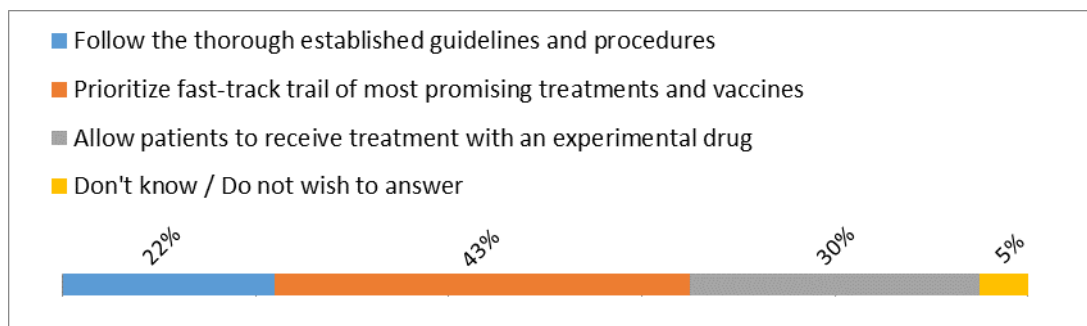
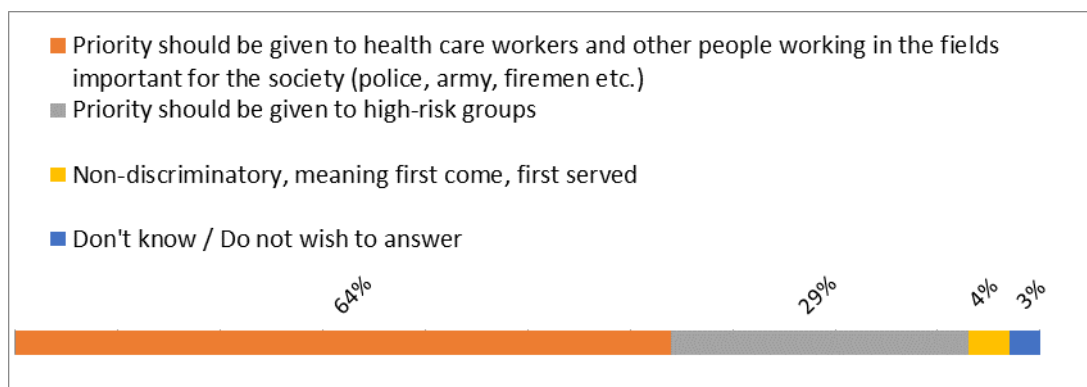


Figure 10. What should be the principle of distribution of scarce resources (e.g. medicine) during an epidemic/pandemic outbreak? n. 424



Assessments

Many ethical questions with respect to fair distribution of vaccines (i.e. equity), priority setting access, personal freedom to get vaccinated or not, and social distancing measures (e.g. isolation, quarantine, border control, etc.) arise in pandemics and epidemics. Moreover, increased health care demands during epidemics or pandemics can exceed the available capacity. Optimizing the use of available therapeutics is therefore a very important step of efficient response. These ethical issues should be properly addressed by public health authorities at national and international levels in planning the response efforts in the event of a pandemic.

Preventing the spread of the disease in the community is the major component of a pandemic management crisis that involves, among other parameters, making decisions related to the target population and infection control measures. At early stages of pandemics, the available resources are often not enough to cover the need of the whole population. In this case, the continuity of essential services such as health care provision, treatments of infected patients and protection of the population are the most important actions to be taken by public health authorities. This requires setting priority to access vaccines to health care workers, police and army at first, followed by other at-risk groups such as children, elderly and individuals with underlying chronic diseases (e.g. diabetes, cancer, immunosuppression, etc.). The results of voting show that the vast majority of participating individuals highly agree on establishing a priority list. Furthermore, the order of priority groups was almost homogenous through participating countries. Indeed, the large majority assigned health care workers, army and police as the first target population for vaccination during epidemics and pandemics.

As far as the mandatory or optional character of vaccination is concerned, communities consider that rendering the vaccine compulsory for these groups is another important factor that could help in keeping the spread of the disease low. The results of voting in Norway and Ireland were not in favor of mandatory vaccination. Further investigations are warranted to better understand this finding.

Enacting of other policies such as social distancing measures can also mitigate the spread of the disease at population level and might be combined with pharmacological interventions. Such preventive measures were largely reported by citizens as an effective infection control measure to be taken into consideration when facing emergency situations.

Finally, it is worth mentioning that the participating citizens voted that public health authorities should work with new epidemic drugs and vaccines by giving priority to fast-track trailing of most promising vaccines and drugs and by allowing patients to receive treatment with experimental drugs.

In summary, legitimate restrictions on personal freedom may occur if, in exercising one's freedom, one places others at risk. The results of our citizen consultation suggest that during epidemics or pandemics, the community is willing to prioritize the public health interest to detriment of individual freedom.

Citizens' Voice

The citizens believe that honesty and transparency can increase the public trust (no matter how bad the situation is), and that it is their right to know and understand the accurate situation.

