



# 7<sup>th</sup> RMA Poster Session

Royal Military Academy

Technical program

28 May 2024 – 1300 Hr - 1500 Hr – Room: Small Mess

	Authors	Poster Title
ABAL		
1	A. Miranda-Vicario and F. Coghe	Secondary Debris Testing for Light Weight Textiles
2	C. Ameloot, A. Papy and P. Hendrick	Numerical Analysis of Medium Calibre Fragmentation Ammunition for Countering small Unmanned Aircraft Systems
3	F. Ongaro, C. Robbe, A.Papy and B. Stirbu	CFD Modelling of Internal Ballistics
4	I. Ndindabahizi, B. Lauwens and J. Gallant	Development of a combined discrete-event and continuous-time simulation for railgun systems
5	A. Duvivier and V. de Briey	VTraj - MSP 23-09 - Validated Trajectory Toolbox
6	A. Heuchamps, F. Harmel, M. Vandewal and A. Papy	Pragmatic Modelling of High Energy Lasers Effects Against Small Drones
7	A. Andrei, C. Robbe and A. Papy	Development of a bullet simulating projectile for kinetic energy non-lethal applications
8	N. Nsiampa and F. Coghe	Development of a head model for blunt ballistic impacts
9	A. Azevedo and F. Coghe	Behind armour effects for overmatch threats
10	J. Fernandes, C. Robbe and A. Papy	Development of computer-based empirical models for wound ballistics vulnerability assessment
11	B. Stirbu, C. Robbe, F. Ongaro and A. Chabotier	Barrel Erosion Assessment for a 5.56x45 mm Caliber Weapon, in Lab and Battlefield Testing Conditions
CHCH		
12	L.F. Velasco, J.L. Tombeur, P. Lodewyckx and H. Wullens	Sequential sorption of toxic vapours and gases in activated carbon respirator filters
13	A. Bessegmar Carrera and L.F. Velasco	Turning humid air into renewable power
14	L. Jeunieau, S. Chantrain and B. Simoens	Projet DETEX: Detection of Trace Amount of Explosives
15	N. Uyttenhove and R. Van Riet	Attenuated Erosion Propellant (PEA) Project
16	D. Belmehdi , M. K. Boulkadid, M. H. Lefebvre and R. Van Riet	Detonation Simulant of TATP as Donor Charge for Tertiary Explosives
17	O. Olarte, R. Haelterman and L. Fernandez-Velasco;	Peak Detection on GC-IMS based on Persistent Homology and Wavelet Transform
CISS		
18	C. Beumier and T. Debatty	Pseudonymisation of SS7 Identifiers by Random Table
19	G. Gheysen, W. Mees and L. Bontemps	Security Evaluation of the Crypto National Products using the Common Criteria (CC) for Information Technology Security Evaluation
20	G. Nikolov, M. Varga, S. Träber-Burdin and C. Winkelholz	Visualization for Cyber Complex Systems: Application, Issues and Future Work
21	G. D. Lewis and M. Vandewal	Countermeasures research: Laser soft-kill of IR guided seekers

