Ensuring the security and liberty of society is a complex endeavor which is in particular reflected in the development of security research. A broad, interdisciplinary and system-oriented approach is increasingly considered to be sensible. Therefore and in view of the various vulnerabilities of highly-complex, inter-connected systems, security research is moving away from the traditional paradigm of prevention and protection. Instead, the concept of resilience has been widely established connecting engineering, natural and social sciences as an integral part of sustainable development.

The Future Security Conference offers comprehensive insights into current security research projects and constitutes an indispensable international exchange platform for researchers as well as experts from industry and public authorities. Due to the thematic orientation, the Future Security Conference directly relates to both the current German federal research program for civil security and Horizon 2020, the new European research framework program.

VENUE

Permanent Representation of North Rhine-Westphalia to the Federal Republic of Germany
Hiroshimastrasse 12-16
10785 Berlin-Tiergarten, Germany
Phone +49 30 27575-0

Security research is primarily research for the benefit of society. Security research is dealing with vulnerabilities and risks – man-made terrorist attacks, natural hazards, crime or accidents – to society, especially in urban environment, and its critical infrastructures like transport, energy, food supply, information technologies, etc. Therefore, security research is working on methods or technologies to analyze, minimize or even prevent the risks, to improve the crisis management, and to increase the resilience of infrastructures and society. In doing so, ensuring privacy and freedom is essential.

The institutes of Fraunhofer Group for Defense and Security VVS organize the annual Future Security Conference since 2006, 2014 is the 9th installment. This year, the Future Security Conference is organized by the Fraunhofer Institute for High-Speed Dynamics, Ernst-Mach-Institut, EMI in Freiburg.

The Future Security Research Conference has been established as an important platform for the exchange and discussion of security’s future research needs. Here, scientific researchers meet up with practitioners and suppliers for security issues from public authorities and industry.

Thus, we are proud to welcome renowned experts in the field of security and security research from Europe as well as from the United States as our guests.

Many thanks go to the Permanent Representation of North Rhine-Westphalia in Berlin, which hosts the conference for the third time now. Furthermore, I would like to thank the Program Committee, who peer-reviewed all 134 submitted papers. Thank you to all of you who are attending this conference and contributing to its success.

I am looking forward to a successful and inspiring conference – with new ideas on how to increase society’s resilience.

Klaus Thoma
Chairman of the Future Security 2014
PROGRAM COMMITTEE

- Prof. Dr. Oliver Ambacher, Fraunhofer IAF
- Prof. Dr. Bernd Appel, Federal Institute for Risk Assessment BfR, Germany
- Dr. Marcel van Berlo, TNO – innovation for life
- Prof. Dr. Jürgen Beyerer, Fraunhofer IOSB
- Andrea Bräuning, Robert Bosch GmbH
- Albrecht Broemme, Federal Agency for Technical Relief THW, Germany
- Dr. Oliver Melzer, German European Security Association e.V. GESA/Ammer Partners GmbH
- MinR Gerhard Coors, Federal Ministry for Defence BMVg, Germany
- Dr. Aimo Bülte, Airbus Defence and Space
- Laurent Dubost, Thales
- Prof. Dr. Peter Elsner, Fraunhofer ICT
- Prof. Dr. Joachim Ender, Fraunhofer FHR
- Dr. E. Anders Eriksson, FOI – Swedish Defence Research Agency
- Prof. Dr. Steve Flynn, Northeastern University NEU, Boston, United States of America
- Achim Friedl, Federal Ministry of the Interior BMI, Germany
- Antonio Maria Gonzalez Gorostiza, Indra
- Prof. Dr. Hans-Joachim Grallert, Fraunhofer HHI
- Prof. Dr. Albert Heuberger, Fraunhofer IIS
- Dr. Ivo Häring, Fraunhofer EMI
- Andreas Könen, Federal Office for Information Security BSI, Germany
- Dr. Horst Krause, Fraunhofer ICT
- Prof. Dr. Dr. Michael Lauster, Fraunhofer INT
- Dr. Tobias Leismann, Fraunhofer EMI
- Tijen-Khoen Liem, European Commission – DG ENTR
- Peter Löffler, Siemens Building Technologies
- Prof. Dr. Yiannos Manoli, Albert-Ludwigs-Universität Freiburg
- Prof. Dr. Peter Martini, Fraunhofer FKIE
- Sadhbh McCarthy, Centre for Irish and European Security CIES
Dr. Karsten Michael, Federal Office of Civil Protection and Disaster Assistance BBK, Germany
Prof. Dr. Markus Nöldgen, Cologne University of Applied Science
Prof. Dr. Ralf Poscher, Albert-Ludwigs-Universität Freiburg
Dr. Luigi Rebuffi, European Organisation for Security EOS
Prof. Dr. Leonhard Michael Reindl, Albert-Ludwigs-Universität Freiburg
Dr. Hermann Ries, Smiths Detection
Dr. Sandra Scheermesser, Ministry for Innovation, Science and Research of North Rhine-Westphalia, MIWF, Germany
Gunther Schwarz, BDSV e.V./Cassian
Brigitte Serreault, Airbus Defence and Space
Dr. Francoise Simonet, Commissariat à l’Énergie Atomique CEA
Prof. Dr. Klaus Thoma, Fraunhofer EMI/VVS
Prof. Dr. Markus Ullmann, Federal Office for Information Security BSI, Germany
Juliane Ulbricht, Federation of German Security & Defence Industries BDSV e.V.
MinR Norbert Weber, Federal Ministry of Defence BMVg, Germany
Prof. Dr. Marion Weissenberger-Eibl, Fraunhofer ISI
Dr. Karin Wey, VDI Technologiezentrum GmbH
Prof. Dr. Enrico Zio, Politecnico di Milano, Italy
## TIMETABLE