Observations

- Information and communication is the main theme

The citizens highlighted the need for early, reliable and understandable information and communication from different channels and platforms. Two-way communication and dialogue between the authorities and the citizens has also been embraced and highly recommended, in order to increase the public trust.

- The importance of increasing the public trust through honesty and transparency

Most of the citizens highlighted the importance of increasing the public trust with open communication based on reliable information. Honesty, openness and transparency are fundamental for building trust.

- Objective studies to avoid any conflict of interest

Information from international politicians and other important stakeholders should come from objective studies that are not influenced by the pharmaceutical industry as an example. Some of the citizens have suggested an impartial communication platform to be created and used in case of a crisis.

- Vaccination should be mandatory

Some of the citizens highlighted that the management of vaccinations should be intensified, and that they believe that vaccinations can prevent diseases in spreading. It is important to provide transparent, honest, scientific and accurate information and communication to the citizens regarding the treatments and side effects of vaccinations. Also, vaccinations should be mandatory in time of a crisis, especially for health care workers.

- The use of social media as a communication channel

The citizens have highlighted the need to communicate and make sure that information reaches the entire population (people from different age groups, etc.). In order to do so, they have suggested the use of various communication sources, but primarily social media. Social media can reach out to the world, and clear a lot of the rumours.

- Cross disciplinary collaboration to defeat infectious diseases

The urge for an international and cross disciplinary collaboration in case of an epidemic or pandemic. A couple of citizens stated the need for a collaboration between both national and international health authorities, governments, citizens (through dialogue), doctors and other specialists, to prevent and control infectious diseases.

0-0

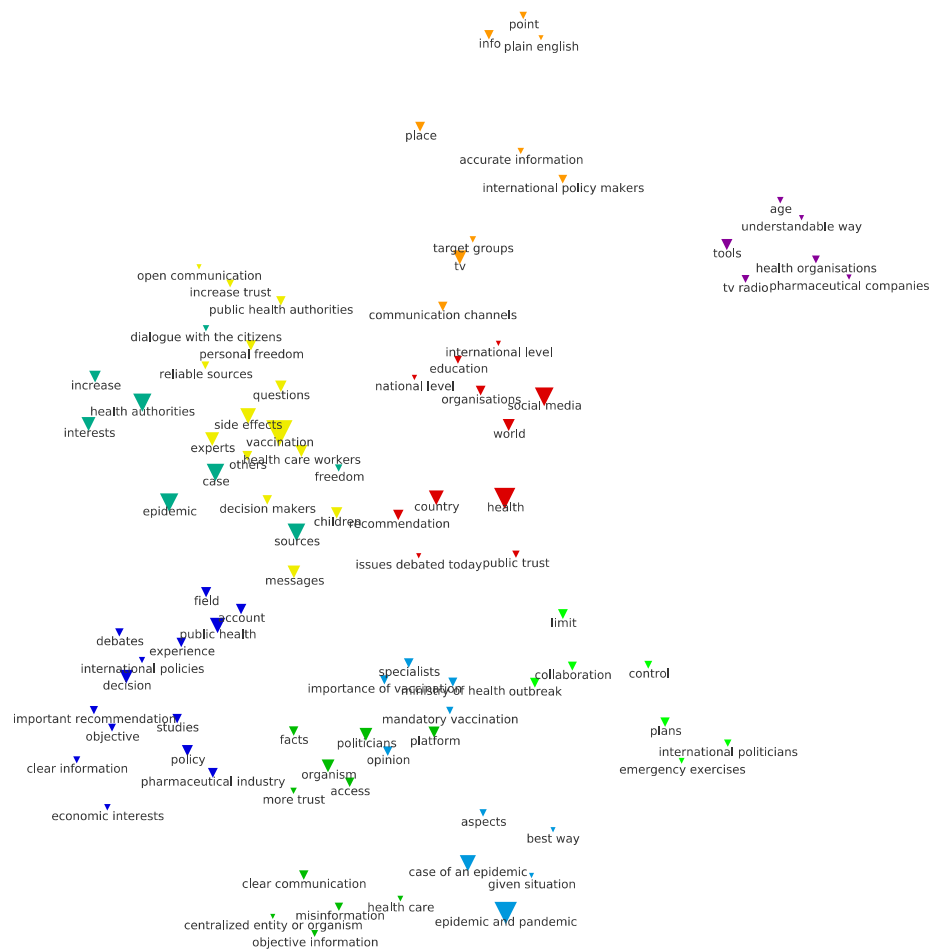


Figure 12: Clustering of citizens keywords

Lessons learned and Citizen Participation

Clear message

Public health authorities should devote more resources to collect citizen's input to policies on epidemic preparedness and response

Observations

More than 8-out-of-10 citizens in Europe want public health authorities to devote more resources to collect worries and input from citizens.

And 91% of the citizens think that global dialogue processes like ASSET should be arranged in the future. There is no significant difference between age-groups, country of origin or gender in this theme.

The citizen consultations on ASSET were much more than a survey, it allowed for information, debate and deliberation time before deciding how to cast the vote. This is expressed by 96% of the citizens agreeing that the briefing materials and videos were balanced and informative, and more than 9-out-of-10 agreed that different and opposing views were presented and discussed at each table.