22	K. Desnijder, M. Vandewal	Thermal effects on Germanium and Silicon in Infrared Optics: Absorption and loss of contrast
23	C. Nita and M. Vandewal	AI-Driven Ship Detection and Behaviour Analysis
24	R. Karli , R. Ranete , F. Moustier , L. Bontemps and M. Vandewal	Behind the Nets: A Military Camouflage Test and Evaluation Capability
25	P.E. Ouendo, C. Hamesse and O. Lopera	Drifting Mines Detection: preliminary results
26	C. Hurtado, O.Lopera, X. Neyt and S. Lambot	Acoustic scattering modeling from targets on and within the seafloor for classification tasks
27	Y. Arhant, O. Lopera Tellez, X. Neyt and A. Pizurica	Are Deep Neural Networks Trustworthy ? Application to Seabed Characterization
28	A. Agrebi and X. Neyt	Comparative Analysis of Deep Learning Methods for Unmanned Aerial Vehicle (UAV) Recognition and Identification Using Micro-Doppler Signatures
29	M. Idrissa and X. Neyt	Convolutional Auto-Encoder for Persistent Surveillance Trajectories Anomaly Detection
30	P. Vanvolsem, K. Boeckx and X. Neyt	Threat assessment using Recurrent Neural Networks
31	K. Boeckx and X. Neyt	Analyzing strategies with attention networks for defense applications
32	N. Botovolasoa and L. Bontemps	Detection of synchronization values and image reconstruction of a video display unit
33	R. Karli, M. Becquaert, L. Bontemps and O. Van Roost	Military Vehicle Mounted Antenna Performance Modeling for Effective Jamming against RCIEDs
34	S. Basak, P. Ebrahimbabaie and M. Becquaert	Drone Detection and Classification Using Artificial Intelligence-based RF Sensing
35	P. Ebrahimbabaie, M. Becquaert and V. Le Nir	Toward European Protected Waveform (EPW)
36	V. Le Nir and M. Becquaert	DAP21-01: Long Range Communications and Higher Data Rates using Wideband HF
COST		
37	J. Massart	Belgian Military Casualties after 1945 (BELMILCAS)
DEML		
38	S. Delvaux, H. De Smet and B. Schreurs	Adaptive Command in Extreme Contexts
39	S. Vanhengel, G. Letens, B. George, H. Keathley, K. Verweire and M. Easton	Measuring Organizational Change Capability in Public Organizations: The concept and its measurement
40	C. Du Bois, S. Van Hoeymissen, E. Vigne and N. Houttekier	Economic Statecraft of China
41	G. Kegels, G. Olykke, C. Du Bois and C. Buts	BEPIDS: The Belgian Economic Potential in the Industry of Defence and Security
LIFE		
42	J. Van Cutsem, X. Michaud, N. van den Berg, G. Simonelli, F. Haman, A. Martin, T. Ojanen, J. Vaara and N. Pattyn	The impact of Arctic training on sleep in military cadets
43	A. Malfait, M. Van Puyvelde, F. Detaille, F. Waroquier, X. Neyt and N. Pattyn	Readiness evaluation in simulation training: When the face speaks volumes
44	N. van den Berg, X. Michaud, J. Van Cutsem, F. Haman, A. Martin, T. Ojanen, J. Vaara, G. Simonelli and N. Pattyn	Physiological and Psychological Fatigue Among Finnish Soldiers During Cold Winter Training
45	A. Rolinat, N. Van den Berg, G. Simonelli, X. Neyt, M. Van Puyvelde and N. Pattyn	Sleep problems in Antarctica: a story of latitude or lived experience?
46	S. De Ridder, X. Neyt, N. Pattyn and P. Germonpré	Decompression Research for Belgian Defence Aviation and Diving

