



6th CWO Poster Session

Commission for Scientific Research (CWO)

Royal Military Academy

Technical program

13 Dec 2023 – 1330 Hr - 1530 Hr – Room: Patio Bloc K

	Authors	Poster Title
Ballistics and Weapon Systems (ABAL)		
1	A. Heuchamps, F. Harmel, C. Ameloot, M. Vandewal and A. Papy	The Challenge of Predicting the Performance and Risk of C-sUAS Systems
2	C. Ameloot, C. Robbe, A. Papy and P. Hendrick	Air Burst Munitions as a Candidate for Countering Small Unmanned Aircraft Systems
3	C. Robbe, J. Puddu and A. Papy	Comparison of measurement techniques and sensitivity studies using 20% gelatin for wound ballistics
4	O. Mzali, A. Papy and C. Robbe	Numerical simulation of Non - Penetrative projectiles on the human torso
5	A. Andrei, C. Robbe, T. Penders and A. Papy	Development of a new thoracic surrogate for KENLW and BABT impacts
6	F. Ongaro, C. Robbe, B. Stirbu and A. Chabotier	Numerical Modelling of Internal Ballistics: A Review
7	B. Stirbu, I. Ndindabahizi, T. Vancaeyzeele and C. Robbe	Energy balance model to assess the resistance of ballistic protection materials
8	B. Stirbu, A. Chabotier, C. Robbe and F. Ongaro	From Pressure Measurements to the Gas Temperature and Projectile Velocity Estimation
9	N. Nsiampa and F. Coghe	Validation of an ACH helmet for head injury risk assessment
10	A. Azevedo and F. Coghe	Influence of air-gaps between the torso body armour and the body on the risk on perforation and behind-armour blunt trauma
11	A. Miranda-Vicario, C. Van Holder, I. De Decker and F. Coghe	Development of a prototype bullet resistant implant: application to breast prothesis
12	J. Weckx and A. Van Rossum	Historical Research on Military Weapons
13	T. Vancaeyzeele, J. Gallant and B. Lauwens	Graphical Processing for Fast Weaponeeing Evaluations
14	I. Ndindabahizi, B. Lauwens and F. Coghe	Effector Management for Combat Unmanned Ground System (CUGS)
Chemistry (CHCH)		
15	L.F. Velasco, J.L. Tombeur, P. Lodewyckx and H. Wullens	Sequential Sorption of Toxic Vapours and Gases in Activated Carbon Respirator Filters
16	L. Jeunieu, S. Chanttrin and B. Simoens	Project DETEX: Detection of trace amount of explosives
17	A. Bessegmar-Carrera and L.F. Velasco	Turning humid air into renewable power
18	N. Uyttenhove and R. Van Riet	Attenuated Erosion Propellant
19	P. Melo Bravo and R. Van Riet	Novel energetic materials based on nanoporous carbon
20	F. Halleux, D. Belmehdi, M.H. Lefebvre and R. Van Riet	Detonation performance and detonability of Urea-Hydrogen Peroxide
21	D. Belmehdi, M.K. Boulkadid, M.H. Lefebvre and R. Van Riet	Detonation simulant of TATP as a donor charge in a detonation train
22	L. Masset, B. Belkasssem, F. Fasseur and D. Lecompte	Pyroshoc Qualification of Aerospace Components

