



International CBRNE Institute
CBRN – E-RKC
www.ici-belgium.be

NEWSLETTER December 2022



Yves DUBUCQ
 Director of the ICI



Yvan BAUDOIN
 Manager ICI/ER KC



Ioannis GALATAS
 Manager ICI/CBRN
 KC



Frank VAN
 TRIMPONT
 Manager ICI/MED KC

1. Statement 2022

The year 2022 was more productive than 2021 (Covid) in term of the visibility of our institution; in fact, no less than 30 countries were represented by delegates during this year either through their participation in our conferences or for having attended our courses. The focus this year has been set on the new courses given to emergency department staff of our hospitals on the one hand and on increasing our international visibility in the field of crisis management and robotics on the other hand. The International CBRNE Institute has been extended to a Medical Knowledge Centre (MED-KC) entrusted to the Dr Frank VAN TRIMPONT, Anesthesiologist and Emergency Physicist, Director of the disaster certificate course at the Free University of Brussels, Secretary General of the European Council for Disaster Medicine, Reserve Officer of the Belgian Army.

A. ICI activities

This year 2022 was marked by the decrease of this Covid-19 coronavirus pandemic. After a promising start with the continuation of courses for emergency physicians and the conference on February 28, our activities in plenary sessions were stopped because of still partial confinement in Belgium until March.

However, this period of calm allowed us on the one hand to evaluate our courses for emergency physicians via a very positive feedback from the medical services and firefighters concerning CCS (Contamination Control Station) procedures and methods of dressing and undressing in contaminated environments applied by these first responders as part of their work related to Covid-19 and on the other hand to promote the Institute and develop our network in anticipation of new courses and requested training.

The decrease of Covid-19 and the return to normalcy allowed us to materialize our new partnerships (police academy, RPA, firefighters, universities, hospitals both nationally and internationally. In

particular, we developed a cooperation agreement with the French CF-NRBC (<https://centrefrancaisnrbc.fr>)



And our CBRN-KC will be assisted by Claude Lefebvre. He is currently a member of the Scientific Council of the Institute of Applied Geopolitics Studies (IEGA), a CBRN expert member of the SAFE CLUSTER and an expert consultant in the field to the European Defense Commission.

Niv 2: 17and 31 January & Niv 3: 14-15-16 February 2022: course for urgentists (Level 2)

06 May 2022 : Study on EU preparedness and responses to Chemical, Biological, Radiological and Nuclear (CBRN) threats' : From March to July 2021, the ICI was involved with Ecorys (NL) and other experts in the 'Study on EU preparedness and responses to Chemical, Biological, Radiological and Nuclear (CBRN) threats' for the Subcommittee on Security and Defence of the European. This study has just been published. It was a great pleasure to work with such an excellent team of experts. The team coordinated by Alexandra Schmid from Ecorys was : Ralf Trapp, [Claude LEFEBVRE](#), [Yves Dubucq](#), [Sarah Leonard](#), [Christian Kaunert](#), Hanna H. Mohn, [Sebastiaan Olislagers](#), [Rachel Beerman](#) and [Joanna Smętek](#) fwhom we thank for the good collaboration.

B. ICI/ER-KC (Explosives/Robotic)

07 June 2022: An International workshop on Measurement and Control of Robotics, focusing among others on virtual reality, risky interventions and environmental surveillance. This followed the successful 7th IARP-RISE'2015 held at the Portuguese Naval Base (BNL), the 9th and 10th RISE' 2019/2021 held at ICI, Belgium , the ISMCR'2018, 2019, 2020, 2021 held in Belgium, US, Hungary and Japan. It was aiming to gather high quality original contributions with the final goal to develop a Horizon proposal DRS