Figure 13. Should public health authorities devote more resources to collect information (questions, opinions, worries, etc.) from citizens during pandemics threats? n. 425

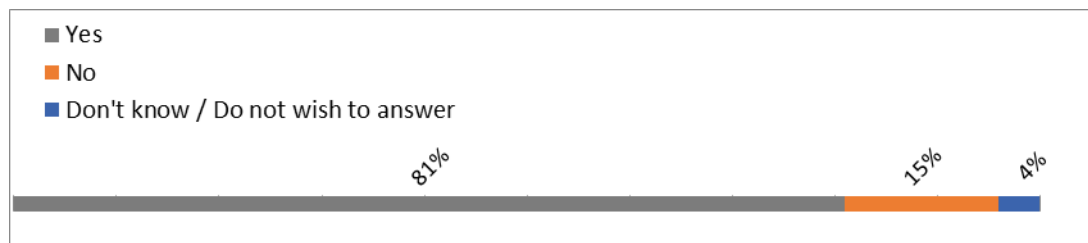
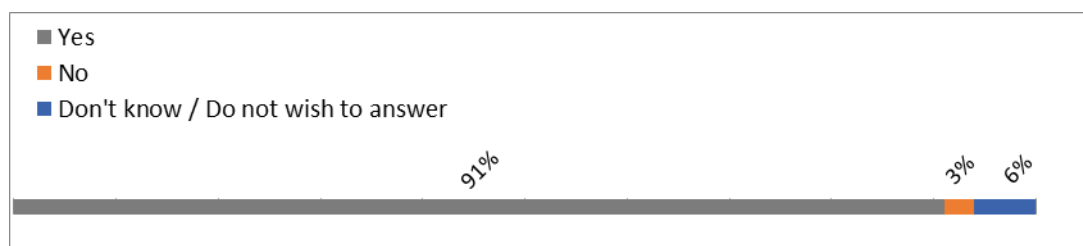


Figure 14. Should dialogue processes like ASSET be arranged in the future work with pandemic and epidemics response and preparedness? n. 424



Assessments

Epidemic preparedness and response has been perceived as a highly technical issue, confined to experts, special interest groups and policy-makers. ASSET has proved this does not need to be so. Citizens want to contribute to policies on epidemic preparedness and response.

The strong support for arranging deliberative processes like the ASSET citizen consultation in the future and the belief

Citizens' voices

"Trust people with the facts. Allow questions and don't be evasive. Admit where there is uncertainty. Get public consultations into the policy processes."

Irish Citizen

that it has a meaningful role to play in the political decision-making process clearly indicates that citizens want to take part in deciding what policies should be put in place to address public health. They want their views to be heard and see themselves as participants in the decision-making process, rather than subjects of decisions made by others. This is consistent with analysis from the final session, where citizens themselves wrote recommendations to national and European policy-makers.

European Results

The percentages given here and on the results page at <http://citizenconsultation.asset-scienceinsociety.eu/en-gb/results> are calculated in the following way: the votes from each country, regardless of the number of participants, are given equal weight when calculating the average percentages in the total. At the online results page, comparisons can be made between different countries, Europe as whole and other categories such as gender and age. The total number of votes is listed for each answering option. In total, there were 425 participants (234 females, 187 males and 4 anonymous).

We have rounded the percentages to the nearest integer, so the percentages may not always add up to 100%. We have published all the data, so everyone can download the results and make a further analysis on their own.

1. Personal freedom and public health safety

Should public health authorities make flu vaccination mandatory in case of a pandemic or epidemic risk?



Should public health authorities make flu vaccination mandatory for health care workers in case of a pandemic or epidemic risk?



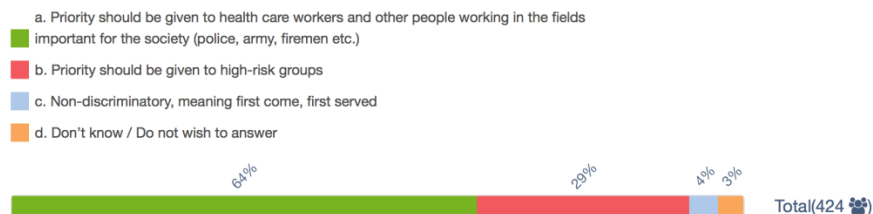
Is it ok to close public services (e.g. kindergartens, offices and schools) during a pandemic/epidemic outbreak?



Should authorities cancel large international events, like the Olympics, during an outbreak of an epidemic or a pandemic?



What should be the principle of distribution of scarce resources (e.g. medicine) during an epidemic/pandemic outbreak?



What do you think is the main reason that vaccine covers of pregnant women tend to lag behind the general population?