### TUESDAY, SEPTEMBER 16, 2014

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<thead>
<tr>
<th>Time</th>
<th>Room</th>
<th>Europasaal</th>
<th>Saal Düsseldorf</th>
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<td><strong>Welcome and Opening</strong></td>
<td>Klaus Thoma, Fraunhofer EMI/VVS; Beate Wieland, Ministry for Innovation, Science and Research North Rhine-Westphalia, MIWF; Thomas Rachel, Federal Ministry of Education and Research, BMBF</td>
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<td><strong>Keynote I</strong></td>
<td>Resilience – Success Through Partnerships</td>
<td>Richard A. Serino, Deputy Administrator FEMA (ret.)</td>
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<td>11:15 – 12:30</td>
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<td><strong>Panel I</strong></td>
<td>Industry Perspective on Security Research</td>
<td>Michael Lauster, Fraunhofer INT; G. Schlechtriem, Bosch; R. Reinema, Siemens AG; P. Francis, Airbus D&amp;S Cyber Company; H. Geiser, Securiton; K. Thoma, Fraunhofer EMI/VVS; I. Haisma, The Hague Security Delta</td>
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<td>Networking Lunch</td>
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<td><strong>Urban Security</strong></td>
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<td><strong>Food Chain Security</strong></td>
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<td><strong>Video Surveillance, Sensors and Data Analysis</strong></td>
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<td>Poster Session 1</td>
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<td><strong>Urban Infrastructures</strong></td>
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<td><strong>Human and Systems Modeling, Analysis and Integration</strong></td>
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<td><strong>Surveillance, Sensors, Data Fusion and Analysis</strong></td>
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<td><strong>Welcome Reception</strong></td>
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### Wednesday, September 17, 2014

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<td>09:00 – 09:30</td>
<td>Keynote II</td>
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<td>Critical Infrastructure Resilience: A 21st Century Imperative</td>
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<td>Caitlin A. Durkovich, U.S. Department of Homeland Security</td>
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<td>09:30 – 11:00</td>
<td>Panel II</td>
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<td>U.S. Perspectives on Resilience</td>
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<td>Lauren Alexander Augustine, The National Research Council</td>
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<td>E. Eide, The National Academies</td>
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<td>11:00 – 11:15</td>
<td>Coffee Break</td>
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<td>11:15 – 12:45</td>
<td>Resilience</td>
<td>Detection Technologies 1</td>
<td>Public Transport Security (RiKOV)</td>
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<td>12:45 – 13:45</td>
<td>Networking Lunch</td>
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<td>Poster Session 2</td>
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<td>16:00 – 17:30</td>
<td>Crisis Management 2</td>
<td>Directed Energy Research</td>
<td>IT Security Monitoring</td>
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<td>17:30 – 18:30</td>
<td>Free Time</td>
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<td>18:30 – 23:00</td>
<td>Conference Dinner at Technical Museum</td>
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<td>08:30 – 10:00</td>
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<td><strong>Panel III</strong></td>
<td>From Research to Products: The 5 Demonstration Programs of FP7</td>
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<td>Tijen-Khoen Liem, European Commission – DG ENTR</td>
<td>M. Martínez-García, Spanish NCP</td>
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<td>PERSEUS – A. Gonzalez Gorostiza, INDRA</td>
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<td>EDEN – C. Goodchild, BAE Systems</td>
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<td>SECUR-ED – I. Perreal, Thales</td>
<td>DRIVER – M. Missoweit, Fraunhofer INT</td>
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<td>10:00 – 10:45</td>
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<td>Coffee Break and Best Poster Award</td>
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<td>10:45 – 12:45</td>
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<td><strong>Future Research Needs</strong></td>
<td><strong>IT Security</strong></td>
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<td>12:45 – 13:30</td>
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<td>Lunch</td>
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<td>13:30 – 14:30</td>
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<td><strong>Panel IV</strong></td>
<td>Future Security &amp; Defence Research in Europe</td>
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<td>14:30 – 15:00</td>
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<td><strong>Closing Remarks</strong></td>
<td>Klaus Thoma, Fraunhofer EMI/VVS</td>
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<td>15:00</td>
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<td><strong>End of Conference</strong></td>
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Klaus Thoma was born in Munich in 1949. He got his degree and Ph.D. in Physics from the Technical University of Munich.

