

**Monday 22/05/23 Afternoon**

Time from

Time to Activity

**Optional Seminar**

13 h 00	17 h 45	<b>Optional Seminar (registration required)</b>
13 h 00	14 h 15	Introduction on Non-Lethal-Weapon and Risk assessment of Kinetic Energy Non-lethal Impacts <b>Cyril Robbe, Royal Military Academy – Department of Weapons Systems and Ballistics, BE</b>
14 h 15	14 h 45	Short break or Live demo in the ABAL ballistic laboratory (TBC) <b>Maj Jurgen Grossen, Royal Military Academy – Department of Weapons Systems and Ballistics, BE</b>
14 h 45	16 h 00	Taser and FN 303 : operational aspects from the users point of view <b>Peloton Anti-Banditisme, Special Unit Liege police, BE</b>
16 h 00	16 h 30	Short break or Live demo in the ABAL ballistic laboratory (TBC) <b>Maj Jurgen Grossen, Royal Military Academy – Department of Weapons Systems and Ballistics, BE</b>
16 h 30	17 h 45	Counter UAVs - State of the art <b>Alexandre Papy, Royal Military Academy – Department of Weapons Systems and Ballistics, BE</b>

**Registration and Welcome drink**

18 h 00	20 h 00	Registration, poster installation, oral presentation upload <b>Registration drink</b>
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**Tuesday 23/05/23 Morning**

<b>Time from</b>	<b>Time to</b>	<b>Activity</b>
9 h 00	9 h 30	Doors and registration desk are open
<b>Welcome and Keynote Session</b>		<i>Chair : Alexandre Papy</i>
9 h 30	9 h 45	Opening and Welcome <b>Admiral Yves Dupont, Commander of the Royal Military Academy, BE</b>
9 h 45	10 h 00	Welcome from the European Working Group <b>Rear Admiral Massimo Annati, Chairman of the European Working Group, ITA</b>
10 h 00	10 h 10	Word from the organization <b>Alexandre Papy, Royal Military Academy - Weapon systems and Ballistics department, BE</b>
10 h 10	10 h 50	Keynote speech <b>Professor Cynthia Bir, Chair, Biomedical Engineering at Wayne State University, USA</b>
<b>Coffee break</b>		
10 h 50	11 h 25	Coffee break
<b>Doctrinal and Legal Aspects</b>		<i>Chair : Graham Smith</i>
11 h 25	11 h 55	NATO Intermediate Force Capabilities Concept Development and Experimentation <b>John Nelson, NATO SAS-151 Co-Chair, SAS-MSG-180 Vice Chair, and JNLWCG Vice Chair, USA</b>
11 h 55	12 h 25	Characterizing the Impact of Non-Lethal Weapons <b>Krista Romita Grocholski, RAND Corporation, USA</b>
12 h 25	12 h 55	Industry challenges in front of heterogeneous regulations applicable to Less Lethal solutions in Europe <b>Fabio Ferretti and Aureore Richter, Legal counsels at FN Herstal, BE</b>
<b>Lunch break</b>		
12 h 55	14 h 05	<b>Lunch</b>
<b>Official photo</b>		
14 h 05	14 h 20	<b>Official photo</b>

**Tuesday 23/05/23 Afternoon**

<b>Time from</b>	<b>Time to</b>	<b>Activity</b>	
		<b>Use of Non-Lethal Weapons - Operations and reports</b>	<i>Chair : Willem-Jan Linders</i>
14 h 20	14 h 50	Literature review of case reports regarding NLW thoracic impacts <b>Anca Andrei, Royal Military Academy - Weapon systems and Ballistics department, BE</b>	
14 h 50	15 h 20	Non-Lethal Weapons Within the Police: Long Term Analysis of Real cases <b>Alexandre Papy, Royal Military Academy - Weapon systems and Ballistics department, BE</b>	
		<b>Posters in the spotlight - Poster session &amp; coffee break</b>	
15 h 20	15 h 35	Posters 1-2	
15 h 35	16 h 25	Coffee & poster session	
		<b>Conducted Energy Devices - Operations and reports</b>	<i>Chair : Alexandre Papy</i>
16 h 25	16 h 55	UK Physical Assessment of the TASER 7™ system <b>Graham Dean, Counter-Terrorism and Security Division, Defence Science and Technology Laboratory, UK</b>	
16 h 55	17 h 25	Operational Use of CEDs in the UK <b>Andy Harding, National Police Chiefs Council Less Lethal Weapons, UK</b>	
17 h 25	17 h 55	The UK medical assessment of the TASER 7™ <b>Robert Sheridan, Defence Science and Technology Laboratory (Dstl), UK</b>	
		<b>Welcome Reception</b>	
17 h 55	20 h 25	<b>Aperitif dinner</b>	

