

**CBRN – E-RKC**

[www.ici-belgium.be](http://www.ici-belgium.be)

NEWSLETTER December 2019

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|  | Baudoin |  |
| Yves DUBUCQ  Director of the ICI | Yvan BAUDOIN  Manager ICI/E-RKC | Ioannis GALATAS  Manager ICI/CBRN KC |

**1. Statement 2019**

The year 2019 was as productive as 2018 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 humanitarian demining and robotics on the other hand.

Our main activities in 2019 are summarised as follows:

**5-8 February**: Participation to the 22nd International Meeting of Mine action – National Program Directors and United Nations Advisers.

The topics developed were:

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Emerging Technology for Mine Action in the Context of Displacement

The displacement caused by the current and past conflicts directly impacts humanitarian mine action. This side event will explore various modern technologies, such as precise UAV detection, efficient digital management tools and risk education that can help mitigate these risks.

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| *Speakers:*  *Mr. Brice De Reymaeker, Deputy Belgian National Mine Action Director*  *Mr. Yvan Baudoin, ICI-Belgium*  *Ms. Sanja Vakula, CTDT-HCR, Croatia*  *Mr. Benoît Debruyn, CEO, DRONEVOLT Belgium*  *Mr. Marek Kacprzak, NASK Poland*  *Ms. Emanuela Cepolina, Snail-Aid Technology-Italy*  *Mr. Torsten Vikström, SITE-Sweden* |  |

**07 March:** CBRN Awareness Training of the NCT Team with Hotzone Solutions Group and the International CBRNe Institute: a CBRN awareness course has been given by the Director of Operations of Hotzone Solutions Group, Magnus Backlund and the Director of the International CBRNe Institute’s (ICI), Mr. Yves Dubucq at the ICI HQs in Les Bons Villers, Belgium. The Awareness Course included: amplifying the participants’ knowledge of CBRNE agents and their effect on the human body; the detection of an array of CBR agents; the stages of contamination and decontamination; and the Personal Protective Equipment (PPE) required when confronting the greatest dangers of today. The course provided the IBC team (creator of the NCT events) with an invaluable experience and the knowledge needed to continuously serve the CBRNe community

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**01 April: 9th** International ICI Workshop RISE’2019, focus on CBRNE Measurements and Management, with the support of BEMEKO (www.bemeko.be), NASK (Poland), HCR-CTRO (Croatia), Hotzone Solutions (The Netherlands), S€D (www.seurod.eu): 12 oral presentations and 6 posters lead to fruitful discussions and generated the introduction to a new European proposal (RAPID or Rapid and Accurate Integrated Detection of Pathogens) in answer to the Call DRS02-2019-2020 , based on the following ‘papers’ (may be obtained on request)

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| 1. CBRN Mapping and Threat Assessment – OPCW Follow-Up (Y. Baudoin – ICI Belgium) 2. Smart buoy systems for security and environmental monitoring, HZS Sea Sight. Oliver Terzic, Hotzone Solutions, The Netherlands 3. Multispectral Object Detection for inspection robot. Karol Majek, Janusz Bedkowski, Andrzej Maslowski – PIAP Poland 4. An unmanned air vehicle for radioactive waste inspection. L. Cantelli, D.C. Guastella, D. Longo, C.D. Melita, G. Muscato, S. Sparta´, G. Sutera- Italy 5. Automated Nucleic Acid Based Bio-detection Module for UAV Platforms. Hüseyin Avni Öktem & Zeynep Öktem (Nanobiz Technology Co, Ankara, Turkey) 6. CBRN Protective Systems (POSTER- OUVRY) |  |

**8 April:** The 16th international symposium on Mine Action has been organized by our Croatian Partners in DUBROVNIK (SLANO) from 8 to 11 April (read www.ctro.hr); during this event, a work-meeting focusing on the NATO project Bee4Exp (Biological Method (Bees) for Explosives Detection) was chaired by Professor Nikola Kezic with assistance of Ross N Gillanders, James ME Glackin, Iain A Campbell, Graham A Turnbull, Janja Filipi, Mario Mustra, Zdenka Babic, Vladimir Risojevic, Aleksej Avramovic, Mitar Simic, Vedran Jovanovic, Vladan Stojnic, Slavica Gajic, Nikola Pavković, Ivan Šteker, Dario Petrec and Yvan Baudoin (invited evaluator of the project). A summary of the report may be obtained on request by Ross N Gillanders or Professor Graham A Turnbull ([gat@st-andrews.ac.uk](mailto:gat@st-andrews.ac.uk))



