

International Master Courses in

"PROTECTION AGAINST CBRNe EVENTS"

The evolution and increase in Safety and Security threats at an international level place remarkable focus on the improvement of the emergency systems to deal with crisis, including those connected to ordinary and the non-conventional events (Chemical, Biological, Radiological, Nuclear, and explosives).

In every industrial Country there are multiple entities with specialized teams in very specific fields, but the complexity of the events requires professionals that not only have specific know-how, but also expertise in the relevant areas.

Given the global interest in these issues, the Department of Industrial Engineering and the Faculty of Medicine and Surgery of the Tor Vergata University organize the international Master Courses in "Protection against CBRNe events": I Level Master Course in "Protection against CBRNe events" (120 ECTS) and II Level Master Course in "Protection against CBRNe events" (60 ECTS). These courses aim at providing attendees with comprehensive competences in the field of CBRNe Safety and Security, through teaching and training specifically focusing on real needs.

The creation of the "Click & Read" newsletter, that connects directly to the International CBRNe Master website simply clicking on the blue titles of each news, would be a monthly appointment about the main news around International CBRNe Master Courses... and more!

Enjoy!!!



Click & Read N° 46 - April 2018

04.30.2018 - B AGENTS. Biological warfare agents, history, current challenges, properties, case study

Dear colleagues,

It is a pleasure announce that last week (23-27 April 2018) it has been held in Rome the module n. 4 of the First Level Master course in Protection against CBRNe events (BASE LEVEL) entitled: B AGENTS. Biological warfare agents, history, current challenges, properties, case study.

Module 4 has provided information on biological agents and their implication in Biological Warfare Agents production and use, natural outbreaks, epidemics, pandemics and consequences for first responders.

Detection, decontamination and protective equipment for first responders are among the topics addressed. Finally, part of the didactic activity has been focused on specific case studies for the analysis of gaps and best practices and on laboratory traininga activities.

We want to thank all the lecturers and the entities that have used their expertise to realize a very challenging and interesting module.

Thanks to: Italian Army (Esercito Italiano - Scuola NBC di Rieti), German Aerospace Centre, ECDC, WL GORE & Associati, Robert Koch Institut, University of Defense, Faculty of Military Health Sciences, Department of Molecular Pathology and Biology (Czech Republic), Italian Military Red Cross, Italian Air Force (Aeronautica Militare, Centro Sperimental di Volo PRatica di Mare), Università di Roma La Sapienza.







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04.27.2018 - Chemical Challenges, Prevention and Responses, Including Considerations on Industrial Toxic Chemicals for Malevolent Use, CW Precursor Material for IEDs

Dear colleagues, here the new publication:

Gaetano Carminati, Fabrizio Benigni, Emanuele Farrugia (2017). "Chemical Challenges, Prevention and Responses, Including Considerations on Industrial Toxic Chemicals for Malevolent Use, CW Precursor Material for IEDs". Cyber and Chemical, Biological, Radiological, Nuclear, Explosives Challenges: Threats and Counter Effort Springer International Publishing AG, as part of the Part of the Terrorism, Security, and Computation book series (TESECO.), pag. 73-89. Guest editors: Maurizio Martellini, Andrea Malizia. DOI: https://doi.org/10.1007/978-3-319-62108-1; Print ISBN: 978-3-319-62107-4; Online ISBN: 978-3-319-62108-1; Series Print ISSN: 2197-8778; Series Online ISSN: 2197-8786.

Link: https://link.springer.com/chapter/10.1007/978-3-319-62108-1 5

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04.26.2018 - Enotice Project

The technical meeting bettween #MasterCBRN and the NBC Defence School, represented on that occasion, by Cap. Giampaolo Santini, Cap. Marco Carosi and Ten. Fumian, in the framework of the collaboration for the H2020 project "eNOTICE" to talk about the future steps in the #eNotice #CBRNe project

During the meeting took place also exchange of te official plaques between the #MasterCBRN and "32esimo corso ingegneri del ruolo normale a nomina diretta", attended by Ten. Franccesca Fumian, former student of the second level Master Course.

04.25.2018 - Preventing Hostile and Malevolent Use of Nanotechnology Military Nanotechnology After 15 Years of the US National Nanotechnology Initiative

Dear Colleagues, it is a pleasure announce the new publication:

Jürgen Altmann (2017). "Preventing Hostile and Malevolent Use of Nanotechnology Military Nanotechnology After 15 Years of the US National Nanotechnology Initiative". Cyber and Chemical, Biological, Radiological, Nuclear, Explosives Challenges: Threats and Counter Effort Springer International Publishing AG, as part of the Part of the Terrorism, Security, and Computation book series (TESECO.), pag. 49-72. Guest editors: Maurizio Martellini, Andrea Malizia. DOI: https://doi.org/10.1007/978-3-319-62108-1; Print ISBN: 978-3-319-62107-4; Online ISBN: 978-3-319-62108-1; Series Print ISSN: 2197-8778; Series Online ISSN: 2197-8786.