| | |
|--|--|
| The European Defense as consequence of the Ukrainian Crisis | Lieutenant General e. r. Guy Buchsenschmidt Vice-president of the Society for European Defense |
| The Pandemic COVID: lessons and prospective | Dr F.Van Trimpont, Head of European College for Disaster Medicine) |
| How to face CBRNE threats | M.Yves Dubucq, Director of the CBRN Institute |
| How to face National CBRNE Crisis situations | B.Troisième, Direction générale de la police judiciaire Police Fédérale-DSU/Intervention Unit |
| Introduction and Demo mini-UAV SKY-TOOLS (www.sky-tools.com) | |
| AIED: Robotics & Artificial Intelligence for Explosive Ordnance Disposal | Enzo Ghisoni, Geert De Cubber, Royal Military Academy enzo.ghisoni@mil.be ; geert.decubber@mil.be |

| | |
|--|--|
| INTREPID , Intelligent Toolkit for Reconnaissance and assessment in Perilous Incidents | Ana María Cintora Sanz Servicio de Urgencias Medicas de Madrid anamaria.cintora@salud.madrid.org |
| RESCUER New technologies that improve the work of first responders in hostile environments: cognitive load assessment | María Redondo Lozano. Médico de Emergencias del SUMMA 112 – Madrid maria.redondo@salud.madrid.org Marta Alvarez Calderon SALUD Madrid marta.alvarez@salud.madrid.org |
| HUNTER: Consideration of hybrid propulsion of heavy unmanned ground platform applied to Robotics for Risky Interventions and Environmental Surveillance | Łukasiewicz Research Network – Industrial Research Institute for Automation and Measurements PIAP mikolaj.zarzycki@piap.lukasiewicz.gov.pl |
| TEAMAWARE – TeamAware: Integrated and cost-efficient situational awareness system for first responders | Carrer de Mallorca 221, 2n, 2a 08008, Barcelona www.enide.com jvicent.pastor@enide.com |
| Work-meeting on European DRS CALL : | CL3-2022-DRS 01-08 : RECET |

15-17 October: IMEKO TC17, organized the on-line symposium IEEE- ISMCR'2022 in RIO de JANEIRO, due to the COVID, this conference was VIDEO-held.

The 'Robotics Topics':

| | |
|---|---|
| Study on Palpation Robot System - Reproduction Method by Deep Neural Network of Skin Palpation Judgment Focusing on Softness Classification | Fumihiko Kato, Takumi Handa and Hiroyasu Iwata / Waseda University; Takeya Adachi /Keio University – Japan |
| Development of an environment mapping robot, using polygonal map representation. | András Izsó and István Harmati / Budapest University of Engineering and Economics – Hungary |
| Probabilistic Waste Detection using Unmanned Aerial Vehicles. | Sergio Hernandez, Antonio Cabrera and Romulo Santelices / Universidad Catolica Del Maule - Chile |
| Visual Drone Detection and Tracking for Autonomous Operation from Maritime Vessel. | Timothy Halleux, Tien-Thanh Nguyen, Charles Hamesse, Geert De Cubber and Bart Janssens / Royal Military Academy – Belgium |
| Visual SLAM for Autonomous Drone Landing on a Maritime Platform | Thomas Dutrannois, Tien-Thanh Nguyen, Charles Hamesse, Geert De Cubber and Bart Janssens / Royal Military Academy - Belgium |
| Coordinating Multiple Missiles with Swarm Intelligence to Attack an Aircraft. | Trung Pham /United States Air Force Academy; Larry Marine / Department of the Air Force and Kumar Krishen University of Houston - USA |

These papers will be available on the ACTA TECHNICA of IMEKO (www.imeko.org) and on request by



Simone Keller Fuchter, Ph.D
Chair of ISMCR2022
 University of Estácio de Santa Catarina, Brazil
simonekf.2011@gmail.com



Kiss Balint, Ph.D, Co-Chair
 Budapest University of Technology and
 Economics, Hungary
bkiss@iit.bme.hu

C. ICI/CBRN-KC

If there was a recent radiological incident one might speculate that 2020 /2021/2022 were the perfect CBRNE years ever! We had a combination of “C” and “E” in Zaporijia with the bombing actions during the unacceptable invasion of Russia in Ukraina. We also had a “B” disguised as a Covid-19 pandemic. In the past we used to remark that healthcare personnel were not so well prepared for “C” and “R” mass casualties, but higher scores were expected with “B” threats mainly because this is what doctors and nurses do worldwide. Well, all assumptions were proved wrong mainly because the cinematographic nature of the pandemic was not taken in consideration and both planners and governments were not able to think big or as big as the problem is despite the heroic efforts of the personnel working in the healthcare sector. The outrage is that many gaps identified during the first wave of the pandemic were not managed in a proper way and the much aggressive and catastrophic second wave is progressively flattening societies and economies around the globe.

