



CIS 2019 – Chemistry meets Industry and Society

A creative showcase conference

Centro Congressi Grand Hotel Salerno

Scientific Committee: *Angela Agostiano* - Chairperson, Presidente Società Chimica Italiana, University of Bari, *David Cole-Hamilton*, vice-President Euechems, University of St Andrews, *Giorgio Cevasco*, vice-President Società Chimica Italiana, University of Genova, *Francesco Salvo*, Consigliere Federazione Nazionale degli Ordini dei Chimici e dei Fisici, *Gaetano Guerra*, vice-President Società Chimica Italiana, University of Salerno, *Raffaele Riccio*, past-President Società Chimica Italiana, University of Salerno, *Michele Laus*, President of AIM, University East Piemonte, *Andrea Caneschi*, Director of INSTM, University of Firenze.

WS1 – Chemistry for Secure Society

The workshop will highlight the pervasive role of Chemistry in the field of security, in terms of detection, prevention, protection, mitigation and defence against the use of hazardous materials, highly toxic chemicals and dangerous products (e.g. explosives, poisons, bio-toxins, radioactive agents) for criminal purposes.

Following a trans-disciplinary approach, spanning from advanced analytical chemistry to materials science, from sensor technology to catalysis, the latest advances in the field of rapid detection, personal protection, decontamination and security policies will be presented and discussed by eminent experts from academia, research institutions, industry and governmental agencies, working on a daily basis for secure, resilient and ethically correct societies.

Programma WS1 – Chemistry for Secure Society

Thursday, August 29th 2019

Chairperson: Matteo Guidotti, CNR-ISTM, Italy

9:00-9:20 Welcome Remarks

9:20-9:50 WS1 KN01 - Genserik Reniers - TU Delft, the Netherlands “Integrating safety and security measures to avoid chemistry-related domino effects”

9:50-10:10 WS1 OR01 - Lidietta Giorno - CNR-ITM, Rende, Italy “Biocatalytic membrane reactors for organophosphates degradation”

10:10-10:30 WS1 OR02 - M. Maddalena Calabretta - Department of Chemistry “G. Ciamician”, University of Bologna, Italy “Origami paper-based chemiluminescent biosensor for neurotoxic compounds detection using an integrated smartphone device”

10:30-11:00 WS1 OR03 - Gaetano Carminati - Senior Technical Expert from the National Authority for the Prohibition of Chemical Weapons, Rome “Working for the Chemical Weapons Convention: interdisciplinary expertise and funding opportunities”

11:00-11:30 Coffee break

Chairperson: Elisa Michelini, University of Bologna, Italy

11:30-12:00 WS1 KN02 - Adolfo Gregori - Carabinieri, Department of Scientific Investigation (RIS), Italy “Simultaneous Determination of Gunshot Residues and Stabilizers in Forensic Samples by means UHPLC-HRMS analysis”

12:00-12:20 WS1 OR04 - Lai Van Cuong - Centre of Environmental Treatment Technology, Chemical Core, Ministry of National Defence, Ha Noi, Viet Nam “Lessons learnt and identified issues related to CBRN Joint Field Training Exercise in ASEAN Nations”

12:20-12:40 WS1 OR05 - Simona Ortelli - CNR-ISTEC, Faenza, Italy “Coatings based on TiO₂ nanoparticles and biomacromolecules as a new flame retardant approach for cotton fabrics”

12:40-13:00 WS1 OR06 - Salvatore Corrao - Italian Fire Brigade Corps, Italy “Study of an organizational model for the operational response of an Italian CBRN Module within the European Civil Protection Mechanism”

13:00-15:00 Break and Poster view

Chairperson: Roberto Mugavero - OSDIFE, Italy

15:00-15:30 WS1 KN03 - Arben Merkoçi - Inst. Català de Nanociència i Nanotecnologia, Barcelona, Spain
"Nanobiosensors for diagnostics: from health, environment to safety and security applications"

15:30-15:50 WS1 OR07 - Daniele Del Gaudio - Italian Army, Italy "7th CBRN defense regiment "Cremona"
a special unit against CBRN events"

15:50-16:20 WS1 KN04 - Chiara Bisio - University of Eastern Piedmont, Alessandria, Italy "Innovative
layered materials as active allies for the decontamination of toxic chemical agents"

16:20-17:00 WS1 Round Table with institutional representatives, coordinated by R. Mugavero

