



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

NEWSLETTER December 2018



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1. Statement 2018

Our activities in 2018 are summarised as follows:

23 January: Information Day open to Security Services in Belgium, with the participation of Minister André FLAHAUT from the Wallonia-Brussels Federation and the contribution of Jean MARSIA, Director of the Society for a European Defence (www.seurod.eu): proceedings may be obtained on request by info@ici-belgium.be

12-15 February: Participation to the 21st International Meeting of Mine action – National Programme Directors and United Nations Advisers. Torsten Vikström and Yvan Baudoin contributed to the “Rapid Fire Innovations Round-Up” with two presentations: (1) The Counter-IED challenges and tools; and (2) The Information Management developed by SITE (read <https://www.ici-belgium.be/21st-international-meeting-of-national-mine-action/>).



03 April: A cooperation agreement has been signed between the ICI and the Vinča Institute of Nuclear Sciences.



20 April: Participation at the 15th International Symposium on Mine Action in Croatia of Professor Motoyuki SATO (Tohoku University, member of EU TIRAMISU), Nikola Pavković (CTRO, now coordinator of a NATO study focusing on the honeybees together with St Andrews University (USTAN), the Faculty of Geodesy of Zagreb (Professor Kezič) and Torsten Vikström (SITE).



3-6 September: XXII World Congress of the International Measurement Confederation (IMEKO 2018) Belfast, United Kingdom. With the support of colleagues of from the FP7-TIRAMISU project, Y.Baudoin introduced a paper entitled: "Unmanned ground and aerial robots supporting mine actions activities". Papers of the congress may be read on <http://iopscience.iop.org/volume/1742-6596/1065>

24-26 September: Organization of the ELROB'2018 competition (with the active involvement of the Fraunhofer Institute of Germany: visit www.elrob.org), in parallel with the International Symposium ISMCR'2018 (read report below and proceedings on <https://www.ici-belgium.be/international-symposium-on-measurement-and-robotics-ismcr2018/>)

07November: a cooperation agreement was signed with the NASK (Digital Mobile robotics) (visit www.nask.pl), lead by Professor Maslowski; a first objective, entrusted to Dr Marek Kacprzak, will consist in the dissemination of 'Risk Education Training, Mine Risk education in particular'



NASK



2. ISMCR'2018 : towards a renewed E-RKC including the CBRNE Robotics

From 24 to 27 September 2018, on the 'HAINAUT Security' site (RPA), located in BAUFFE (Mons, close to CHIEVRE airport and CASTEAU NATO headquarters), the annual competition to demonstrate the capabilities of mobile robots in realistic scenarios was held.

The ELROB'2018 competition presented 16 teams of which five (NIC Instruments Ltd-UK, TELEROB GmbH-GE, BROKK Ltd.-SE, ELP GmbH-GE, TAUT-AT) tested on explosive and CBRN device detection capabilities and seven competitors tested on rescue capabilities for victims (TELEROB GmbH-GE, Fraunhofer & TNO-GE-NL, BISG-FI, TAUT, BROKK and ELP, AVRORA-RU). The aim of these competitions is to promote the best advances in technology and to strengthen cooperation in research.

The ELROB event has been doubled this year by the organization of the 21st International Symposium on Robotics (ISMCR'2018¹) under the auspices of the International Confederation IMEKO, and more particularly its technical committee (TC17) coordinator of research in robotics, chaired by Japan, of which Belgium is an active member in charge of the organization of this symposium.

Twenty-seven contributions were presented during two days, introduced by six Key-note speakers, namely Lieutenant Colonel MONET (France) , Dr Kris KIDD (TOTAL ARGOS), Prof EM GRADETSKY (IPMNET, Moscow, Russia), Prof INAMI (University of Tokyo, Japan, secretary of the IMEKO TC17), Prof EM Baudoin (on behalf of General I. GALATAS, Manager of the ICI/CBRN KC), vice-chair of IMEKO TC17 (and current chairman of the ISMCR'2018).