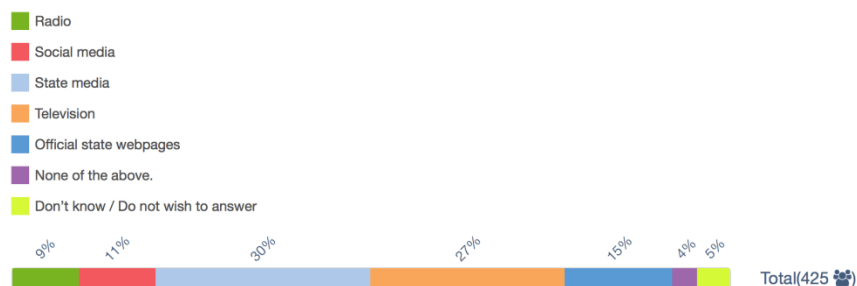


2. Communication between citizens and public health authorities

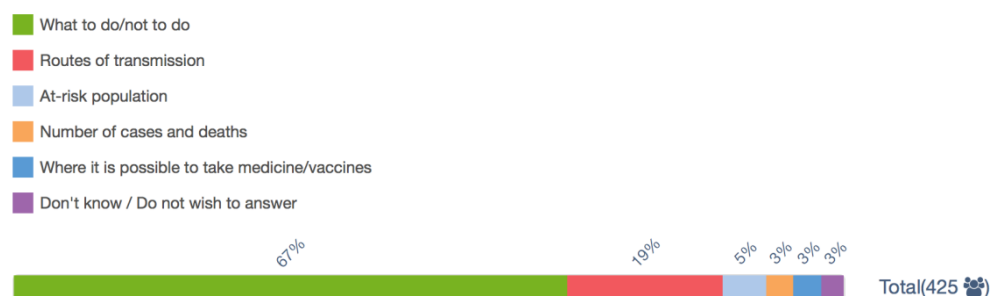
Are you satisfied with the information from public health authorities during epidemic threats like Zika?



During a pandemic or epidemic outbreak, what kind of communication channels would you prefer public authorities to use?



What is the most important information about a pandemic that you need from the public health authorities?



Should public health authorities devote more resources to collect information (questions, opinions, worries, etc.) from citizens during pandemics threats?

Yes

No

Don't know / Do not wish to answer



3. Transparency in public health

During a pandemic outbreak like the 2009-2010 influenza pandemic, are you comfortable with certain information not being publically available for security purposes?

Yes

No

Don't know / Do not wish to answer



Should dialogue processes like ASSET be arranged in the future work with pandemic and epidemics response and preparedness?

Yes

No

Don't know / Do not wish to answer



Do you think that all relationship with vaccine manufacturer should be declared and publicly available?

Yes

No

Don't know / Do not wish to answer



During epidemic outbreaks like the Ebola virus disease, how should public health authorities work with new epidemic drugs and vaccines?

Follow the thorough established guidelines and procedures

Priority fast-track trial of most promising treatments and vaccines

Allow patient to receive treatment with an experimental drug

Don't know / Do not wish to answer



4. Access to knowledge

Do you think scientific studies in the field should be published and promoted if there is a large degree of uncertainty about the results?

Yes

No

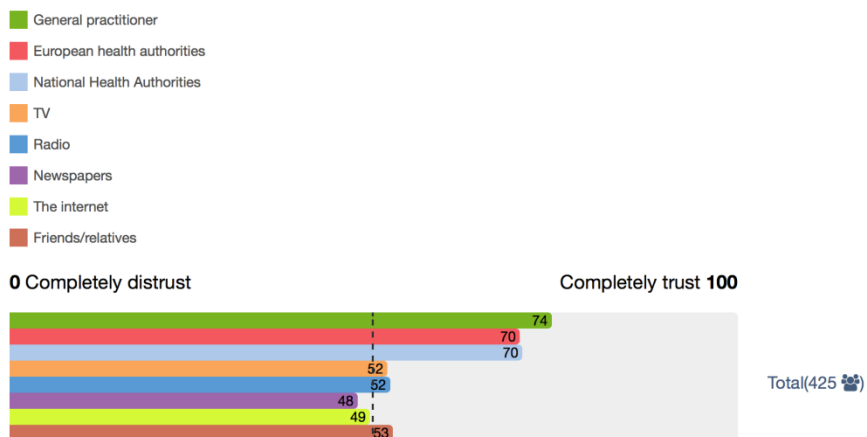
Don't know / Do not wish to answer



When you are ill who do you consult first?



How much do you trust each of the following sources of information regarding the recent Zika epidemic?



What is the best way to provide information in times of pandemics/epidemics?



Evaluation

Were the briefing materials and videos balanced and informative?



Were different and opposing views presented and discussed at your table?

- Yes, very
- Yes
- No
- Not at all
- Don't know / Do not wish to answer



Are you generally satisfied with the organisation of the ASSET Citizen Consultation in your country?

- Yes, very
- Yes
- No
- Not at all
- Don't know / Do not wish to answer



Do you believe that the ASSET results will be used in a meaningful way for political decision making?

- Yes, very
- Yes
- No
- Not at all
- Don't know / Do not wish to answer



Should global dialogue processes like ASSET be arranged in the future on different and/or similar issues?