17:00-17:20 WS1 OR08 - Ferruccio Trifirò – Università degli Studi di Bologna, Accademia delle Scienze
dell'Istituto di Bologna, Italy "How to avoid dual-use toxic substances in chemical industry"

Friday, August 30th 2019

Chairperson: Vincenzo Vaiano, University of Salerno, Italy

9:00-9:30 WS1 KN05 - Vasile Parvulescu - University of Bucharest, Romania "Photocatalysis versus
plasma-coupled catalysis for the mineralization of warfare and harmful compounds" Thematic Lecture
offered by Molecules, an open access journal by MDPI

9:30-9:50 WS1 OR09 - Raja Subramaniam - Centre for Chemical Weapons Analysis, Malaysia "Strategies
for analysis of chemical weapons for forensic and legal prosecution"

9:50-10:10 WS1 OR10 - Federico Begni - University of Eastern Piedmont, Alessandria, Italy "Hyper cross-
linked polymers for the removal of harmful pollutants from the environment"

10:10-10:30 WS1 OR11 - Isacco Gualandi - University of Bologna, Italy "Detection of hazardous chemicals
(pesticides) by electrochemical sensors"

10:30-11:00 WS1 KN06 - Mauro Marchetti - CNR-ICB, Sassari, Italy "Hypothesis of remote identification of
warfare chemical agents and explosives after blast of chemical bombs" 11:00-11:30 Coffee break

Chairperson: Ernesto Salzano, University of Bologna, Italy

11:30-12:00 WS1 KN07 - Fabiana Arduini - University of Rome Tor Vergata, Italy "Early and on site
detection of chemical and biological warfare agents using miniaturised electrochemical biosensors"

12:00-12:20 WS1 OR12 - Andrei Katsev - Medical Academy Georgievsky, Simferopol, Crimea "Detection
of the toxicity of environmental and pharmaceutical substances by luminescence biotests"

12:20-12:40 WS1 OR13 - Stefano Scaini - Senior Safety & Security Advisory, Italy "Unconventional use of High Explosives & Energetic Materials: facing the I.E.D.s Threat"

12:40-13:00 WS1 OR14 - Davide Janner - Politecnico di Torino - Department of Applied Science and Technology "Nanostructured gold surface for reliable and low-cost SERS detection of contaminants in water"

13:00-15:00 Break and Poster view

Chairperson: Massimo Ranghieri, ACISMOM Military Corps, Italy

15:00-15:20 WS1 OR15 - Rosalind Sankey and Carlos Rodriguez Del Rio – Elsevier "Using information solutions to understand the potential risks and control strategies of substances"

15:20-15:40 WS1 KN08 - Sergey Zinoviev - OPCW's Senior International Cooperation Officer, AIA, Netherlands "Working for the Chemical Weapons Convention: interdisciplinary expertise and funding opportunities"

15:40-16:05 WS1 OR16 - Davide Vignola - Pollution Analytical Equipment, Italy "Detection of highly toxic chemicals, explosives and explosive taggants in the air"

16:05-16:25 WS1 OR17 - Stefano Marchesi - University of Eastern Piedmont, Alessandria, Italy "Bi-functional Eu(III) and Nb(V)-containing Saponite Clays for the Optical Detection and Catalytic Abatement of Chemical Warfare Agents"

16:25-16:45 WS1 OR18 - Murugiah Muthusamy - Fire & Rescue Training Academy, Malaysia "Strategies for analysis of chemical weapons for forensic and legal prosecution"

16:45-17:10 WS1 OR19 - Antonio Sergio - DuPont, Italy "For greater good"

17:10-17:30 WS1 OR20 - Gianmaria Pio - Department of Civil, Chemical, Environmental and Materials Engineering DICAM, University of Bologna, Italy "Fire security and safety of chemical warehouses"

17:30-17:45 ECM tests filling for learning and rating

Info ECM

Provider ECM: Federazione Nazionale degli Ordini dei Chimici e dei Fisici – Piazza San Bernardo 106 – Tel. 06.47883819 – segreteria@chimicifisici.it

Evento organizzato con la collaborazione della segreteria organizzativa della Società Chimica Italiana

Segreteria organizzativa: Società Chimica Italiana – Viale Liegi 48c- tel.+39 06 8549691 - mail segreteria@soc.chim.it

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 - *rispondere correttamente ad almeno il 75% del questionario di apprendimento.*