Link: https://link.springer.com/chapter/10.1007/978-3-319-62108-1 4

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04.24.2018 - 22nd INTERNATIONAL MASS SPECTROMETRY CONFERENCE (IMSC) 2018

ABSTRACT SUBMISSION EXTENDED UNTIL TUESDAY, APRIL 24th

Early registration: June 1, 2018

Late poster submission: June 30, 2018

- -- 5 short courses
 - -- 6 plenary sessions
 - -- 45 oral and poster sessions
 - -- 11 workshops
 - -- awards
 - -- vendor exhibitions
 - -- a social program.

PLENARY SPEAKERS

Keynote speakers http://www.imsc2018.it/keynote.php Program at glance http://www.imsc2018.it/glance.php

Accommodation in University residences at good price http://www.imsc2018.it/studentresidences.php

Info: www.imsc2018.it

Come and give your important contribution to make IMSC2018 a successful, amazing and unforgettable conference!! Meeting you in Florence!

Best regards, Gianluca Giorgi IMSC2018 Chair



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04.23.2018 - NATO's Response to CBRN Events

Dear colleagues, it is a pleasure annouce the new publication:

Bernd Allert (2017). "NATO's Response to CBRN Events". Cyber and Chemical, Biological, Radiological, Nuclear, Explosives Challenges: Threats and Counter Effort Springer International Publishing AG, as part of the Part of the Terrorism, Security, and Computation book series (TESECO.), pag. 35-47. Guest editors: Maurizio Martellini, Andrea Malizia. DOI: https://doi.org/10.1007/978-3-319-62108-1; Print ISBN: 978-3-319-62107-4; Online ISBN: 978-3-319-62108-1; Series Print ISSN: 2197-8778; Series Online ISSN: 2197-8786.

Link: https://link.springer.com/chapter/10.1007/978-3-319-62108-1_3

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04.21.2018 - C AGENTS (P2). Chemical warfare agents detection, protection and decontamination operations

Dear colelagues, we are glad to announce that today the Module 3 of the First Level #MasterCBRNe course entitled "C AGENTS (P2). Chemical warfare agents detection, protection and decontamination operations" has been completed.

During this week the students had the chance to meet important expert in the chemical filed such as Prof. Gianluca Giorgi from the University of Siena that is the Vice President of the Italian Chemical Society, Dr. Juan Casarrubios researcher of the University of Alcalà and expert of the European project Counterfog (http://counterfog.eu/), Dr. Giancarlo Romana that is an officer in charge at the Italian Ministry of Foreign Affairs - Italian National Authrity and Italian expert at the OPCW, the have visited the laboratories of the quantum electronics and plasma physics reseach group (www.gepresearch.it) and had the chance to met: Dr. Luca Pinciarelli that is a chemical expert of the company BMD spa (http://www.bmdspa.it/) that has presented the main product for the chamical detection; Dr. Giovanni Longo that is a senior member and CBRNe responsible for the WL GORE & Associati (https://www.gore.it/) worldwide expert in CBRNe PPE and CPE.

The week has been integrated with one day of visit at the Centro Tecnico Logistico Interforze NBC- Civitavecchia (CETLI NBC) were the students had the chance to understand how the demilitarization and decontamination of real chemical weapons work. We want to thank Gen. Giovannini, Col. Pasquali and all the staff member of CETLI for the precious opportunity. (https://www.difesa.it/Protocollo/AOO Difesa/Esercito/Pagine/E23768.aspx)

The TTX have been introduced also in the first level Master course in this module by the INAC - International Alliance CBRN (https://www.inac.cloud/service) and the students have apreciated also to face a training to better understand the key operations and duties of a CBRNe First Responders during the emergencies.







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04.20.2018 - Selected Issues of Cyber Security Practices in **CBRNeCy Critical Infrastructure**

Dear colleagues, here the new publication:

Stanislav Abaimov, Maurizio Martellini (2017). "Selected Issues of Cyber Security Practices in CBRNeCy Critical Infrastructure". Cyber and Chemical, Biological, Radiological, Nuclear, Explosives Challenges: Threats and Counter Effort Springer International Publishing AG, as part of the Part of the Terrorism, Security, and Computation book series (TESECO.), pag. 11-34. Guest editors: Maurizio Martellini, Andrea Malizia. DOI: https://doi.org/10.1007/978-3-319-62108-1; Print ISBN: 978-3-319-62107-4; Online ISBN: 978-3-319-62108-1; Series Print 2197-8778; Series Online ISSN: 2197-8786.