His professional career started in aerospace industry, where he worked in leading positions at MBB (Messerschmitt-Bölkow-Blohm, now Airbus). For 10 years he led a small engineering company as CEO and co-owner, working under contracts from the German MOD and car industry.

In 1994 he became professor at the Universität der Bundeswehr in Munich. Since 1996 he holds the position of a director at the Fraunhofer society, where he heads the Ernst-Mach-Institut. Since 2002 he is the chairman of the Fraunhofer Group for Defense and Security and member of the presidential board of the Fraunhofer Society. In 2007 he received the “Bundesverdienstkreuz”. Since 2010 he is an elected member of the German National Academy of Engineering. He works in several boards as a consultant for German ministries. Defense and security research, materials science and numerical modelling are areas of his expertise.
Dr. Beate Wieland  
**Director General „Research and Technology”, Ministry of Innovation, Science and Research of the State of North Rhine-Westphalia**

Beate Wieland, born in 1959, studied Social Sciences at Mannheim University and received her Ph.D. in 1991. Her professional experience originates from different positions in the Management of Higher Education and Research Organizations (e.g. Centre for European Economic Research/ Mannheim, Kiel University, Paderborn University).

In 2005 she joined the Ministry of Intergenerational Affairs, Family, Women and Integration of the State of North Rhine-Westphalia as Director General “Generations and Family”. Previously, she headed the Directorate General “Task Management, Portfolio Coordination, Internal Management and Services” at the Ministry of Traffic, Energy and Structural Development of the State of North Rhine-Westphalia.

Since 2007 Beate Wieland has been Director General “Research and Technology” at Ministry of Innovation, Science and Research of the State of North Rhine-Westphalia.
Thomas Rachel (MdB)
Parliamentary State Secretary at the Federal Ministry of Education and Research, BMBF

Thomas Rachel was born in Düren (North Rhine-Westphalia) in 1962, is Protestant, married and has one daughter.

Political Work
since 2012 Chairman of the CDU’s Düren district branch
since 2011 Chairman of the CDU Aachen district association
since Nov 2005 Parliamentary State Secretary at the Federal Ministry of Education and Research
since 2003 Federal Chairman of the CDU/CSU Protestant Working Group
1998–2005 Spokesman on Education and Research Policy of the CDU/CSU Parliamentary Group
since 1994 Member of the German Bundestag, Düren constituency Education and Career
1992–2004 Member of staff at the Steel Trade Association, Düsseldorf
1992 Magister Artium (M.A.) in Political Science, History and Public Law at Rheinische Friedrich-Wilhelms-Universität Bonn
10:45 – EUROPASAAL
11:15 KEYNOTE I

RESILIENCE – SUCCESS THROUGH PARTNERSHIPS

Richard A. Serino
Deputy Administrator FEMA (ret.)

The Honorable Richard Serino has spent more than forty years in public service. During this time he provided extensive leadership on emergency management, emergency medical and homeland security at local, state, federal and international levels. Currently, he is a Distinguished Visiting Fellow at Harvard – School of Public Health, National Preparedness Leadership Initiative.

Mr. Serino was appointed by President Obama and confirmed by the Senate as the Federal Emergency Management Agency’s 8th Deputy Administrator in October 2009 and served until 2014. Prior to this, he spent 36 years at Boston EMS and served as the Assistant Director of the Boston Public Health Commission.

He responded to over 60 national disasters while at FEMA and during Super Strom Sandy, he was the lead federal area commander for New York and New Jersey. Mr. Serino briefed the President of the United States on a number of disasters and traveled with Vice President Biden to a number of affected communities to survey the destruction.
11:15 – EUROPASAAL
12:30 PANEL I
INDUSTRY PERSPECTIVE ON SECURITY RESEARCH

Moderator: Michael Lauster, Fraunhofer INT

Gregor Schlechtriem
Director Sales and Execution, Bosch Security Systems

Rolf Reinema
Head of IT-Security Cooperate Technology, Siemens AG

Paddy Francis
CTO, Airbus D&S Cyber Company

Horst Geiser
Director, Securiton

Klaus Thoma
Chairman, Fraunhofer VVS

Ida Haisma
The Hague Security Delta
EUROPASAAL

14:00 – 15:30

URBAN SECURITY

Session chairs: Andrea Bräuning (Robert Bosch GmbH, Germany)/Alexander Stolz (Fraunhofer EMI, Germany)

The Drive for Holistic Urban Resilience
Stephen M. Purcell (Future Analytics Consulting, Ireland), et al.

Quantifying Urban Risk and Vulnerability – A Toolsuite of New Methods for Planners
Werner Riedel (Fraunhofer EMI, Germany)

A Web Application for Urban Security Enhancement
Ivo Häring (Fraunhofer EMI, Germany), et al.

Physical Protection of Critical Infrastructure in Urban Environment
Maik Fröchtenicht (Wehrtechnische Dienststelle für Schutz- und Sondertechnik, Germany)
14:00 – 15:30

SAAL DÜSSELDORF

FOOD CHAIN SECURITY

Session chairs: Bernd Appel (Federal Institute for Risk Assessment, Germany)/Bärbel Niederwöhrmeier (Bundeswehr Research Institute for Protective Technologies and NBC-Protection, Germany)

Food Crisis Scenario Simulations Improving Food Safety and Security
Alexander Falenski (Federal Institute for Risk Assessment, Germany), et al.

