

IFAFRI NEWS

Photo: IFAFRI delegation visiting the Emergency Response Coordination Center (ERCC) in Brussels (December 2018).

A cross-Atlantic perspective: IFAFRI member Gregory Krätzig (Canada)

Gregory is the Director of Research and Strategic Partnerships at Depot Division, the RCMP's Training Academy in Regina, and works for the Royal Canadian Mounted Police (RCMP). He is mainly engaged in work activities related to the research, development and innovation of training. Gregory has conducted groundbreaking research that has seen technology introduced in a police training environment. In using simulation better prepares first responders for situations they might face in real life. Find out more about Gregory: <https://www.cipsrt-icrtsp.ca/about-us/public-safety-steering-committee/greg-kratzig/>.

By Manouk Zwartkruis

Could you tell us a bit about your interest within IFAFRI?

I joined IFAFRI quite a few years ago, and it was during a conversation with IFAFRI member Collin Murray from the Defense Research and Development Canada (DRDC) that he told me about IFAFRI. He is the one who ultimately got me on the R&D-Committee. The reason why he singled me out was because of the work that I have been doing for the past twelve years on simulation. Those areas include driving, fire arms and the use of force simulation in a police tool environment. That is how I became part of IFAFRI. My involvement with IFAFRI has reinforced the importance of using technology for training for the first responder community. More recently, I have been working with the Defence Science and Technology Laboratory (DSTL) in the UK who are world leaders developing virtual reality for police training.

IN THIS ISSUE

IFAFRI MEMBER INTERVIEW:
GREGORY KRÄTZIG (P. 1-4)

IFAFRI UPDATES (P. 5)

TECHNOLOGICAL DEVELOPMENTS
(P. 6-8)

UPCOMING IFAFRI & FIRST
RESPONDER EVENTS (P. 9)

Why did Canada decide to engage in IFAFRI?

The Defense Research Development Canada Safety and Security Program (DRDC-CSSP) has been supporting first responder research for years. The CSSP has funded most of my research, and it was through this important partnership that the RCMP was able to incorporate technology into training. However, it is important to also look behind our borders to learn what work is being done. The second reason is that there is a lot to learn and IFAFRI is an extensive network that brings together experts from throughout Europe. There are a lot of really good opportunities to share back and forward between Canada and Europe.



How can Canada make a contribution to move IFAFRI forward?

What is in your opinion the added value of a global community like IFAFRI?

It is important to remember that we cannot do this alone, because not one country, agency or group is perfect in everything that they do. So leveraging the information, the knowledge, the expertise that is available is going to help first responders everywhere. We have learned much in Canada and we are wanting to share our results with anybody who wants it, this will then allow other groups to build on that knowledge and make improvements and vice versa. I think a good example is that we are interested in working with virtual reality (VR) for police training, but we do not have the expertise to do everything. Although we do have pretty good knowledge in certain areas, we do not have the resources and we do not have the expertise to do this alone. So we have put together a working group that brings together agencies from Canada the US and the UK who are working together collectively.

By pooling our expertise we are able to address knowledge gaps that ultimately benefit everyone to achieve a common goal. Being part of IFAFRI would provide those same opportunities but on a much larger and international scale with many countries involved.

I think I will go back to my same response of my example of the use of virtual reality. It builds relationships but it also expands our knowledge base and allows us to contribute to the international community. So it is valuable for all parties.

Do you think there is a certain expertise in which Canada excels?

I think one area we definitely lead on is the use of simulation in police training. In particular how simulation is being used for pistol marksmanship training. We have tremendous expertise in that area and we are using that technology in a way that nobody else is using it right now. I think that is one example of how we can really contribute.

You received an award for distinguished professional achievement. Could you explain a bit what your research is about? And in what way this could be valuable for IFAFRI to learn from?

That award was quite out of the blue and unexpected. At that time I had been investigating simulation as a means in which to deliver training for about ten years. The three primary areas are both: the use of force, driving and marksmanship, and had been looking for ways how this technology can be used in a training environment. Not only to find efficiencies but to examine skills transfer and enhanced training. We needed to find ways to training, when in the past traditional live training was difficult, dangerous or not possible. My award was a recognition of the work that resulted in driving simulation being incorporated into the driving program and simulation being introduced into the firearms training program.