**25 -27 June**: The ICI participates to the NCT-Europe 2019, involved in a workshop focusing on international cooperation and CBRNe training. The partnership with the Austrian Ministry of Defense and the Austrian Armed Forces guaranteed the presence of regional and international stakeholders: from high level decision-makers, to civil and military first responders. Several sponsoring Companies of the ICI held a booth during the exhibition (Hotzone Solutions, Ouvry, Cristanini – sponsors of the ICI, among others). Prof Yvan Baudoin introduced the competences of the ICI: READ http://nct-europe.com/ and https://www.ici-belgium.be/nct-europe-2019-25-27-june-vienna/

**24 – 28 June**: International course financed by UE in Yaoundé: ‘Towards an improvement of the juridical instruments and of the international mechanisms linked to the CBRNe risks in Africa.’ This formation, organized by our ICI Director, allowed him among other invited experts to present to high representatives from 12 African countries the existing legal instruments concerning the CBRN topic. The course was introduced by HH the representative of the Ministry of Interior of Cameroun and the UE representative M. Sébastien Bergeon. Detailed information may be read on https://www.ici-belgium.be/formation-vers-un-renforcement-des-instruments-juridiques-et-des-mecanismes-internationaux-lies-aux-risques-nucleaires-en-afrique/ and https://eeas.europa.eu/sites/eeas/files/communique\_de\_presse\_formationregionalenrbc\_24062019v3.pdf



**2. ISMCR’2019 : link ICI – IMEKO TC17**

The IMEKO TC17, organized the symposium IEEE- ISMCR’2019 in Houston (Clear lake university/NASA)

The symposium focused on various aspects of international research, applications and trends of robotic Innovations for the benefit of humanity, advanced human-robot systems and applied technologies, e.g. in the fields of robotics, telerobotic, simulator platforms and environment and mobile work machines as well as virtual reality/augmented reality and 3D modeling and simulation. The symposium consisted of keynote presentations on the state-of art technology, and topical panels.

Professor EM S.Tachi (University of TOKYO)Telexistence / Telepresence, Augmented Reality / Mixed Reality / Virtual Reality

Professor Y.Baudoin (Royal Military Academy, ICI) : CBRNE Threats: Robotics Assistance to detection and protection.

The Chairman of the symposium, Dr Zafar TAQVI concluded the symposium by welcoming new TC17 members, Read https://www.imeko.org/index.php/tc17-homepage/tc17-members

Our ER-KC manager will take the chairmanship of IMEKO TC17 after ISMCR’2020.

Note that the IMEKO ACTA will publish the selected papers from ISMCR’2018 by End December 2019.

Read by end December: https://acta.imeko.org/index.php/acta-imeko

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| Guastella, Cantelli, Longo, Melita,...(Italy) | [Coverage path planning for a flock of aerial vehicles to...](https://acta.imeko.org/index.php/acta-imeko/sectionEditor/submissionEditing/680) |
| Nauwynck, Balta, De Cubber, Sahli (Belgium) | [A proof of concept of the in-flight launch of unmanned...](https://acta.imeko.org/index.php/acta-imeko/sectionEditor/submissionEditing/681) |
| Doroftei, De Cubber (Belgium) | [Using a qualitative and quantitative validation...](https://acta.imeko.org/index.php/acta-imeko/sectionEditor/submissionEditing/682) |
| Ermolov (Russia) | [Hierarchical data fusion architecture for autonomous systems](https://acta.imeko.org/index.php/acta-imeko/sectionEditor/submissionEditing/684) |
| Goll, Zakharova (Russia) | [An active beacon-based leader vehicle tracking system](https://acta.imeko.org/index.php/acta-imeko/sectionEditor/submissionEditing/685) |
| Goll, Maximova (Russia) | [Ultrasonic rangefinder with resolution in hundredths of...](https://acta.imeko.org/index.php/acta-imeko/sectionEditor/submissionEditing/686) |
| Goll, Borisov (Russia) | [Interactive model of magnetic field reconstruction stand...](https://acta.imeko.org/index.php/acta-imeko/sectionEditor/submissionEditing/688) |
| Ostrowski, Maslowski (Poland) | [Simulator effectiveness test for e-training with the use...](https://acta.imeko.org/index.php/acta-imeko/sectionEditor/submissionEditing/689) |
| Wang, Kiss (Hungary) | [Pre-filter design for exact linearization-based tracking...](https://acta.imeko.org/index.php/acta-imeko/sectionEditor/submissionEditing/697) |