- Yes, very
- Yes
- No
- Not at all
- Don't know / Do not wish to answer



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Brief Summary

- Trust in information
 - The GPs should be trained to adapt to the changing society, and decision-makers should be urged to be visible and present at the internet, as the use of the internet is increasing
- Risk Communication
 - Build a transparent and clear risk communication to restore trust towards society
- Pregnancy and vaccination
 - Update, clarify and standardize influenza vaccination advice materials for pregnant women
- Ethics
 - In an emergency situation, public health interests should infringe upon the individual freedom
- Citizens' voices
 - The citizens believe that honesty and transparency can increase the public trust (no matter how bad the situation is), and that it is their right to know and understand the accurate situation
- Lessons learned and Citizen Participation
 - Public health authorities should devote more resources to collect citizen's input to policies on epidemic preparedness and response



ASSET

Action plan on Science in Society related issues in Epidemics and Total pandemics



This project has received funding from the European Union's Programme for research, technological development and grant agreement no 612236.

MISCELLANEOUS ARTICLES & ANNOUNCEMENTS

Microbial Ecology

Donato Greco, Epidemiologist

Let's make peace with germs

We know very little from germs: bacteria from less than 300 years with Pasteur and Lister and viruses from just over a hundred years with Ivanowsky; tiny fractions of our thousand-year history.

WE KNOW VERY LITTLE !

- Bacteriology ? : 300 years
- How many we know ? : few thousands !
- Virology ? : 100 years
- How many we know ? : less than a thousand !
- But less than one out of thousand bacteria is known as an human patogen !
- Guess how many of the viruses !

We know that viruses and bacteria are present on this planet from at least three billion years: in fact, in the words of Brison: "the planet is the world of microbes: viruses, bacteria, protozoa, inhabit our globe by at least three billion years, the man from just a few million years; the world of germs and they are the ones that allow us to live".

**Bacteria and virus lived well on
hearth**

**From at least 3 billion years
without us
we are here from 4-5 million
years !**

And

**We cannot survive one minute
withouth them**

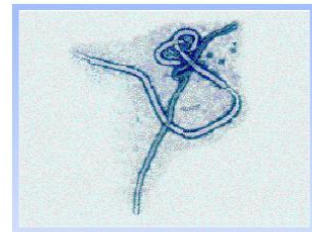
**Hearth is their planet and we
are their hosts.**

In fact, the human body is more than bacterial cells than human cells, not to mention the bazillion viruses we carry safely. On our skin, normally always covered with a thin layer of fat filled dead skin flakes, House more than 100,000 bacteria per square centimeter; in our gut we have over 100 trillion bacteria, thousands of different species of bacteria live in our mouth. In short, we are covered with bacteria and who knows how many different kinds of viruses.

WE ARE MADE OF GERMS !

In human body there are about 10 quadrillions cells
But:

100 quadrillions bacteria
100.000.000.000.000.000.000.000.000



How many quadrillions viruses ?

A large majority of these germs there is vital: many metabolic processes are mediated by bacteria and viruses: the power breathing, without germs there would be no human life.

Even more, with no germs in the world would be a cold stone: the majority of biological and chemical processes, see germs in action: fermentation is cornucopia of vitality, from vegetable to animal world, but even in the mineral world.

In fact, quite understandably, the man discovered the germs which cause of damage, disease: the entire microbiology was born as fight against sickness, as the hope of defending against an invisible enemy; so in these few centuries of Microbiological studies, all human effort was concentrated towards the discovery and the defeat of germs cause diseases in humans and animals.

This has inevitably led to the conception of germs such as infectious, enemies linked to dirt, contamination, infection.

Only few years it began to discover the true microbiological world, the immense vastness and boundless dynamism of these beings, but also their virtuoso work.

Identify viruses, protozoans and bacteria as synonyms of risk is a glaring mistake!!

Molecules traveling

Most of the theories on the birth of life, without affecting religious beliefs, recognize that "living matter" is the nucleic acid (RNA or DNA): essentially a long Helix repeating sequence consisting of only 4 basic amino acids, held together by sulfidrilics bridges.

Everything suggests that few molecules of carbon, hydrogen, oxygen, nitrogen and phosphorus were combined in the ring cycle randomly pentane, the basis of all four amino acids, then this ring has attracted other molecules or groups of molecules differentiating different amino acids; These are interconnected in increasingly long chains to build the propellers of nucleic acids. Mystery of life these propellers: their sequence speaks: precise information, respects the genetic patrimony; not only that, but these propellers, put in proper conditions, are able to reproduce themselves in an infinite process.

A Virus is simply a Helix of nucleic acid in a scoop of mucoproteins (j. Brislaw), supposedly the first "living being", probably, in a primitive form, capable of reproducing even in the absence of cells, evolved millions of years later in the form of mandatory cell parasite that we know today. In short, the Virus, what we believe our "enemy" is nothing more than the first brick of life from which all life descends.

The bacterium is a living structure organized: it has a brain (the core), an endoskeleton, lungs (mitochondria) digestive apparatus, motion organs (pseudo podiums and eyelashes); Magic, delete, reproduce, but also breeds: has many of the elements that characterize a living being: how many millions of years it took because a virus was a bacterium?

Parasites, then, are a further specialization in the world of germs: well beings the largest and most organized of bacteria: similar to small worms with full capacity for independent living.

All enemies???