**Wednesday 24/05/23 Morning**

<b>Time from</b>	<b>Time to</b>	<b>Activity</b>	
	8 h 30	9 h 00	Doors and desk are open
	9 h 00	9 h 05	Administrative remarks (organizers)
<b>Conducted Energy devices - New technologies</b>		<i>Chair : Sarah O'Rourke</i>	
	9 h 05	9 h 35	Cardiac safety using a swine surrogate model for a new concept conducted electrical weapon <b>Donald Dawes, Exer Urgent Care, USA</b>
	9 h 35	10 h 05	Comparative Effectiveness of a New Generation Conducted Electrical Weapon <b>Sebastian Kunz, Ulm University, Institute of Forensic Medicine, GER</b>
	10 h 05	10 h 35	Human physiologic changes with exposure to a new concept conducted electrical weapon <b>Donald Dawes, Exer Urgent Care, USA</b>
	10 h 35	11 h 05	Safety Profile of New TASER Conducted Electrical Weapon Darts <b>Jeffrey Ho, Univ. of Minnesota Medical School, Dept. of Emergency Medicine, USA</b>
<b>Posters in the spotlight - Poster session &amp; coffee break</b>			
	11 h 05	11 h 20	Posters 3-4
	11 h 20	11 h 55	Coffee & poster session
<b>Kinetic Energy Non-Lethal Weapons - New technologies</b>		<i>Chair : Cyril Robbe</i>	
	11 h 55	12 h 25	FN Herstal's vision for next-gen Less Lethal weapons <b>André Claessen, FN Herstal, BE</b>
	12 h 25	12 h 55	SMARTSHOOTER - Real time Fire Control Systems <b>Michael Fiedler, Smart Shooter, IL</b>
<b>Lunch break</b>			
	12 h 55	14 h 05	<b>Lunch</b>

**Wednesday 24/05/23 Afternoon**

<b>Time from</b>	<b>Time to</b>	<b>Activity</b>	
<b>Counter UAV - Assessment</b>			<i>Chair : Alexandre Papy</i>
14 h 05	14 h 35	Assessment of Counter Drones in the UK <b>Andy Harding, National Police Chiefs Council Less Lethal Weapons, UK</b>	
14 h 35	15 h 05	Towards standardized test methods for assessing the performance of counter-drone solutions <b>Alexandre Borghraef, Royal Military Academy - Mechanics department, BE</b>	
<b>Posters in the spotlight - Poster session &amp; coffee break</b>			
15 h 05	15 h 15	Posters 5-6	
15 h 15	15 h 50	Coffee & poster session	
<b>Counter UAV - Assessment</b>			<i>Chair : Martin Hubbard</i>
15 h 50	16 h 20	Human collateral damage assessment of a pellet C-UAS system using a gelatine based standardized surrogate <b>Cédric Ameloot, Royal Military Academy - Weapon systems and Ballistics department, BE</b>	
16 h 20	16 h 50	Are dedicated C-(s)UAS systems effective enough against realistic threats ? <b>Alexandre Papy, Royal Military Academy - Weapon systems and Ballistics department, BE</b>	