**3. CBRNE Training of Medical Personnel**

**05 March**, at ULB Erasme Hospital, conference for about 100 urgentists in their acquisition of the inter-university training in urgency management

**29 April, 09 September, 14-16 October**, ICI organized its level 2 and level 3 courses for the benefit of emergency department staff from hospitals. The purpose of these courses is to train hospital emergency services to efficiently accommodate people who would be contaminated in the event of terrorist attacks using chemical or radiological compounds. These courses give a large part to the practical work such as dressing and undressing procedures, decontamination, practice of medical intervention in a contaminated environment, realistic scenarios. Read further: https://www.ici-belgium.be/another-successfull-cbrn-course-for-hospital-emergency-services/

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**4. Cooperation Agreements**

A series of cooperation agreements (CA) has been concluded/completed during the year 2019. Formal activities will be discussed in 2020, after the renewal of the CBRNE steering committee.

Read here the current list of our CA



**5. Pre-Planning 2020**

* 1. Following the successful ISMCR’2018 and 2019, we continue to extend the EKC by introducing the Robotics (**E-RKC**): remember that our TIRAMISU partners (ISR-UC, CSIC, RMA, CTDT, UNICT, VALLON, IDS) already suggested the use of remote-controlled vehicles equipped with ‘explosive’ detectors. The ICI (CBRN KC and E KC managers are convinced that the increasing UGV/UAV/USV technology has to be enhanced and improved. As a consequence, our 2020 recruitment actions will focus on a wider community of experts. **We also suggest renewing the steering committee of the CBRN and ER KC in January 2020.**
  2. **The 23nd Meeting of Mine Action National Directors and United Nations Advisers (NDM-UN)** is scheduled to take place from **11 to 14 February 2020** at the Palais des Nations in Geneva, Switzerland. We’ll try to attend the meeting and to propose a presentation focusing on the mine actions (AP, IED, CBRNE) in post-conflictual areas.
  3. A conference will be organized, focusing on the security, with the intervention of **General I. Galatas** (currently Member of the Center for Security Studies” (KEMEA), Athens, Greece (under the Ministry of Public Order & Civil Protection) and Manager of our CBRN KC**, Dr J.Marsia,** President of the AISBL S€D (Society for a European Defense – www.seurod.eu) and **Dr C.Lefebvre** (former Director of the CBRN Service of the French Ministry of Defense). Topics: Terrorisme in Europe, CBRNE in particular, and prevention against such threats. Dates**: 28 February and 27 April.**
  4. **The 10nd International Workshop on Measurement, Prevention, Protection and Management of CBRNE risks (RISE-MPPM-2020**) will follow the successful 9th IARP-RISE’ 2019 (Risky Intervention-Environmental surveillance) held at ICI and it is aiming to gather high quality original contributions in the CBRNE field and associated CBRNE measurements, prevention, protection and management with the final goal of assessing the most recent developments in this utmost domain of science and technology. The workshop scope covers a broad spectrum ranging from advanced conceptual and virtual design and methodology, sensors, actuators, instrumentation, and real-time control algorithms to innovative robotics, mobile (ground/aerial/undersea) robotics, personal and collective protection, multilevel rescue operations and management applications. Dates: **19-20 March 2019** (visit: [www.ici-belgium/event](http://www.ici-belgium/event) )
  5. **17th International symposium on Humanitarian Mine Actions**: this will be held in VODICE (Sibenik county) 06-09 April 2019. We invite the experts EOD/IED to attend this symposium organised by our associated CTRO company ([www.ctro.hr](http://www.ctro.hr) ): contact Sanja Vakula (Sanja.vakula@ctro.hr)
  6. **The ISMCR’2020** will take place in Budapest on October 02-03. www.ismcr.org
  7. **The 23rd Symposium CLAWAR’2020** will take place in Moscow on 24-26 august: www.clawar.org

**4. MEMBERSHIP**

We are currently welcoming our new members, all having participated

to the above-mentioned events.

May we remind you (if already registered) to introduce your data (picture, publications, CV)

by LOGIN on [www.ici-belgium.be](http://www.ici-belgium.be)

If you forgot you PW and LOGIN, contact: yvan.baudoin@ici-belgium.be

**5.SPONSORS.**

We take advantage of this newsletter to once again assure our sponsors of our recognition. Their continuous support allows us to continue to develop for the benefit of all.

   



**Dear Friends,**

**Merry Christmas and best wishes for the whole family and Happiness through the coming Year 2020!**

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