In three centuries of bacteriology and Virology we identified only a few thousand species of bacteria and a few hundred viral species: substantially some of those pathogens for humans.

We nominated and characterized by identifying some specific protein substances that we often called antigens, often located on the outer surface of bacteria and viruses.

Only a few decades, thanks to molecular biology, we entered the inside and we read their nucleic acid, allowing a unique species and identification of individuals: the amino acid sequence of their nucleic acid and therefore their genetic heritage.

But how many species of bacteria, viruses and parasites are there? an infinite number! just quote an example: influenza viruses.

Know it today 9 influenza viruses, appointed by identifying two proteins of the capsule that encloses the nucleic acid: the neuraminidase (N) and the hemagglutinin (H) two elements that allow the influenza virus's attack on the cell: then we have virus H3N2 (seasonal), H1N1 (including that of the recent pandemic) and other few combinations of H and N. But we know that there are at least 9 types of Emaggluttinin and 14 types of Neuraminidase. their simple combination there would lead

to speculate (9 x 14) 126 different kinds of viruses, more of the nine known; This only to take account of N and H, but how many other types there are?

In addition, flu viruses often mutate: new types emerge and, perhaps, other types disappear! a spiral out of numbers!

Much faster than a computer!

We must remember that the virus reproduction takes place at the expense of the host cell where the virus enters and enters its nucleic acid; with unimaginable speed it starts a process of dismantling this acid and replacement of similar sequences of the same acid: it follows that from one cell out of millions, billions of viruses.

The rapid reproduction of a single virus in a single cell has no equal in biology: billions of operations per second!

The error is the miracle !!!

Jacques Monod Nobel Prize

- Most daughter elics are not completely equal to the mother !!!
- Out of several tens of thousands of basis few are not in the same position than the mother !
- Two identified virus isolated from the same individual show ever some differences !

All accurate? not quite: we isolate from a living organism a virus and we read the exact genetic sequence; by the same individual repeat viral isolation as well as this we read the entire sequence of nucleic acid: it's never the exact reproduction of the first virus; in fact, virologists, when comparing similar viruses for their gene sequences speak of "homology" proportion only a portion (80-90%) of the sequence of the second virus is identical to the first, another small part it isn't: reproduction is "wrong".

But these errors very rarely change the species: in the vast majority of events are irrelevant on that virus.

We have evidence that, even in centuries and millennia, many viruses have remained essentially the same: viropalontology studies tell us that viral genomes sequences identified in mummies of Pharaohs Egyptians 3500 years ago, are not dissimilar to the same virus today. But then why is it wrong?

The error in the genetic reproduction is another essential survival mechanism!

Due to summation of repeated mistakes, viruses and also, though less, bacteria, create the conditions for change their information assets and, therefore, can adapt to new environmental conditions, building solid ecological niches so that ensure the offspring.

Born to the man?

Clear evidence is the infrequent, but existent, skipping the infected species: most human infectious diseases do not arise in the human species, but are adaptations of previous zoonoses, infections of non-human animals.

The bubonic plague is historic emblem: a disease of rats caused by a bacterium, the *Pasteurella Pestis*, transmitted from infected to healthy rat from a flea, who, in making his daily meals of blood assay, blood from the sick rat sucks and digests; Unfortunately, the disease kills the mouse that becomes cold body; the flea is forced to look for another mouse alive and hot, when it stings to his meal, vomits into his sting a little saliva contains an anticoagulant powerful so that the thin tube is not clogged by coagulated blood: his saliva, but contains some Pasteurelle, remnant of the previous meal, and then the flea injects the infection in the new mouse.

When a good portion of the population of mice that environment dies of plague, the flea begins to find increasingly difficult hot bodies: why not, then, jump on the nearest hot body available? the man!

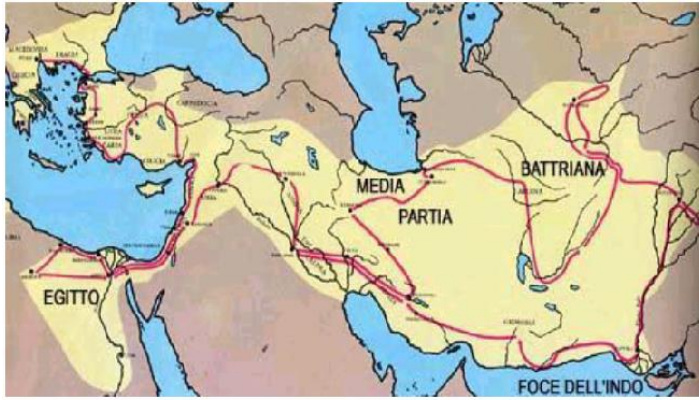
At that point the fleas are adapted to the environment of human bodies and quickly spread the pestilent plague.

A good part of human infectious diseases now have notes of predecessors: salmonella is typical of pigs and poultry, as well as the flu, hepatitis has similar disease in mice, malaria mosquitoes and unintentionally hits these sometimes transmit to humans, the same AIDS have parents in the world of primates, and so on; other infectious diseases found in the environment, rather than in humans, their natural habitat: the case of vibrioni of cholera, but also of the majority of enteric viruses; Finally for a few diseases they see man as only tank and target, including polio and measles.