Link: https://link.springer.com/chapter/10.1007/978-3-319-62108-1_2

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04.19.2018 - Master CBRNe present at ALITUR forum

Dear colleagues,

We are glad to announce that also this year #MasterCBRN have been invited to the forum for the work placement organized by @ALITUR at the University of Rome Tor Vergata. Colomba Russo and Valentina Gabbarini have done a huge work presenting our activities and the work opportunities of our #MasterCBRNe, they have been with #Mimmo our mascotte with the CBRNe suits.

Greetings to ALITUR for the success of this initiative that helps hundreds of young students to find a placement in some companies or entities.

GOOD WORK GUYS! WE ARE PROUD OF YOU.





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04.18.2018 - A Reflection on the Future of the CBRN Security Paradigm

Dear colleagues, it is a pleasure announce this new publication:

Maurizio Martellini, Tatyana Novossiolova, Andrea Malizia (2017). "A Reflection on the Future of the CBRN Security Paradigm". Cyber and Chemical, Biological, Radiological, Nuclear, Explosives Challenges: Threats and Counter Effort Springer International Publishing AG, as part of the Part of the Terrorism, Security, and Computation book series (TESECO.), pag. 1-10. Guest editors: Maurizio Martellini, Andrea Malizia. DOI: https://doi.org/10.1007/978-3-319-62108-1; Print ISBN: 978-3-319-62107-4; Online ISBN: 978-3-319-62108-1; Series Print ISSN: 2197-8778; Series Online ISSN: 2197-8786. Link: https://link.springer.com/chapter/10.1007/978-3-319-62108-1 1 Enjoy the reading!

04.16.2018 - 3D Simulation of a Loss of Vacuum Accident (LOVA) in ITER
(International Thermonuclear Experimental Reactor): Evaluation of Static

Pressure, Mach Number, and Friction Velocity

Dear colleagues, we are glad to announce that the paper: 3D Simulation of a Loss of Vacuum Accident (LOVA) in ITER (International Thermonuclear Experimental Reactor): Evaluation of Static Pressure, Mach Number, and Friction Velocity by: Jean-François Ciparisse, Riccardo Rossi, Andrea Malizia and Pasquale Gaudio.

has been published on Energies 2018, 11(4), 856; doi:10.3390/en11040856

You can find the full list of the paper here: http://www.mastercbrn.com/page/326/cbrne-scientific-papers/



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<u>04.13.2018 - Technical Rescue Dynamic Response In High</u>
Visibility Events - Operational Concepts And CBRN Aspects

Dear colleagues,

It is a pleasure announce that the paper:

"Technical Rescue Dynamic Response In High Visibility Events - Operational Concepts And CBRN Aspects"

by: Bennardo V., Capobianco L., Corrao S and Rinaldi A.

has been published on "Biomedicine and Prevention: An open access transdisciplinary Journal vol. 3 - CBRNe safety. Special issue (PART 2). CBRNe safety: the Biomedicine and Prevention focus point (PART 2): Special issue of the First Scientific International Conference on CBRNE (#SICC2017)

LINK: http://www.biomedicineandprevention.com/manuscript/technical-rescue-dynamic-response-high-visibility-events-operational-concepts-and-cbrn



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04.11.2018 - PHD in INDUSTRIAL ENGINEERING

Last Thursday, three members of the Quantum Electronics and Plasma Physics Research Group coordinated by Dr. Gaudio, defended their Ph.D. thesis in Industrial Engineering (XXX Cycle).

Dr. Jean-François Ciparisse opened the session with a thesis titled *CFD simulations of industrial, civil and military non-conventional security events*. The work deals with the use of CFD numerical simulations to predict the severity of those CBRNe events: LOVA in Tokamaks, dust explosion risks, chlorine spill and anthrax attack. Clinical models have been developed to relate the quantity of harmful agent absorbed to the effects on human health. For each scenario, measures to undertake in order to minimize the effects of such contingencies have been suggested.

Dr. Luigi Antonio Poggi defended the thesis *Dust mobilization analysis in simulated accidents inside nuclear fusion reactors*. He studied experimentally and numerically a LOVA in STARDUST-U facility, in order to reproduce the pressurisation transient that may occur in Tokamaks. He also studied, by means of particle image velocimetry techniques, the motion of dust inside STARDUST-U.