What was particularly rewarding was that this research was not conducted for the sake of doing research but inside was done trying to answer very specific questions that would be used in a live training environment. My research has since been replicated by agencies in the United States as well as another agency here in Canada who are both now using the marksmanship simulation as a means in which to train.



It has proven to be groundbreaking, since nobody has done this type of research, let alone on this scale before. It has been a long journey but it has been a lot of fun to work on this type of research. One of the lessons out this is that the RCMP sees tremendous value in conducting research and having a research unit in order to enhance training in a whole variety of different ways.

Could you explain what the marksmanship training entails?

I was interested to see if you could replace live fire pistol training with a simulator and if the skills acquired in a simulator transfer to a real world setting. This research took about six years to complete, and what we were able to prove is that you can learn how to shoot without shooting a real gun and the skills transfer into a live environment. Maybe more importantly those skills are retained based on their in-field performance. To be able to provide evidence to that effect. Perhaps most importantly is that my research was replicated by two other independent agencies in Canada and the United States. They got the same results which further validated the use of this technology in training.

How can your experiences as Director Research and Strategic Partnerships contribute to further develop IFAFRI's vision?

I think I can bring that research into a operational setting to the group. Our group is quite varied and the amount of experience and knowledge is quite impressive. Bringing academia and operations together and demonstrating how well this works, I hope will provide value to the larger group.

What has in your opinion been one of the main breakthroughs in research, development and innovation in Canada regarding technologies to advance First Responder activities?

I think there were a few things. Without a doubt simulation would be number one and the expanded use of this technology. I am working on a government procurement strategy for all of Canada for simulation, as there is tremendous interest in using simulation for training and testing. The second would be the use of virtual reality. Many agencies want to use this technology but there is still a considerable amount of work, effort and money that needs to be invested. But the end state will see police, fire or emergency services eventually train in this environment. I was in Washington DC recently which saw Canadian, US, UK and Israeli law enforcement representatives all interested in using technology in training. One of our days was dedicated to virtual reality and many agency demonstrated the capabilities that had been developed. So a lot of effort is going into that and lots of collaboration.



What do you prospect for the future of IFAFRI?

I think one of the things I would like to see, if it is possible, is for projects be developed and supported by IFAFRI. I think that is what I would love to see. Collaboration either between countries or agencies, I would love to see more collaboration and working on a common problem together. The virtual and face-to-face meetings are really important as far as relationship building goes. It is from those relationships we are building that we can start to work on common projects and to do research and make the results available for everybody. That is what I would like to see in the future.

What made Canada decide to host the next SOO meeting? And do you see any benefits for IFAFRI as a whole?

It started as a good opportunity to have members come to Canada to see first hand the work that we are doing. It is a great country and a great venue. When it was announced that IFAFRI was looking for a place to host the next meeting I did not think twice. So that is why we decided to apply and put the offer out there and see if people will be able to come.

IFAFRI Updates

NEW IFAFRI R&D CHAIR

Mr Wim Beckmann (The Netherlands)

Wim is currently working as director of science and education at the Institute for Safety in The Netherlands. He has much experience in different fields of sensitive political, strategic and dynamic policy issues. Furthermore, he has much knowledge in research and development which can contribute to moving the R&D Committee forward. Wim is managing the Fire Service Academy and therefore has much knowledge on First Responder trainings and activities.

Find out more about Wim: <https://nl.linkedin.com/in/wim-beckmann-96584124>

NEW IFAFRI Stakeholder Engagement Committee CHAIR (Candidate)

Mr Ron McNeal (United States of America)

Ron McNeal has been active within DHS for almost eight years now. He started working in the Borders and Maritime Security Division S&T. After three years he moved within DHS to the position of Staff director to the Advanced Research Projects Agency (HSARPA). He currently fulfils the position of Transition Director in the Silicon Valley Innovation Program (S&T). With his experiences within different fields he will be of great value to further engage IFAFRI with potential industry stakeholders. The Stakeholder Engagement Committee Chair fulfils a connecting role by engaging this industry with IFAFRI. Find more about Ron: <https://www.linkedin.com/in/ron-mcneal-08a4796>