Dress code: tenue 2C or tenue de ville/stadskledij

23	B. Belkassem, L. Masset and D. Lecompte	Blast Wave Propagation and Interaction in Complex Environments Using Machine Learning
24	M. Ben Rhouma, A. Aminou, B. Belkassem, T. Tysmans and D. Lecompte;	Blast Performance of Low-Density Foam Wrapped Aluminum Columns
25	A. Aminou, M. Ben Rhouma, B. Belkassem, L. Pyl and D. Lecompte	Blast Mitigation by Using Mineral-Foam Based Sacrificial Cladding
26	P. Atikpo, B. Janssens, D. Laboureur, C. Fouchier, M. Runacres and D. Lecompte	Buried Detonation Airblast Characterization
27	O. Atoui, A. Maazoun, B. Belkassem, L. Pyl and D. Lecompte;	Study of a laboratory scale technique for combined blast and fragment impact loading
Communication, Information, Systems and Sensors (CISS)		
28	C. Beumier and T. Debatty	Security issues related to SS7
29	G. Nikolov and W. Mees	Detection of APTs through the use of Visual Analytics with the MASFAD framework
30	G. Gheysen, W. Mees and L. Bontemps	Security Evaluation of the Crypto National Products using the Common Criteria for Information Technology Security Evaluation (CC)
31	G. D. Lewis and M. Vandewal	Directed Infrared Countermeasures (DIRCM): Optronics research bench
32	C. Nita and M. Vandewal	Revolutionizing Maritime Security: Employing AI for Ship Image Analysis
33	R. Karli, R. Ranete, F. Moustier, L. Bontemps and M. Vandewal	Behind the Nets: A Military Camouflage Test and Evaluation Capability
34	K. Desnijder and M. Vandewal	Thermal Effects on Germanium and Silicon in Infrared Optics: Absorption and loss of contrast
35	T. Földes and M. Vandewal	Investigating the Impact of Laser Dazzling on Shooting Performance in a Simulator Environment
36	V. Le Nir and M. Becquaert	DAP/21-01: Long Range Communications and Higher Data Rates using Wideband HF
37	E. Guffens, V. Le Nir, B. Lauwens and M. Becquaert	Barycenter-focused Relay Nodes Positioning for Heterogeneous Networks
38	S. Basak, M. Becquaert and P. Ebrahimbabaie	Drone Detection and Classification Using Artificial Intelligence-based RF Sensing
39	R. Karli, M. Becquaert and L. Bontemps	Optimization of the jamming for the protection against RCIEDs: Analysis of the antenna placement
40	N. Botovolaoa and L. Bontemps	Detection of Synchronization Values and Image Reconstruction of Video Display Unit
41	M. Stasolla and X. Neyt	Satellite Radar Time Series for the Automatic Mapping of Potential Military Targets
42	Y. Arhant, X. Neyt, O. Lopera Tellez and A. Pizurica	D4SC: Deep Supervised Semantic Segmentation for Seabed Characterisation in Low-Label Regime
43	C.A. Hurtado Erasso, O. Lopera Tellez and X. Neyt	Sub-Bottom Scanning Sonar (SBSS) for buried target detection
44	O. Lopera Tellez	Toolbox implementation for automated mine-search operations
45	M. Idrissa and X. Neyt	Persistent Surveillance Trajectories Spatio-Temporal Anomaly Detection using Convolutional Auto-Encoder
46	P. Vanvolsem, K. Boeckx and X. Neyt	Threat assessment for Combat Unmanned Ground Systems (CUGS)
47	A. Agrebi and X. Neyt	Artificial Intelligence-based Unmanned Aerial Vehicle (UAV) Recognition and Identification using micro-Doppler signature

48	Y. Yvinec	Estimation (and simulation) of the magnetic moment of a sea mine
Management & Leadership (DEML)		
49	G. Kegels, G. Olykke, C. Du Bois and C. Buts	BEPIDS - The Belgian Economic Potential in the Industry of Defence and Security
Defense Laboratories (DLD)		
50	A. Previero, I. Radgen-Morvant, K. De Meulenaere and B. Augustyns	Non-destructive decontamination and modification of traditional forensic methods in a CBRN facility
51	F. Dognier, R. Muylleert, M. Vergote and S. Derwael	New Generation Green Energy Systems: Development and Characterization of Heat and Electricity Production in a BE Defence Base and in a Compound abroad
Life Sciences (LIFE)		
52	A. Malfait, M. Van Puyvelde, F. Dettaille, F. Waroquier, X. Neyt and N. Pattyn	Readiness evaluation in simulation training: When the face speaks volumes
53	J. Habay, Y.L. Arenales, M. Proost, N. Pattyn, B. Roelands and J. Van Cutsem	The combined influence of age and sex on mental fatigue susceptibility: a randomized counterbalanced crossover trial
54	A. Rolinat, N. Van den Berg, G. Simonelli, X. Neyt, M. Van Puyvelde and N. Pattyn	Latitude: Sleep problems in Antarctica: a story of latitude or lived experience?
55	S. De Ridder, X. Neyt, N. Pattyn and P. Germonpré	Estimation of oxygen sensor error in indirect nitrogen washout measurements during high-altitude exposures
56	J. Van Cutsem, X. Michaud, N. van den Berg, N. Pattyn, F. Haman, A. Martin, T. Ojanen, J. Vaara and G. Simonelli	The impact of a winter training course on sleep in military cadets
57	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
58	O. Defresnes, S. Lo Bue, W. Huybens, F. Bertrand and I. Hansez	Do We Match: A Serious Game for Recruitment and Selection
59	N.J. Bourguignon, N. Coucke, E. Caspar and S. Lo Bue	Enhanced interpersonal coordination in the military: Evidence from synchronized motor performance and hyperscanning EEG
60	V. Glorieux, S. Lo Bue, M. Euwema	The professional reintegration of crisis service employees: A mixed design study
61	A. Salatino, A. Prével, E. Caspar and S. Lo Bue	Effects of system autonomy on human agency and moral decision-making
62	A. Gugliotta, N. Bourguignon and S. Lo Bue	Situation Awareness Requirements for Armoured Fighting Vehicles Commanders During Contact and Engagement
63	M. Matsuzaki, K. Vangrieken and S. Lo Bue	Making the Best Use of Computer-Mediated Communication Tools for Trainers' Professional Development Through Collaborative Learning
Mechanics (MECA)		
64	M. Avirovic, B. Marinus, J. Degroote and J. Van Beeck	Laminar-Turbulent Transition on a HAPS airfoil
65	G. Billot, B.G. Marinus, K. Harri and F. Moyny	Nonlinear effects in muzzle blast propagation are not confined to the near-field
66	N. Mourousias, B. G. Marinus and M. Runacres	Multi-disciplinary design optimization of a propeller for a HAPS UAS
67	C. Brunelli, B. Janssens, B. Marinus, G. May, M. Runacres	High-fidelity numerical simulations on airfoils at low-Reynolds number
68	M. A. Escudero, B.G. Marinus and N. K. Depuru-Mohan	Scale effects on the aerodynamics of supersonic projectiles