**Thursday 25/05/23 Morning**

<b>Time from</b>	<b>Time to</b>	<b>Activity</b>	
	9 h 00	9 h 30	Doors and desk are open
	9 h 30	9 h 35	Administrative remarks (organizers)
<b><i>Kinetic Energy Non-Lethal Weapons - Evaluation</i></b>		<b><i>Chair : Graham Smith</i></b>	
	9 h 35	10 h 05	NATO standardized method for assessing the thoracic impact of Kinetic Energy Non-Lethal Weapons <b>Cyril Robbe, Royal Military Academy - Weapon systems and Ballistics department, BE</b>
	10 h 05	10 h 35	NATO standardized method for assessing the skin penetration of Kinetic Energy Non-Lethal Weapons <b>Cyril Robbe, Royal Military Academy - Weapon systems and Ballistics department, BE</b>
	10 h 35	11 h 05	Blind test of the AEP-94 Skin penetration assessment of non-lethal projectiles (according to NATO STANREC 4744) <b>Frank Landmann, Bundeswehr Technical Center for Protective and Special Technologies, WTD 52, GER</b>
<b><i>Coffee break</i></b>			
	11 h 05	11 h 45	Coffee break
<b><i>Kinetic Energy Non-Lethal Weapons - Evaluation</i></b>		<b><i>Chair : Frank Landmann</i></b>	
	11 h 45	12 h 15	Development of a skin surrogate using additive manufacturing for investigation using non-lethal agents in the form of kinetic projectiles <b>Eugen Musienko, Laboratory for Manufacturing Engineering of the Helmut-Schmidt-University / University of the German Armed Forces Hamburg, GER</b>
	12 h 15	12 h 45	A new biomechanical physical surrogate for thoracic blunt impact <b>Martin Chaufer, Interdisciplinary Laboratory Carnot of Bourgogne, site UTBM, Univ. Bourgogne Franche-Comté, FR</b>
<b><i>Lunch Break</i></b>			
	12 h 45	13 h 55	<b>Lunch</b>

**Thursday 25/05/23 Afternoon**

Time from	Time to	Activity	
<b>Other technologies - Irritating agents</b>			<i>Chair : Ulf Arborelius</i>
	13 h 55	14 h 25	Evaluation of Lemongrass Irritant as An Alternate to Oleoresin Capsicum <b>Derry Teh and Tan Yew Chuan, Singapore Prison Emergency Action Response Force, SG</b>
	14 h 25	14 h 55	Exposure to reaction products of pyrotechnic ammunition using the example of flash-bang irritants <b>Sebastian Knapp, Fraunhofer Institut für Chemische Technologie, GER</b>
<b>Other technologies - Directed Energy</b>			<i>Chair : Alexandre Papy</i>
	14 h 55	15 h 25	A non-ionising radiation application to numerically calculate an anatomical model's safe distance from multiple mixed frequency sources based on the requirements of various standards and guidelines <b>Mark Yeoman, Continuum Blue Ltd, UK</b>
	15 h 25	15 h 55	Human effects of laser dazzling investigated in a shooting simulator <b>Tomas Foldes, Royal Military Academy - Communication, Information, Systems and Sensors department, BE</b>
<b>Best presentation and poster awards</b>			
	15 h 55	16 h 15	<b>Deliberation + announcement best presentation / best poster awards</b>
<b>Closing</b>			
	16 h 15	16 h 30	Closing <b>Rear Admiral Massimo Annati, Chairman of the European Working Group</b>
<b>Closing coffee</b>			
	16 h 30	17 h 00	Closing Coffee

## Posters

- 1 An evaluation of precision and impact-energy aspects of 12-gauge AM-403P non-lethal ammunition

***Nilton Olivera Junior, Condor Non-Lethal Technology, Rio de Janeiro, Brazil***

- 2 Non-Lethal 12-gauge ammunition Blunt Trauma Assessment: A case study from AM-403P Brazilian ammunition

***Nilton Olivera Junior, Condor Non-Lethal Technology, Rio de Janeiro, Brazil***

- 3 Review of Literature : Behind Helmet Blunt Trauma mechanisms

***Nestor Nsiampa***

- 4 An Analysis about Condor Drop: a system for remote launching of non-lethal ammunition by UAV.

***Gabriel Dias Scarpioni***

- 5 Preliminary Results on Designing a (PO)MDP to Determine Configuration-Specific Engagement Strategies for Countering Multiple UAS.

***Tom Vancaeyzeele***

- 6 A review of existing low, slow, and small UAS counter-measures

***Alexandre Heuchamps***