Resilience of the German Food Chain
Jan Seitz (University of Applied Sciences Wildau, Germany), et al.

Disruptions of Food Supply Chains: A Spatial Vulnerability Assessment Approach for Disaster Management
Thomas Münzberg (Karlsruhe Institute of Technology (KIT), Germany), et al.

Checklist for the Identification of Vulnerabilities for the Intentional Contamination of the Food Chain
Anja Buschulte (Federal Institute for Risk Assessment, Germany), et al.
14:00 – 15:30

**SAAL RHEINLAND**

**VIDEO SURVEILLANCE, SENSORS AND DATA ANALYSIS**

Session chairs: Peter Löffler (Siemens Building Technologies, Germany)/ Jürgen Beyerer (Fraunhofer IOSB, Germany)

*Air-Bound Measurements of Radioactive Material with Swarm-behaved UAVs – the ANCHORS Project*

Sebastian Chmel (Fraunhofer INT, Germany), et al.

*A Roadmap for Developing Acceptable Surveillance-Based Security Measures*

Sara Degli Esposti (The Open University, United Kingdom)

*An Advanced Airborne Hyperspectral Remote Sensing System for Infrastructure Monitoring and Disaster Control*

Wilfried Wetjen (OHB-System AG, Germany), et al.

*Privacy-Aware Smart Video Surveillance Revisited*

Yvonne Fischer (Fraunhofer IOSB, Germany), et al.
15:30 – ATRIUM
16:15 POSTER SESSION 1
16:15 – EUROPASAAL
17:45 URBAN INFRASTRUCTURES

Session chairs: Markus Nöldgen (Cologne University of Applied Sciences, Germany)/Tobias Leismann (Fraunhofer EMI, Germany)

A Holistic Protection Portfolio for Urban Infrastructure
Christoph Roller (Fraunhofer EMI, Germany), et al.

Modeling and Simulation of a Resilient Dynamic Protection System to Protect Critical Infrastructures
Rüdiger Klein (Fraunhofer IAIS, Germany), et al.

STEUERUNG: Advanced Information Security for Critical Infrastructures
Christian Horn (Technische Universität Berlin, Germany), et al.

Integration of Resilience Engineering in the Transdisciplinary Building Design Process
Markus Nöldgen (Cologne University of Applied Sciences – CUAS, Germany), et al.
16:15 – 17:45
SAAL DÜSSELDORF
HUMAN AND SYSTEMS MODELING, ANALYSIS AND INTEGRATION

Session chairs: Christopher Schlick (Fraunhofer FKIE, Germany)/Frank Flemisch (Fraunhofer FKIE, Germany)

An Innovative Approach for Tool-Based Field Exercise-Support to Gain Improved Preparedness in Emergency Response
Holger Bracker (Airbus Defence and Space, Germany), et al.

From Human Factors to HSI and Beyond: Design of Operational Centers and Control Rooms
Adelbert Bronkhorst (TNO, The Netherlands)

Architecture for and Evaluation of Situational Analysis in the Real World
David Münch (Fraunhofer IOSB, Germany), et al.

Ergonomics and Human Systems Integration for a Dynamic Balance of Security with Other System Qualities: Sketch of the Challenge and Solution Space
Frank Flemisch (Fraunhofer FKIE, Germany), et al.
16:15 – SAAL RHEINLAND
17:45 SURVEILLANCE, SENSORS, DATA FUSION AND ANALYSIS

Session chairs: Aimo Bülte (Airbus Defence and Space, Germany)/ Oliver Ambacher (Fraunhofer IAF, Germany)

Sensors for UXO Detection in the Sediment
David Rose (WTD 71, Germany), et al.

Dynamic and Automatic Configuration of Distributed Heterogeneous Surveillance Systems
Igor Tchouchenko, Florian Segor (Fraunhofer IOSB, Germany), et al.

Exact Methods for Distributed Data Fusion – A Practitioner’s Perspective
Wolfgang Koch (Fraunhofer FKIE, Germany)

EMPHASIS – Challenges in Data Management and Data Fusion for Locating Illegal Bomb Factories
Antoine van der Heijden (TNO, The Netherlands), et al.

18:00 – ATRIUM
21:00 WELCOME RECEPTION
09:00 – EUROPASAAL
09:30  KEYNOTE II

CRITICAL INFRASTRUCTURE RESILIENCE: A 21ST CENTURY IMPERATIVE

Caitlin A. Durkovich
Assistant Secretary for Infrastructure Protection
National Protection and Programs Directorate
U.S. Department of Homeland Security

Caitlin A. Durkovich is the Assistant Secretary for Infrastructure Protection at the U.S. Department of Homeland Security, where she leads efforts to advance the security and resilience of critical infrastructure across the nation. Appointed to her position in May 2012 by President Obama, Ms. Durkovich brings more than 17 years of homeland security-related expertise covering a wide range of activities including continuity of operations and business continuity, cybersecurity, pandemic planning, security and policy standards development, strategic management, leadership, institutional transformation, and communications.
09:30 – EUROPASAAL
11:00 PANEL II
U.S. PERSPECTIVES ON RESILIENCE

Moderator: Lauren Alexander Augustine,
Director, Program on Risk, Resilience, and Extreme Events, and
Associate Executive Director, Division on Earth and Life Studies,
The National Research Council

Richard A. Serino
Deputy Administrator, FEMA (ret.)