69	F. Faure and Y. Nishio	CFD modelling of water sprays initiated by a deflagration in an RE70 disruptor
70	A.M. Casado Faulí	HADRON - Human-Friendly Control & Artificial Intelligence for Military Drone Operations
71	A.Borghgraef and G.De Cubber	COURAGEOUS: The Belgian Counter-UAS Field Trial
72	G. De Cubber	Research at the Robotics & Autonomous Systems Research Unit
Mathematics (MWMW)		
73	O. Olarte, R. Haelterman and L. F. Velasco	Automatic Detection of Chemical Components with GC-IMS
74	C. Hamesse, H. Luong and R. Haelterman	3D Localization and Mapping with Portable Systems
75	S. Hosteaux, R. Haelterman	Research at the Hyperspectral Research Unit
76	T. Freville, E. Le Flecher and R. Haelterman	Distributed Reconnaissance And Mapping (DREAM)
77	E. Elbellili and B. Lauwens	Continuous Time Simulation in a Discrete Event Framework: A quantized state system approach
78	P-A. Jacqmin, J. Liénardy, F. Lafitte, A. Neyt and J. Petit	ALICE: Cryptography at the RMA
79	J. C. Fernandez-Toledano, B. De Clerck and F. Van Utterbeeck	AI-Powered Social Media Intelligence Toolbox
80	M. Benhassine, R. De Rouck, M. Debacker, I. Hubloue, J. Quinn and F. Van Utterbeeck	SIMEDIS: a Simulator for Mass Casualty Incidents Response Optimization
81	S. Donne and F. Van Utterbeeck	MLPM : Machine learning applications for predictive maintenance of weapon systems
82	P. Blondeel, F. Van Utterbeeck and B. Lauwens	Scheduling based optimization for mine countermeasure operations
Plasma Physics (PHYS)		
83	J. Buermans, S. Brezinsek, K. Crombé, N. Desmet, L. Dittrich, A. Gorjaev, Yu. Kovtun, D. López-Rodríguez, P. Petersson and M. Verstraeten	Characterization of ECRH Plasmas in TOMAS
84	J. Ongena, D. Castaño-Bardawil, K. Crombé, D.A. Hartmann, K.P. Hollfeld, J.P. Kallmeyer, Ye.O. Kazakov, A. Kraemer-Flecken, D. Lopez, B. Schweer, I. Stepanov, M. Verstraeten, M. Vervier, P. Despontin, A. Dinklage, G. Jouniaux, F. Louche, Ch. Linsmeier, O. Neubauer, D. Nicolai, G. Offermanns, V. Lancelotti, G. Satheeswaran, R. Schick, M. Stern, M. Van Schoor, R.C. Wolf, the TEC team and the W7-X team	Development, construction and first experimental results of the ICRH system for Wendelstein 7-X
85	Ye.O. Kazakov, J. Ongena, M. Nocente, J. Garcia, V.G. Kiptily, R. Coelho, T. Craciunescu, A. Dal Molin, E. Delabie, E. de la Luna, M. Dreval, R. Dumont, D. Rigamonti, S.E. Sharapov, M. Schneider, P. Siren, Ž. Štancar, M. Tardocchi, H. Weisen and JET Contributors	Energetic ion experiments with three-ion ICRF scenarios at JET
86	K. Crombé, J. Buermans, D. Castaño-Bardawil, A. Gorjaev, D. López-Rodríguez, M. Verstraeten, L. Dittrich, Yu. Kovtun, S. Möller, J. Ongena, P. Petersson, S. Brezinszek, Ch. Linsmeier, M. Van Schoor and T. Wauters	Plasma characterisation and wall conditioning studies on the TOMAS device

87	V. Maquet, R. Ragona, D. Van Eester, J. Hillairet, F. Durodie	HFSS as a new tool for numerical plasma simulations
88	M. Verstraeten	An interactive tool for data visualisation and analysis for the ICRH system and Wendelstein7-X
89	D. López-Rodríguez, K. Crombé, A. Gorjaev, J. Buermans, Yu. Kovtun, L. Dittrich, P. Petersson, S. Moon and T. Wauters	Neutral particle diagnostics in Radio Frequency discharges in the upgraded TOMAS device
Behavioural Sciences (SCGW)		
90	L. Blokerije and D. Resteigne	Voluntary Attrition within Belgian Defense.
91	W. Gomes, D. Resteigne and G. Belpaire	Belgian Defence and Ethnic Diversity
Research Support		
92	L. Komendova, B. Marinus and B. Janssens	MACH: High-performance computing cluster