The Contagion

The beginning of human sees the epic hominids in nomadic groups living wild food gathering and hunting: micro community with a short life expectancy and little chance of infectious exchanges.

When human population stabilization by many dated approximately 14.000 years ago, presumably in the territory of the "half moon" the ancient Mesopotamia, now Iraq, Iran, Afghanistan and Eastern Turkey, has opened the possibility of close contacts between populations, hitherto scattered groups of hunters and gatherers: agriculture and the domestication of certain animals, forming relatively large community settled in villages considerably increases the contact between people and between people and animals.



Some 14.000 years ago, in the «fertile half moon » humans settled down: agriculture and animal domestication started, large communities were created.

Animal and human microbiological environments meet "

Furthermore the stabilization makes most populations exposed to environmental influences and seasonal events.

The gradual depletion of soil fertility occupied pushes to migration to other sites and start the journey of continental epidemics.

The subsequent development of colonization, war, transport, Commerce, contribute to the spread of infections, but also the ultimate humanization of germs until then rarely close to humans.

Epidemics model history

The documentation on major epidemics began about 6,000 years ago in China, has since increasingly rich is a systematic periodic newsreel of major epidemics that catastrophically affect large populations.

Epidemics will become one of the major determinants of social evolution in the history of humanity. More wars and famines and epidemics have an important role to play in reducing demographic development and the positive migration and new settlements of peoples fleeing from germs.

There were horses and rifles of Cortez to defeat the Aztecs. But the virus of measles, smallpox and the tremendous spirochete of syphilis.

The desperate search for the reason of so much suffering caused by epidemics leads straight to the divine: epidemics are divine punishment or result of the whims of heaven.

The Greeks refining these assumptions by defining the theory of "Miasms" that will persist for millennia until the discovery of bacteriology by Lister and Pasteur.

In fact contain epidemics the population explosion: every twenty years decimate populations, with emphasis on children and old especially in poorer classes: a cruel rationalizing that maintains a precarious demographic and social balance.

The Spanish flu of 1918, with its 50 million deaths is the latest demographic talon, epidemics continue in minor tone, but especially not kill as before: the world population explosion erupts.

But how are viruses and bacteria?

Today, thanks to modern epidemiological techniques and Molecular Diagnostics, you are able to interpret the epidemic pattern with remarkable precision, although it has so far failed to contain the disease impact: even today, infectious diseases are the main cause, in the world, morbidity and mortality; in particular it is possible to trace the paths that continually make germs.

Traditionally infectious germs have traveled with the great migration of animals and birds, but also much more slowly, with human migratory flows and warring armies, also aboard ship lenses.

Today you can see how infectious travel speed is continuously accelerating: planes, trains, ships, movements of migrants and refugees, become effective conveyors of germs, almost always carrying infected individuals, but also insects and animals infected vectors.

If the Spanish flu of 1918 took 16 months to cross the Pacific, in 2006 the SARS on a night he traveled from Hong Kong, China in Toronto, Canada with disastrous consequences Rapids.

And the Asian Tiger mosquito, a carrier of Cicunguja and Dengue fever, never seen before in Italy, arrives in Genoa in 2002 in the aqueous residues of a cargo bay ship full of scrap tyres by car coming from Asia; When, six years after an Indian immigrant living in Italy is back for the holidays in his native Kerala, India, endemic country of Cicunguja, returns to his house and find local ready to sting the Asian Tiger mosquito, which in the meantime had invaded Italy.

It follows a large epidemic of cicunguja in Emilia Romagna and Lombardy.

Communication and epidemics

If have caused catastrophic epidemics in the past centuries and morie still cause great damage in poor populations, in the rich world the main damage did not carry germs, but the way in which the risk is communicated.

In past epidemics came and returned in substantial international silence: you came to know, getting things done, major epidemics, often running late to repair to avoid the epidemic emergency in his country. There were powerful amplifiers of today such as radio, telephone and television.

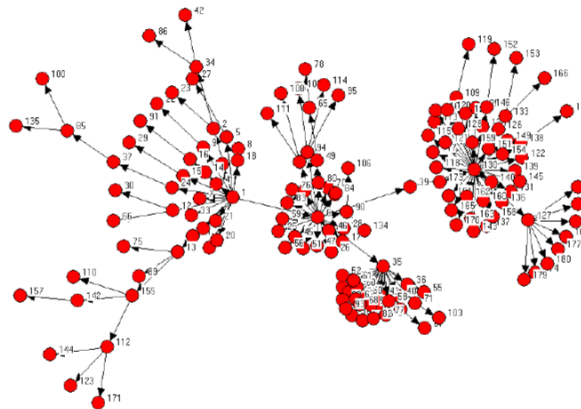
In India even today cholera claimed hundreds of thousands of victims each year, meningitis ravaging Central Africa periodically cutting a swathe through children, dengue fever makes incapacitated million Asians and malaria remains the scourge of all time not only for the dead and sick, but still is one of the main brakes on social development: subjects of little interest to the media : the rich world virtually ignores these tragedies.