Caitlin A. Durkovich
Assistant Secretary, U.S. Department of Homeland Security – DHS

Lauren Alexander Augustine
Director, Program on Risk, Resilience, and Extreme Events, and
Associate Executive Director, Division on Earth and Life Studies,
The National Research Council

Elizabeth Eide
Co-Director, Extreme Events Program, The National Academies
11:15 – EUROPASAAL
12:45 RESILIENCE

Session chair: Klaus Thoma (Fraunhofer EMI, Germany)

How to Implement Resilience – Some Recommendations
Benjamin Scharte (Fraunhofer EMI, Germany), et al.

The COBACORE Project – a Community-Based Approach to Disaster Recovery
Martijn Neef (TNO, The Netherlands)

Resilience – Doing Well Despite of Adversity
Christine (Tine) Adler, MAS (Ludwig-Maximilians-Universität München (LMU), Germany)

Assessing Societal Impacts of Security Research: Tools and Methodologies for European Security Research
Matthias Mueth (Hamburg-Consult, Germany)
11:15 – 12:45

**SAAL DÜSSELDORF**

**DETECTION TECHNOLOGIES 1**

Session chairs: Hermann Ries (Smiths Detection, Germany)/Horst Krause (Fraunhofer ICT, Germany)

**3D-Forensics – Mobile High-Resolution 3D-Scanner and 3D Data Analysis for Forensic Evidence**
Stephen Crabbe (Crabbe Consulting Ltd, Germany), et al.

**Progress Towards Detection of Explosive Vapors by Mass Spectrometry**
Gonzalo Fernandez de la Mora (SEDET, Spain)

**Few-View X-Ray 3D Tomography for Security Applications with the Example of Sea Freight Containers**
Victoria Heusinger (Fraunhofer EMI, Germany), et al.

**Trace Detection of Explosive Substances in Hyperspectral Imagery**
Jan Jarvis (Fraunhofer IAF, Germany), et al.
11:15 – 12:45
SAAL RHEINLAND
PUBLIC TRANSPORT SECURITY (RIKOV)

Session chair: Stefan Pickl (Universität der Bundeswehr München, Germany)

Assessing the Vulnerability of Dynamical Systems in Public Transportation
Silja Meyer-Nieberg (Universität der Bundeswehr München, Germany), et al.

Optimizing Security vis-à-vis Terrorist Attacks: an Application for Public Rail Transport Systems
Marcus Wiens (Karlsruhe Institute of Technology (KIT), Germany), et al.

A Decision Support Approach: Evaluating the Effectiveness of Security Measures by Scenario-Based Multi-Criteria Analysis
Wolfgang Raskob (Karlsruhe Institute of Technology (KIT), Germany), et al.

Vulnerability Analysis of Critical Infrastructure such as Public Transportation for Terrorist Attacks
Florian Brauner (Cologne University of Applied Sciences, Germany)
13:45 – EUROPASAAL

15:30 CRISIS MANAGEMENT 1

Session chairs: Leonhard Reindl (Albert-Ludwigs-University Freiburg, Germany)/Marcel van Berlo (TNO, The Netherlands)

Crisis and Disaster Management as a Network-Activity – Do we have to Extend the Term “vernetzte Sicherheit“ in German Speaking Countries?
Christian Flachberger (Frequentis AG, Austria), et al.

Crisis Management in the U.S.: Examples of Policies, Practices, and the Role of Disaster Resilience
Elizabeth Eide (The National Academies, USA)

More Safety for Football Events: Improving the Communication of Stakeholders and the Dialogue with Fans
Jürgen Moßgraber (Fraunhofer IOSB, Germany)/ Thomas Kubera (German Police University)

Interoperability as a Daily Challenge: Enhancing Operational Data Exchange between Rescue Organisations
Stefano Marsella/Marcello Marzoli (Ministry of Internal Affairs – National Fire Corps, Italy), et al.
SAAL DÜSSELDORF

DETECTION TECHNOLOGIES 2

13:45 – 15:30

Session chairs: Achim Friedl (Federal Ministry of the Interior, Germany)/Silke Römer (Fraunhofer INT, Germany)

Ethical Concerns Regarding Advanced Screening Systems
Marc Andree Weber (Freiburg University, Germany)

An Active Personal Screening Method at 360 GHz, Based on an FMCW-MIMO Approach – a TeraSCREEN Subsystem
Sandra Nowok (Fraunhofer FHR, Germany), et al.

Automatic Standoff Detection of Threats in Crowded Areas
Andrey Kuznetsov (APSTEC Systems, Estonia)

Stand-off Detection of Chemical and Biological Substances using Laser Induced Fluorescence (LIF) Technique
Thomas Fischbach (German Aerospace Center (DLR), Germany), et al.