LtCol Monet, CBRNE advisor of the French Civil Protection focused on the importance of UGV and UAV for mastering hazard risks. Dr Kidd, Manager of the International Robotics Competition ARGOS (interventions for protecting gas and oil sites), focused on the necessary automation of the industrial safety and security issues. Professor Gradetsky summarized the state-of-the-art of mobile robotics, illustrated by the current status of the R&D activities in this domain in Russia and in Western Europe respectively. Professor Inami focused on the challenges posed by the evolving smart society.

Our CBRN and EKC managers detailed the need of Robotics Systems in CBRNE intervention.

The managers of the ELROB teams introduced their competences in mobile robotics during the Technical Session of ISMCR.



¹ See program on www.ici-belgium.be/events and www.elrob.org

Supported by the VUB (Professor Van Biesen, current representative of BEMEKO (Belgian Branch of IMEKO) and the FPMs (Professor Dehombreux, former Dean of the Polytechnic Faculty of Mons), the material organization of the symposium has been entrusted to our Institute.

The Royal High Institute for Belgian Defense, R&D department, supported the ISMCR'2018 event and the Robotics Exhibition by financing the location of the RPA Site.

Attending the symposium, professors Inami (Japan), Muscato (Italy), Marques (Portugal), Maslowski (Poland), Gradetsky (Russia), Kiss (Hungary), now members of the TC17, as well as Dr Zafar Taqvi (US) new chairman of the IMEKO TC17, concluded the symposium by summarizing the objectives of the committee and preparing the next ISMCR'2019 that will take place in Houston (USA) on **19-21 September 2019**.

The topics of the ISMCR'2018 may be summarized as follows:

- ◆ E-training and Simulations of Robotics Systems (4 papers).
- ◆ Measurement and Control with sensor Systems (3 papers)
- ◆ Intelligent mapping and Navigation (5 papers)
- ◆ Architecture of Robotics Systems (7 papers)
- ◆ Artificial Intelligence (2 papers)
- ◆ Validation through state-of-the-art of mobile robotics systems (4 papers)

3. Pre-Planning 2018-2019

- 1.1. Following the successful ISMCR'2018, we decided 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 2019 recruitment actions will focus on a wider community of experts.
- 1.2. **CoU Network**: Most members of the ICI/EKC are now members of the DG HOME Security CoU (Community of Users). The 12th Plenary Meeting has been organized from **03 to 05 December**. The meeting focused on Forensics, Civil-Military Cooperation in CBRN. Don't hesitate to become member of the CoU for getting useful information on the HORIZON 2020 Calls and consultation (<https://www.securityresearch-cou.eu>).
- 1.3. **The 22nd Meeting of Mine Action National Directors and United Nations Advisers (NDM-UN)** is scheduled to take place from **Tuesday 5 to Friday 8 February 2019** at the Palais des Nations in Geneva, Switzerland. We'll try to attend the meeting and to propose a presentation: **suggestions are welcome!**
- 1.4. **The 9th International Workshop on Measurement, Prevention, Protection and Management of CBRNE risks (RISE-MPPM-2019)** will follow the successful 8th IARP-RISE' 2015 (Risky Intervention-Environmental surveillance) held at the Portuguese Naval Base (BNL) in 2015 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: **01-03 April 2019** (visit: www.ici-belgium/event)
- 1.5. **16th International symposium on Humanitarian Mine Actions**: this will be held in SLANO (Croatia) on 08-11 April 2019. We invite the experts EOD/IED to attend this symposium organised by our associated CTRO company (www.ctro.hr): contact Sanja Vakula (Sanja.vakula@ctro.hr)

4. MEMBERSHIP

We are currently welcoming our new members, all having participated to the ELROB and ISMCR events.

May we remind you (if already registered) to introduce your data (picture, publications, CV) by LOGIN on www.ici-belgium.be

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

**We take the opportunity of this 2018 Newsletter
to wish you and your families
a wonderful and relaxing festive season
and
a Happy, Healthy and Successful New Year!**