Below is a short outline of the things that went wrong:

- ✓ Hospitals’ ICU beds
- ✓ Dedicated Covid hospitals
- ✓ Lack of specialized critical ICU equipment (e.g., respirators)
- ✓ Hospital gasses – especially oxygen
- ✓ Specialized personnel
- ✓ Volunteers – requisition of private medical sectors; medical students; dentists
- ✓ Teaching other medical specialists with some Covid-19 basics

Amateur crisis management supported with Internet info chaos and prevalence of scientific facts over common logic – i.e., what is the point of the 2m distance to counter a tiny virus that is airborne?

Lack of knowledge of the most basic rule in crisis management: respond based on what people will do; not on what they should do. Social distancing is a fine example of failure of measures ordered by governments and civil protection authorities in many parts of the world.

There is no doubt that a Pandemic is equivalent to “B” in CBRN. The pathogen in bioterrorism does not have to be as aggressive as smallpox or Ebola to harm the entire planet. Perhaps Category “A” pathogens to act faster or be more lethal. But approx. 60 million confirmed cases and almost 2 mil deaths are not enough?

The only good thing is the global response of human brains regarding both innovative solutions to the above problems identified and vaccines based on old but also bright new scientific approaches (e.g.,

mRNA). A process usually requiring years to develop was shortened to months and not a single but many vaccines are now candidates to circulate in the global market.

For 2023, the **CBRN Knowledge Center** envisions, in close cooperation with the **MED-Knowledge Center** certain open discussions among CBRN and medical experts targeting two main issues: the personal protective gear used in ICUs and the training of healthcare personnel (all levels) on donning/doffing SOPs by adapting CBRN protocols to civilian needs introducing a security culture in the healthcare sector. These are two topics that we know better than our healthcare colleagues and by working together we can assist them in their heroic battle against SARS-CoV-2 and others. Perhaps, the ongoing pandemic might deny a conference with physical presence but there is always the possibility of webinars and cyber-conferences.

Brigadier General (ret.) Ioannis [John] Galatas, MD, MSc(Terr), MC(Army)

MD Consultant in [Allergy](#) & Clinical Immunology

Medical/Hospital/Ops CBRNE Planner/Instructor

Senior Asymmetric Threats Analyst

Editor-in-Chief: "[HZS C2BRNE DIARY](#)"

Research Associate @ [Center for Security Studies \(KEMEA\)](#) (Greece)

Manager @ CBRN Knowledge Center, [International CBRNE Institute](#) (Belgium)

Senior Advisor @ Research Institute for European and American Studies ([RIEAS](#) - Greece)

Mob: +30 6944 502757 (Viber & WhatsApp)

Skype: kerberoscbnrn

As part of its many activities (conferences, symposium, workshops, courses, etc.) ICI constantly tries to stay at the forefront of the materials made available to trainees and visitors. This could not be a reality without the support of our sponsors (Cristanini, Blücher, Ouvry...) whom we thank for their permanent support for our activities.



The firm **CRISTANINI** Spa, provided us with its new inflatable decontamination tent



The firm OUVRY provides us with protective equipment (PPE)



The firm BLÜCHER provides us with the SARATOGA PPE

D. ICI/MED -KC

Frank Van trimpont is Anaesthesiologist and emergency physician, interested not only for the emergency medicine but also very much for the disaster medicine. Interested in a pedagogic way by being the Academic supervisor of the Certificate of the management of Disaster Situations that he created over 10 years ago or in a practical way through various humanitarian missions in the Philippines, in Palestine, in the Congo, in Sumatra,...