Recent Improvements within the Testing and Certification Process of Explosive Detection Systems as Basis of a Harmonized European Test Regime
Dirk Roeseling (Fraunhofer ICT, Germany), et al.
SAAL RHEINLAND

GLOBAL TRANSPORT SECURITY

Session chair: Ivo Häring (Fraunhofer EMI, Germany)

Big Data in Aviation Supply Chain Security
Carsten Böhle (University of Münster, Germany), et al.

Vessel Route Prediction for Maritime Surveillance
Giulia Battistello (Fraunhofer FKIE, Germany), et al.

A Guide to Preparing and Executing an Effective Port Security Exercise
Anastasia Wagner (Fraunhofer FKIE, Germany)

Results of European Research Projects Increasing Public Security
Thomas Streil (SARAD GmbH, Germany), et al.

Training in Maritime Security – a Game Based Learning Approach
Rainer Müller (Institute of Shipping Economics and Logistics, Germany), et al.
15:30 – ATRIUM
16:00 POSTER SESSION 2

16:00 – EUROPASAAL
17:30 CRISIS MANAGEMENT 2

Session chair: Michael Lauster (Fraunhofer INT, Germany)

Development of a Microscopic Pedestrian Evacuation Simulation Taking into Account Behaviour and Perception Aspects
Georg Mayer (PTV Group, Germany), et al.

A Holistic, Scenario-Independent, Situation-Awareness and Guidance System for Sustaining the Active Evacuation Route for Large Crowds
Pedro Garibi Pérez (Indra, Spain)

Toolbox Concept for Improvement of European Preparedness and Resilience against CBRN Attacks
Svenja Stöven (Umeå University, Sweden) et al.

System Requirements for DESTRIERO: A Decision Support Tool for Reconstruction and Recovery in Case of Complex Crises Situations
Krzysztof Samp (ITTI, Poland)
16:00 – 17:30

**SAAL DÜSSELDORF**

**DIRECTED ENERGY RESEARCH**

Session chair: Michael Suhrke (Fraunhofer INT, Germany)

*Autonomous Software HPEM-Attack Detector Considering the Internal Resources of a COTS Computer*

Chaouki Kasmi (French Network and Information Security Agency – ANSSI, France), et al.

*Vulnerability of Personal Radiation Meters to Intentional Electromagnetic Interference (IEMI)*

Thorsten Pusch (Fraunhofer INT, Germany), et al.

*Investigation of the Impact of Various IEMI Sources to Electronic Passport Readers*

Alexander Preinerstorfer (AIT Austrian Institute of Technology, Austria), et al.

*Neutralization of Explosive Devices with High Power Lasers*

Jens Osterholz (Fraunhofer EMI, Germany), et al.
16:00 – 17:30  
SAAL RHEINLAND
IT SECURITY MONITORING

Session chairs: Antonio Gonzalez Gorostiza (INDRA)/  
Michael Meier (Fraunhofer FKIE/ University Bonn, Germany)

Policy Driven Pseudonymization  
Arnold Sykosch (Fraunhofer FKIE, Germany), et al.

Use of Generic Security Event Data for Specific Threat Monitoring  
Till Elsner (University Bonn, Germany), et al.

Collaborative Security Monitoring based on the MonIKA Framework for Privacy-Preserving Information Sharing  
Nils Motsch/Helmut Kaufmann (Airbus Defence and Space, Germany), et al.

Utilization of Traceroutes to Improve Cooperative Detection of Internet Routing Anomalies  
Matthias Wübbeling (Fraunhofer FKIE, Germany), et al.
CONFERENCE DINNER

WEDNESDAY, SEPTEMBER 17, 2014

18:30 – 23:00

CONFERENCE DINNER
AT TECHNICAL MUSEUM

“The dream of flying”: Not to be missed at “Future Security 2014” is an evening of fine dining, live entertainment and networking at the Conference Dinner. This exceptional evening is included in your registration fee, and will be a highlight of the conference:

• First, we invite you to experience “live” 200 years of German aviation history in the aviation section of the museum.
• After enjoying a small aperitif and fingerfood under the wings of aircrafts, the table will be set for an exquisite three-course menu upstairs in a representative room with a spectacular view over the city of Berlin.
• The evening will be accompanied with a dinner speech of Henning Beck: “Neuro-Security – How to Protect Data in Biological Systems” providing first-rate entertainment with his famously unconventional and humorous style.

If you wish to participate in this unique event, please remember to include it in your registration process. Vegetarian participants will also be well catered. Please advise us of any special dietary requirements.