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Update European Industry Day (15 October 2019, Brussels)

Last year the United States organised an Industry Day to engage industry stakeholders with relevant IFAFRI gaps. This year, an European version will be organised by the current IFAFRI Chair, the European Commission (DG HOME). The concrete objectives of the EU Industry Day are to:

- Inform stakeholders of IFAFRI initiatives and interests, including the Common Global Capability Gaps, the SOOs and the Deep Dive analyses;
- Present each of the SOOs to stakeholders in greater detail in order to provide them with a clearer understanding of the specific operational performance parameters required by responders;
- Provide an opportunity for stakeholders to directly engage with IFAFRI members and first responders of all disciplines regarding each of the Capability Gaps and their accompanying SOOs; and
- Collect feedback from stakeholders regarding the IFAFRI, its Common Global Capability Gaps and the SOOs.

You can sign up for the Industry Day by filling in the registration form: <https://ec.europa.eu/eusurvey/runner/IndustryDay2019>

Update Capability Gaps Committee from Stefan Tangen (Committee Chair, Sweden)

The work in the Capability Gaps Committee is progressing well. Many of the involved countries have recently worked on analysing what is needed for first responders from a national point of view. After a comparison, we came to the conclusion that several identified gaps were common for all countries involved and therefore IFAFRI will expand the list of common global capability gaps for first responders to a total of 10 gaps. The capability gap committee is also working on 'Statement Of Objective' (SOO) documents with the purpose of breaking down identified gaps into more detailed technical parameters that describes what requirements a solution to a gap needs to fulfil. In order to ensure the validity of these documents we organise meetings where we meet together with first responders from various parts of the world representing the police, the ambulance and the rescue services and discuss what is really needed from a practical point of view. It is vital that new equipment that is developed will truly be adapted for all the conditions a first responder need to face. After meeting with first responders in Cologne last year, the next step is to develop documents for the remaining gaps. If everything is progressing according to the plan, we expect to arrange another validation meeting together with first responders in September for the remaining gaps.

TECHNOLOGICAL DEVELOPMENTS

Stay up-to-date and learn about close-to-market projects which have relevance to addressing the IFAFRI gaps. In this issue we have selected four IFAFRI-relevant projects.

PROJECTS

Assistant for Understanding Data through Reasoning, Extraction and sYnthesis (AUDREY) | Active | Relates to gap 4

AUDREY is a human-like reasoning program for automated big data analytics. AUDREY can learn, adapt and tailor answers to each level of the chain of command, depending on what each responder would need to know. The main goal is to prevent information overload, while giving responders enough information at the right time to improve their performance. Link: https://www.dhs.gov/sites/default/files/publications/NGFR_AUDREY-FactSheet_180501-508.pdf

Retrieval and Analysis of Heterogeneous Online Content for Terrorist Activity Recognition | Active | Relates to gaps 2 and 4

Law Enforcement Agencies (LEAs) across Europe face today important challenges in how they identify, gather and interpret terrorist generated content online. The Dark Web presents additional challenges due to its inaccessibility and the fact that undetected material can contribute to the advancement of terrorist violence and radicalisation. LEAs also face the challenge of extracting and summarising meaningful and relevant content hidden in huge amounts of online data to inform their resource deployment and investigations. the main objective of the TENSOR project is to provide a powerful terrorism intelligence platform offering LEAs fast and reliable planning and prevention functionalities for the early detection of terrorist organised activities, radicalisation and recruitment. The platform integrates a set of automated and semi-automated tools for efficient and effective searching, crawling, monitoring and gathering online terrorist-generated content from the Surface and the Dark Web. and data protection. The project brings together industry, LEAs, legal experts and research institutions.