Dr. Michele Lungaroni discussed the thesis titled *Advanced Statistics and Machine Learning Techniques for the Control of Macroscopic Instabilities in Thermonuclear Fusion Devices*. In the framework of the PhD work he applied the advanced statistical techniques and machine learning tools to various aspects of controlled magnetic fusion experiments. The analysis of fusion data deals mainly with the causes of instabilities within the plasmas. In particular, three types of instability have been studied: ELMs, Sawteeth and Disruptions. For each instability, prediction or causality detection techniques have been applied.

All three candidates obtained full marks with honours.

The Quantum Electronics and Plasma Physics Research Group and the whole Staff of CBRNe Master Courses are proud of this important goal and would like to express them since congratulations.



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04.10.2018 - L'EVOLUZIONE DELL'URBANESIMO NELLE EMERGENZE RETROTERRA, DINAMICHE, RISPOSTE

Dear colleagues,

It is a pleasure announce that the book:

<u>"L'EVOLUZIONE DELL'URBANESIMO NELLE EMERGENZE - RETROTERRA, DINAMICHE, RISPOSTE"</u>

by Romina Fucà has been published as n. 8 of our CBRN book series. Enjoy the reading!

LINK: http://www.aracneeditrice.it/index.php/pubblicazione.html?item=9788825512663

04.09.2018 - How to CBRN-proof Your Hospital

Dear colleagues, it is a pleasure announce that the paper:

"How to CBRN-proof Your Hospital" by: Galatas I.

has been published on "Biomedicine and Prevention: An open access transdisciplinary Journal vol. 3 - CBRNe safety. Special issue (PART 2). CBRNe safety: the Biomedicine and Prevention focus point (PART 2): Special issue of the First Scientific International Conference on CBRNE (#SICC2017)

LINK: http://www.biomedicineandprevention.com/manuscript/how-cbrn-proof-your-hospital

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04.06.2018 - CBRN EMERGENCIES: INTEGRATED APPROACH TO DEVELOP INNOVATIVE TECHNOLOGY AND TRAINING OF OPERATORS

Dear colleagues,

It is a pleasure announce that the paper:

"CBRN EMERGENCIES: INTEGRATED APPROACH TO DEVELOP INNOVATIVE TECHNOLOGY AND TRAINING OF OPERATORS"

by: Franconi R., Testa A., Giovanetti A., Lopresto V., Pinto R, Turchi R., Iliano E., Massa S., Patrono C., Palma V., Rinaldi A., Bartoleschi C., Pardini M.C., Demurtas O., Cappelli M. and Marino C.

has been published on "Biomedicine and Prevention: An open access transdisciplinary Journal vol. 3 - CBRNe safety. Special issue (PART 2). CBRNe safety: the Biomedicine and Prevention focus point (PART 2): Special issue of the First Scientific International Conference on CBRNE (#SICC2017)

<u>LINK:</u> http://www.biomedicineandprevention.com/manuscript/cbrn-emergencies-integrated-approach-develop-innovative-technology-and-training-operators



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04.05.2018 - MODULE 3 - IInd Level Master course

Dear Colleagues,

It is a pleasure communicate the interesting results obtained during the module 3 of the IInd Level Master course in Protection against CBRNe events (26-30 of March 2018)

Monday and Tuesday the student have been with Dr. JAVED, Muhammad Athar and they have interesting drill excercises and a lecture about the CBRNe legislation

Wednesday they spent the day with Mr. Patrick Wengler to understand the role of civil departments and police during a CBRNe events

Thursday they have done a full day Table Top Excercise with #INAC (Internation Alliance CBRN) about biological emergency in a city. It has been an amazing work giving to the student the module evaluation (https://www.inac.cloud/)

Friday they had the focus point of a private company, BMD spa, About detection and protection systems.

The #MasterCBRN wants to thank all the lecturers and the students for the wonderful work.

STAY TUNED!



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<u>04.03.2018 - Laboratory and diagnostic test mobile systems:</u> <u>critical issues and perspectives in the field of major disasters</u>

Dear colleagues,

It is a pleasure announce that the paper:

"Laboratory and diagnostic test mobile systems: critical issues and perspectives in the field of major disasters"

by: Mattaccini S., Cortelazzo A., Foglietta G., Transerici M., Coltellaro A., Gemmellaro O., Tondolo M., Cosentino R., Tripodi R. and Lupini G.

has been published on "Biomedicine and Prevention: An open access transdisciplinary Journal vol. 3 - CBRNe safety. Special issue (PART 2). CBRNe safety: the Biomedicine and Prevention focus point (PART 2): Special issue of the First Scientific International Conference on CBRNE (#SICC2017)

LINK: http://www.biomedicineandprevention.com/manuscript/laboratory-and-diagnostic-test-mobile-systems-critical-issues-and-perspectives-field





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