DINNER LOCATION

Deutsches Technikmuseum
Trebbiner Straße 9
10963 Berlin, Germany
Phone +49 30 902540

A detailed location plan can be found in your conference folder.
08:30 – EUROPASAAL
10:00 PANEL III
 FROM RESEARCH TO PRODUCTS: THE 5 DEMONSTRATION PROGRAMS OF FP7

Moderator: Tijen-Khoen Liem, European Commission – DG ENTR

Introduction: Tijen-Khoen Liem

Short statement: The need for large R&D Demonstration programs from the eye of a Member State:
Marina Martínez-García (Spanish NCP)

PERSEUS – Antonio Gonzalez Gorostiza (INDRA)
EDEN – Clive Goodchild (BAE Systems)
CORE – Gerwin Zomer (TNO)
SECUR-ED – Ives Perreal (Thales communications & security SA)
DRIVER – Merle Missowait (Fraunhofer INT)

10:00 – EUROPASAAL
10:45 BEST POSTER AWARD
10:45 – EUROPASAAL
12:45

FUTURE RESEARCH NEEDS

Session chairs: Gerhard Coors (Federal Ministry of Defence, Germany)/ Antje Bierwisch (Fraunhofer ISI, Germany)

Comparative Analysis of Methods for Strategic Security Research Planning
Joachim Burbiel (Fraunhofer INT, Germany) et al.

Working with Security Systems-of-Systems: Experience from FP7 and Thoughts for Horizon 2020
E. Anders Eriksson (FOI, Sweden), et al.

ESENENT: An Outlook for the Future of Emergency Services in Europe
Uberto Delprato (IES Solutions, Italy), et al.

The Evolving Concept of Security: a Critical Evaluation Across Four Dimensions
Milos Jovanovic (Fraunhofer INT, Germany), et al.

Future Technology Landscapes: Insights, Analysis and Implications for Defence
Giacomo Persi Paoli (RAND Europe, United Kingdom)

Future Threat Scenarios for Identifying Societal Security Needs
Timo Leimbach (Fraunhofer ISI, Germany)
Session chairs: Andreas Könen (Federal Office for Information Security, Germany)/Peter Martini (Fraunhofer FKIE, Germany)

**DNS Security: Past, Present and Future**
Amir Herzberg (Bar-Ilan University, Israel),
Haya Shulman (Technische Universität Darmstadt, Germany)

**Safety and IT-Security: Transfer of Methods, Knowledge and Lessons-Learned?**
Thomas Alexander (Fraunhofer FKIE, Germany), et al.

**An Approach for Systematically Analyzing and Identifying Security Requirements for the Converged Web-Mobile Applications**
Devotha Nyambo (Nelson Mandela African Institution of Science and Technology, Tanzania), et al.

**Protecting Critical Infrastructure: A Comprehensive Approach for Energy Transport**
Rene Golembewski (Ilmenau University of Technology, Germany)

**An Intelligent and Adaptive Live Simulator: A New Concept for Cybersecurity Training**
Jorge Lopez Hernandez-Ardieta (Indra, Spain), et al.

**On the Implications, the Identification and the Mitigation of Covert Physical Channels**
Michael Hanspach (Fraunhofer FKIE, Germany)
13:30 – EUROPASAAL
14:30 PANEL IV
FUTURE SECURITY & DEFENCE RESEARCH IN EUROPE
Moderator: Tijen-Khoen Liem, European Commission – DG ENTR

Georg Wilhelm Adamowitsch
Managing Director, Federation of German Security & Defence Industries

Tijen-Khoen Liem
European Commission – DG ENTR

Hilmar Linnenkamp
International Security Adviser, German Institute for International and Security Affairs

Holger Mey
Head of Advanced Concepts, Airbus Defence and Space

Sylvia Kainz-Huber
European Commission, G/5 Defence, Aeronautic and Maritime Industries

14:30 – EUROPASAAL
15:00 CLOSING REMARKS
Klaus Thoma (Fraunhofer VVS/EMI)
| **P 1** | **Food Products Confiscated from Traveller’s Baggage as a Source for Zoonotic and Third Generation Cephalosporin Resistant Pathogens**  
Anne Mayer-Scholl (Federal Institute for Risk Assessment, Germany) |
| **P 2** | **EU-Research-Project „RECONASS“**  
THW, Germany |
| **P 3** | **The SEAK Project: Decision Support for Managing Disruptions in Food Supply Chains**  
Andreas Motzke/Wolfgang Raskob (Karlsruhe Institute of Technology (KIT), Germany), et al. |
| **P 4** | **All-Hazard Guide for Transport Infrastructure**  
Samuel Rothenpieler (Federal Highway Research Institute, Germany) |
| **P 5** | **Risk Prediction Under Uncertainty**  
Matthias Eckardt (Federal Insitute for Risk Assessment, Berlin, Germany), et al. |
| **P 6** | **Mobile High-Energy X-Ray Inspection of Cargo Containers with Complex Scenarios: Results of the SEFLOG Project**  
Sanjeevareddy Kolkooori (Federal Institute for Materials Research and Testing, Germany), et al. |
| **P 7** | **Reduction of Inspection Time with 3-dimensional X-ray Tomography of Sea Freight Containers by Utilization of Compressed Sensing Reconstruction Methods**  
Frank Sukowski (Fraunhofer IIS, Germany), et al. |
P 8  Empirical Risk Analysis of Humanitarian Demining for Characterization of Hazard Sources  
Johannes Schäfer (Fraunhofer EMI, Germany), et al.