He had the chance to be the assistant general - secretary of the French Society of Disaster Medicine before being one of the founding member of the European Council of Disaster Medicine and the actual President.

The disaster medicine is an exciting discipline and insufficiently explored as a field of research. The Interuniversity Certificate in Multidisciplinary Management of Exceptional Situations was held this year at the premises of ICI Belgium, partner of this certificate. It consisted of two times three days of courses that addressed the legal bases of the organization of relief, the presentation of the different disciplines, the first minutes of disaster management as well as the organization of relief from the construction site to hospital admission through the management of the advanced medical post. The different types of risks are then considered, rail accidents, airplane accidents, food poisoning, organization of preventive devices, nuclear, chemical, bacteriological risk, etc.

The whole of this training brought together candidates from all disciplines.

Also noteworthy is the realization in 2022 of full-scale disaster exercises that took place on military grounds within the SEMI of NIVELLES in Belgium.

This programme is co-managed by the Universities ULB (Brussels), ULG (Liège), UCL (Louvain-la-Neuve) and RMA.

2. Planning 2023: due to the unexpected threats (Ukrainian status, among others) dates of events may be adapted

23 January 2023: the series of courses for emergency first responders will continue according to the following planning : Niv 2 : 23/01 (full !), 13/02, 27/02 (full !), 24/04, 15/05, 18/09, 16/10 Niv 3 : 9-10-11 Jan (full !), 30-31 Jan et 01 Feb (full !), 6-7-8 Mar (full !), 27-28-29 Mar, 5-6-7 Jun, 20-21-22 November: details may be read on <https://ici-belgium.be/events>

21 September 2023: ER-KC IMEKO TC17 ISMCR 2023 : the International Symposium on Measurement and Control in Robotics will be held on September 21-22, 2023 at the "Gheorghe Asachi" Technical University of Iasi, Mechanical Engineering Faculty, Mechanical Engineering, Mechatronics and Robotics Department

B-dul D. Mangeron, 43

70050-Iasi, Romania

Tel.: +40 721 166813

Fax: +40 232 232337

e-mail: ioan.doroftei@academic.tuiasi.ro ; ioan_doroftei@yahoo.com

2023-2024: OVERCOME (Union Civil Protection Mechanism UCPM Project): OVERC.O.M.E. stems from a strategical consortium of ITALY and FRANCE end-users: National Fire and Rescue Service (CNVVF), Departmental Fire and Rescue Service of Savoie (SDIS73) and of Pas de Calais (SDIS62) as well as the specialised International CBRNE Institute (ICI) BE. It enhances a long-lasting cross-border cooperation in the frame of formal protocols between IT and FR which are the formal basis to carry out activities aimed at: i) improving the quality of exchange flow to reduce loss of time during CBRN operations; ii) contributing to enhance mutual cooperation for border general interventions. To reach these objectives the following have been identified in a needs analysis or by direct experience

of the end-users: i) developing shared procedures for joint interventions of teams for CBRN and USAR for CBRN scenarios; ii) customizing for CBRN events the multilingual Prometheus System; iii) developing a virtual operational room within Prometheus (alert phase) overcoming communication barriers for a smooth understanding of the needs and resources whenever requested at the border. It is pivotal to involve senior-experienced end-users who are actively and jointly implementing the tasks supported by ICI. The CBRN and MED-KCs will be in charge of several challenges.

2023: a DRS (Disaster Resilience Society) **Proposal** has been introduced end of November 2022, called RECET (**Fast Reaction on CBRNE eventTs**) and aiming to Enhanced Situational awareness and preparedness of First responders and improved capacities to minimise time-to-react in urban areas in the case of CBRNE related events : 18 partners have been associated to the preparation of this proposal: in close cooperation with the European organization regrouping the Police Antiterrorist Units and the European Network of First Responders organisations, RECET aims to propose improved recognized solutions for the fast reactions of managers and first responders against multiple and unexpected CBRNE dangers in private/public spaces in a urban area, specifically by providing cost-effective tools.

Best wishes for your whole family and Happiness through the coming Year 2023!