MECA		
47	L. Gilson, L. Rabet, F. Coghe, A. Bernardi, P. Marco and C. Farmer	Effect of Field Ageing on the Performance of DYNEEMA® SB21 Multi-Layered Shielding Panels against Behind Armour Blunt Trauma
48	C. Brunelli, B. Janssens, B. G. Marinus, G. May and M. Runacres	LES on high lift-drag ratio airfoil at low-Reynolds number
49	A. Borghgraef and G. De Cubber	COURAGEOUS: The Belgian Counter-UAS Field Trial
50	M. Avirovic C. Brunelli, B.G. Marinus, J. Degroote and J. Van Beeck	Flow topology over DU89-134 airfoil at low Reynolds number for use with HAPS
51	G. Billot, B.G. Marinus, K. Harri and F. Moiny	Nonlinear effects in muzzle blast propagation are not confined to the near-field
52	M. A. Escudero, B. G. Marinus and K. N. Depuru-Mohan	Scale Effects on Supersonic Projectile Boundary Layers and Surface Pressure Distributions
53	K. Cools	AI-Resistant Camouflage
54	A. La Grappe and E. Le Flecher	Automating underwater mine detection surveys
MWMW		
55	J. C. Fernandez Toledano, B. De Clerck and F. Van Utterbeck	SOCMINTEX: AI-Powered Social Media Intelligence Toolbox
56	M. Benhassine, R. De Rouck, M. Debacker, I. Hubloue, J. Quininn and F. Van Utterbeeck	SIMEDIS: a Simulator for Mass Casualty Incidents Response Optimization
57	D. Borghys, D. Daems, J. Petit and H. Bruyninckx	Development of efficient steganalysis for detecting hidden data in digital media
58	E. Elbellili	Continuous time simulation in a discrete event framework: a quantized state system approach
59	T. E. Harbi	A metaheuristic method to design one-way electric car sharing system
60	P. Van Der Paelt, B. Lauwens and B. Signer	A Data Persistence Architecture for the SimJulia Framework
61	A. Neyt	On differential properties of lightweight ciphers
62	S. Hosteauxvand R. Haelterman	Hyperspectral Research Unit
PHYS		
63	D. López-Rodríguez, K. Crombé, A. Gorjaev, J. Buermans, A. Adriaens, Yu. Kovtun, L. Dittrich, P. Petersson, T. Wauters and S. Brezinsek	Characterization of plasma parameters and neutral particles in Microwave and Radio Frequency discharges in the TOMAS device
64	A. Adriaens, F. Durodié, M. Verstraeten, V. Maquet, S. Deshpande, K Crombé, A. Gorjaev and J. Buermans	An automatic matching system for the ICRF antenna at TOMAS
65	V. Maquet	Preliminary Assessment of Sheath Potential using HFSS in Preparation of the Future WEST TWA
SCGW		
66	W. Gomes, G. Belpaire and D. Resteigne	Belgian Defence and Ethnic Diversity
67	L. Blokerije and D. Resteigne	Voluntary Attrition within Belgian Defence
68	T. Letovaltseva and M. Dewyn	Spiritual-Existential Care I
STEE		
69	A. Aminou, M. Ben Rhouma, B. Belkasssem, L. Pyl and D. Lecompte	Blast Mitigation by Using Mineral-Foam Based Sacrificial Cladding
70	M. Ben Rhouma, A. Aminou, B. Belkasssem, T. Tysmans and D. Lecompte	Blast Loading of Small-Scale Circular RC Columns Using an Explosive-Driven Shock Tube
71	G. Kechagiadakis, D. Lecompte and W. Paepegem	Consistent Explosion Simulation Test

DLD		
72	D.I. Costescu Strachinaru, A. Verroken, A. Stoefs, J-L. Gallez, M. Beynsberger, F. T'Sas, D. De Vos, T. Rose, P-M. François, M. Strachinaru, P. Vanbrabant and P. Soentjens.	Phenotypic characteristics of multidrug-resistant bacteria isolated from 5 Ukrainian war-trauma patients: a retrospective observational study
73	F. Dougnier, R. Muyllaert, M. Vergote, S. Derwael	New Generation Green Energy Systems: Development and Characterization of Heat and Electricity Production in a BE Defence Base Using Hydrogen Generated from Sunlight and Air Moisture
74	L. Avrain, R. S. Wiederkehr, A. Cartier, L. Vieren, M. Bouyer, L. M. Irengé, G. Fastré, L. Wilmaerts, M. Fauvart and B. Sulka	Development of molecular diagnostic tools to identify waterborne pathogens during military operations
75	H. Wullens, C. Copot, M. Georgievska, S. Odhiambo, L. Van Langenhove and A. De Raeve	Thermophysiological comfort assessment of defense clothing systems
76	L. Avrain, M. Bentahir, M. Bouyer, C. Delcorps, P. de Sany, C. Dumont, G. Fastré, L. M. Irengé, M. Jorissen, M. Marchal, A. Sare and B. Sulka	Next-Generation Sequencing (NGS) for military applications: A transversal analytical capability at DLD-Bio
77	C. Dumont, A. Sare, C. Delcorps, P. de Sany, L. M. Irengé, G. Fastré and B. Sulka	Next-Generation Sequencing Technologies
78	Z. Paquet, M. Bentahir, M. De Mey and B. Sulka	Detection and identification of biological toxins: A response to a growing threat
79	M. Marchal, C. Delcorps, B. Sulka, G. Fastré and M. Bentahir	Enhancing On-site Biothreat Detection, Identification and Monitoring with Isothermal Amplification Methods combined to Lateral Flow assays
80	M. Marchal, A. Sare, B. Sulka, G. Fastré and M. Bentahir	Field-based detection, identification and monitoring of vector-borne diseases