P 9  High-Frequency Electromagnetic Simulation of Wind Turbines in Realistic Scenarios and Approximation Techniques for Reducing the Complexity of Computations  
Frank Weinmann (Fraunhofer FHR, Germany)

P 10  Smart SIGINT Solutions Using Intelligent Fusion  
Ulla Uebler (MEDAV GmbH, Germany), et al.

P 11  Application Specific Method for Human Factor Analysis  
Christian Merfort (University of Siegen, Germany), et al.

P 12  SPICED – Securing the Spices and Herbs Commodity Chains in Europe Against Deliberate, Accidental or Natural Biological and Chemical Contamination  
Anneluise Mader (Federal Institute for Risk Assessment, Germany), et al.

P 13  Enhancing Urban Security Policy Design – The Need for an Evidence-based Approach  
Martijn Neef (TNO, The Netherlands), et al.

P 14  Multi-Criteria Evaluation for Automated Border Control  
Gunther Grasemann (Fraunhofer IOSB, Germany)
P 15  Stand-off Bio Detection – State-of-the-Art Survey and Conclusions
       Silke Römer (Fraunhofer INT, Germany), et al.

P 16  Synthesis and Test of Suitable Adsorbers for Selectively Trapping and
       Detecting Explosives and Improvised Explosives Precursors from Air
       Gudrun Bunte (Fraunhofer ICT, Germany), et al.

P 17  C-IED: Comprehensive Concepts for Dual-Use Security Applications
       Bernd Michael Fischer (French-German Research Institute of Saint-Louis, France)

P 18  The MonIKA Service Framework for Privacy Preserving Information Sharing
       Mirko Haustein/Helmut Kaufmann (Airbus Defence and Space, Germany), et al.

P 19  ARATech2013 – SEVESO III Web Application Based on European
       Methodology
       Lubomir Kelnar (ISATECH, Ltd., Czech Republic), et al.

P 20  Introducing CAM – Constant Action Movie
       Thomas Stephan/Mathias Richter (Karlsruhe Institute of Technology (KIT),
       Germany), et al.

P 21  Innovative Ways to Procure Maritime Border Security Systems in Europe
       Linette de Swart (Ecorys Nederland, The Netherlands)

P 22  Artificial Gut Feeling®: Improving Urban Security by Following
       Human Instinct
       Joanna Pliner (ISCA, Israel), et al.
P 23  Operation Specific Tailoring of Scenario Data for Underwater Thread Analysis
Julian Klinner (WTD 71 – Forschungsbereich für Wasserschall und Geophysik (FWG), Germany), et al.

P 24  Risk Potential of Pulsed Electromagnetic Radiation from a Remote Piloted Aerial System
Alexander Preinerstorfer (AIT Austrian Institute of Technology, Austria), et al.

P 25  EU Information Sharing Platforms: Cybercrime Meets Data Protection
Karine e Silva (KU Leuven, Belgium)

P 26  Trustworthiness Metrics for Socio-Technical Software
Holger Koennecke/Sachar Paulus (University of Applied Science, Germany), et al.

P 27  Detection of Explosives: Evaluation of Laser Based Detection Schemes and Novel Race Detection Approaches
Bernd Michael Fischer (French-German Research Institute of Saint-Louis, France)

P 28  Mosaic-Chart Based Visualization in Building Automation Systems
Steffen Wendzel (Fraunhofer FKIE, Germany), et al.

P 29  Interoperability of PPDR Communication Systems Based on Solutions Proposed by 7th Framework Programme Projects
Henryk Gierszal (Adam Mickiewicz University, Poland), et al.
| P 30 | A Distributed System for Secure, Modular Computer Vision  
Martin Boyer (AIT – Austrian Institute of Technology, Austria), et al. |
| P 31 | A Novel Design of Content Based Multimedia Security  
Jinse Shin (University of Siegen, Germany), et al. |
| P 32 | Smart Sensors for Security Applications  
Frank Kuhn (HSG-IMIT, Hahn-Schickard-Gesellschaft – Institute for Micro- and Information Technology, Germany) |
| P 33 | Increasing Resilience to Crisis and Disasters: Crisis Management in Critical Infrastructures like Public Transport Operations  
Matthias Mueth (Hamburg-Consult, Germany) |
| P 34 | Energy Supply Interruption as a Factor of Energy Security  
Valery Lesnykh (High School of Economics, Russia), et al. |
This conference series is hosted by the Fraunhofer Group for Defense and Security VVS.

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GENERAL INFORMATION

REGISTRATION AND OPENING HOURS

The registration desk is open and entry to the conference venue is possible during the following times:

Tuesday, September 16, 2014: 9:00 – 21:00
Wednesday, September 17, 2014: 8:00 – 17:30
Thursday, September 18, 2014: 8:00 – 15:00

CONFERENCE FEES

Regular 700,00 €
Speaker 550,00 €
Students (Copy of Student ID required) 200,00 €
Ministries 200,00 €

These fees include coffee breaks and lunch buffets, the welcome reception on September 16, 2014 and the conference dinner on September 17, 2014.

CONFERENCE PROCEEDINGS

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