Link: <https://cordis.europa.eu/project/rcn/203292/factsheet/en>



Activation of Body Worn Camera without Responder

Manipulation | Active | Relates to gap 2 and 3

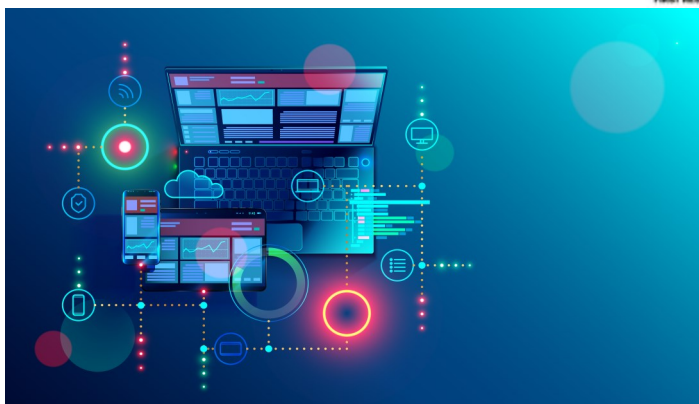
HTI will develop a multi-factor automated activation system for body-worn cameras. This device will be comprised of individual sensors, which will activate a camera for data capture automatically in response to certain critical events – upon the removal of a responder's weapon from its holster, upon exit from vehicle, upon recognition of elevated voice or sound levels, or upon detection of elevated physical stress, in addition to both manual activation and remote activation by a third party. The sensor system is intended to supplement and improve the current process of camera activation rather than replace it.

Link: <https://cordis.europa.eu/project/rcn/199077/>

Quality of Service and prioritisation for emergency services in the LTE RAN stack | Active | Relates to gaps 2 and 4

Q4HEALTH project is an innovation action focused on the optimisation of real time video for emergency services over LTE. The project is implemented as a set of experiments conducted over the FIRE platforms PerformLTE and OpenAirInterface. The motivation is to study video performance in scenarios with wearable live video for first responders, improving its response on LTE-A with a particular innovation focus on 3GPP release 12. To achieve this goal six different experiments will be performed focused on resolving a set of six challenges identified as well as addressing a range of KPIs Q4HEALTH faces different challenges, the inability of applications to negotiate a QoS agreement with the network, the delays introduced on live video, the appropriate scheduling algorithms on the access nodes, the service availability on indoor scenarios and the communication between geographically correlated entities.

Link: <https://cordis.europa.eu/project/rcn/199077/>



Development and Demonstration of monitoring strategies and technologies for geological disposal | Active |

Relates to gaps 2 and 4

The Modern2020 project aims at providing the means for developing and implementing an effective and efficient repository operational monitoring programme, taking into account the requirements of specific national programmes. The work allows advanced national radioactive waste disposal programmes to design monitoring systems suitable for deployment when repositories start operating in the next decade and supports less developed programmes and other stakeholders by illustrating how the national context can be taken into account in designing dedicated monitoring programmes tailored to their national needs.

The work is established to understand what should be monitored within the frame of the wider safety cases and to provide methodology on how monitoring information can be used to support decision making and to plan for responding to monitoring results. Research and development work aims to improve and develop innovative repository monitoring techniques (wireless data transmission, alternative power supply sources, new sensors, geophysical methods) from the proof of feasibility stage to the technology development and demonstration phase.

Innovative technical solutions facilitate the integration and flexibility of required monitoring components to ease the final implementation and adaptation of the monitoring system. Full-scale in-situ demonstrations of innovative monitoring techniques will further enhance the knowledge on the operational implementation of specific disposal monitoring and will demonstrate the performance of the state-of-the-art, the innovative techniques and their comparison with conventional ones.

PROJECTS

SayVu-OKSI Integrated System | In development |

Relates to gap 1

SayVU offers a combined solution which

- incorporates indoors navigation, critical POI, location alerts and updates into a smartphone application for use by first responders;
- integrate layered location, navigation and dynamic crisis arena in resource management and personnel allocation;
- incorporate FR and other reporters' status and functionality with event management;
- integrated real time and pending threat detection, monitoring, analysis, and reaction.