Conversely, epidemics in the rich world have a modest impact on morbidity and mortality, but they have a catastrophic impact resulting from the communication modes.

The mad cow disease from the early 2000 seemed the punishment that would have rotted the brains of thousands of Italians; but in fact, in those years the fearsome variant of Jacob Croitzfel, announced in England, did not see even one case in Italy, but hundreds of millions of euros were spent only for petroleum to burn the carcasses of cattle suspected infected.

SARS, a cold Killer, we demonstrated how a single patient infected more than 100 people killed a fourth; in Italy there were four imported cases, but the stop of businesses and manifestations was estimated to cost some hundreds of billions of euros.

Probable cases of severe acute respiratory syndrome, by reported source of infection,* - Singapore, February 25-April 30, 2003



*Case 1 = 1; Case 2 = 6; Case 3 = 35; Case 4 = 130; and Case 5 = 127. Excludes 28 cases with either no or poorly defined direct contacts or who were cases translocated to Singapore with no further secondary transmission. MMWR 2003;52:405

The suspected outbreak of avian influenza H5N5 he slaughtered millions of chickens and poultry market collapse without that he had only one case in Italy.

The same flu pandemic of 2009 had a lower health impact the applicant seasonal influenza epidemic, but we avoided the seasonal epidemic waiting of 2010; compared with an estimate of excess deaths estimated 8000 for the seasonal epidemic, there were less than 500 deaths in our country.

Even the bad food-borne e. Coli in 2011 enterotoxic in Northern Germany, had a tremendous economic impact on the Italian fruit and vegetable market.

So today the epidemics, in the rich world, cause far more harm to the impact of its communication for the pathological consequences.

The modern epidemics, therefore, are mostly media rather than health epidemics.

Nor does it seem that the lessons of previous outbreaks serve a Grand for it promptly: unleash an epidemic in the media that actually has a very great impact on the population and the economy, caring nothing of the systematic and tardive denials of Health Authorities.

Beyond the scientific uncertainties, the inevitable corollary of all epidemic outbreaks, it appears obvious that companies do not have culture and adequate means to communicate the epidemic risk: still working with press releases, press conferences, ministerial circulars, consistently ignoring the modern world of social communication, now far more powerful and effective communication.

The recent influenza pandemic was emblematic: in the face of late and often contradictory institutional communications, have multiplied the web networks; social communication path roads, frequently at odds with the scientific evidence available.

A large area of research and work is to be opened: communicate effectively the risk becomes the principal vaccine against epidemics; direct communication for the individual, real-time becomes one of the pillars of a new age of communication.

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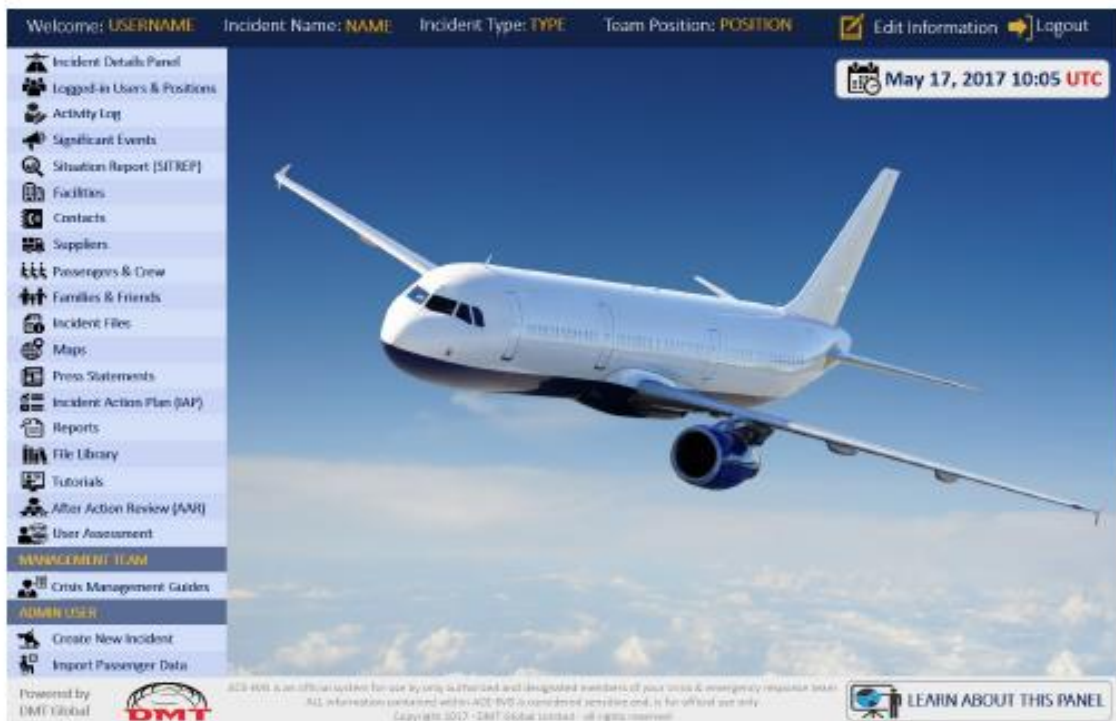
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