DRIVER+ | Active | Gap 4

There are many types of disasters, both man-made and natural, that crisis management (CM) professionals have to deal with today. DRIVER+ is a unique, multi-national project, working across many sectors, looking to find ways to implement a new approach to improving crisis management in Europe. The DRIVER+ project brings together researchers, developers and practitioners from across Europe and focuses on three key areas: (1) Improving civil society resilience so that local communities are better prepared to respond to, and recover from, a disaster; (2) Strengthening first responders in terms of the crisis management solutions they have available to them; (3) Training and learning solutions designed to enhance the capacities and capabilities of trainers and human resources professionals dealing with those involved in crisis management. Link: <https://www.driver-project.eu/>

FIRST RESPONDER EVENTS

International Federation of Fire and Rescue Services—Delegates Assembly | 19 July, 2019 |

Switzerland, CH

The next CTIF Delegates Assembly will be held in Martigny, Switzerland, on July 19, 2019. The Delegates Assembly is CTIF's yearly congress when all overall formal decisions are made. It is also a wonderful opportunity to network and learn from colleagues and friends. Link: <https://www.ctif.org/>

14th European Congress on Disaster Management | 27–28 August, 2019 | Berlin, DE

This **international conference of experts** in Berlin keeps the different decision-makers and players in the field of disaster control informed of the latest developments.

The Congress **promotes an active dialogue among authorities, universities and experts in the area of disaster control and civil protection**. Every year, this conference was a meeting place for 600 participants from more than 40 nations in Berlin. Together they reflect political developments, deepen cooperation and create networks. The Congress will be held in English and German. This event allows the significant actors in European and International civil protection to **exchange ideas, strengthen their contact and to discuss future challenges**. The European Congress on Disaster Management is an integrated part in the calendars of decision makers from home and abroad.

Link: <https://www.civil-protection.com/>

CCR Summit | 9–10 October, 2019 | Hoeven, NL

The annual International CCR Summit successfully addresses synergies between stakeholders, policymakers versus operations and multi agency collaboration within Public Safety and Homeland Security. In a 2-day program with 4 parallel streams of interactive Summit Break-Out Sessions, Masterclasses & Workshops current challenges will be assessed, discussed and addressed using (inter) national showcases. Link: <https://www.ccrsummit.com/>

The Emergency Medicine Congress (EUSEM) | 12–16 October, 2019 | Prague, CZ

The European Society for Emergency Medicine (EUSEM INPO) is a non-profit making scientific organisation whose aim is to promote and foster the concept, philosophy and the art of emergency medicine throughout Europe. The ultimate objective of the Society is to help and support European nations to achieve the specialty of emergency medicine. Born as a society of individuals in 1994 from a multidisciplinary group of experts in emergency medicine, since 2005 EUSEM also incorporates a Federation which currently includes 30 European national societies of emergency medicine. Link: <https://eusem.org/>

International Association of Chiefs of Police (IACP) | 26–29 October 2019 | Chicago, US

The IACP Annual Conference and Exposition is the largest and most important law enforcement event of the year — more than 16,000 public safety professionals come to learn new techniques, advance their knowledge and careers, and equip their department for ongoing success. The three tenants of conference are training, networking, and exhibit hall education. IACP 2019 spans four days of education and networking. The Exposition Hall is open Sunday-Tuesday of the conference to meet with 600+ vendors showcasing products and services to assist the law enforcement profession. Link: <https://www.theiacpconference.org/>

FIRST RESPONDER EVENTS

5th International Conference on Law Enforcement & Public Health | 21—23 October, 2019 | Edinburgh UK

LEPH 2019 is a conference exploring the complex and diverse intersections of law enforcement and public health, involving practitioners, policy makers and researchers from these and other related sectors. Understanding this common ground is critically important, with many current social, humanitarian, security and broad public health issues requiring an inter-sectoral approach. In this emerging field it is important to bring together practitioners, policy-makers and academics to explore the nature of the myriad interactions between police and public health.

Link: <https://leph2019edinburgh.com/>



International Disaster Response EXPO | 3—4 December 2019 | Olympia, London, UK

International Disaster Response Expo tackles some of the most challenging threats to our nations whether man made or natural disasters. It is unique in being the first event to unite the entire international disaster response community, from aid to military.

Link: <https://www.disasterresponseexpo.com/visiting>



If you want to know more about IFAFRI, please go to the IFAFRI website: <https://www.internationalresponderforum.org/> and watch the IFAFRI video.

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