

# International Conference on Military Communication and Information Systems

### Tuesday, 13 May 2025, NCI Academy, Oeiras, Portugal

Time	Topic/Speaker			
09:00-09:15	Welcome and Introduction to the Programme, Antoine Smallegange & Michael Street, ICMCIS Co-Chairs			
09:15-09:30	Administrative information			
09:30-09:45	NATO IST Panel Excellence Awards Ceremony, Nikolai Stoianov, IST Panel Chair			
09:45-10:15	NATO IST Panel Individual Excellence Awardee Presentation, Konrad Wrona			
10:15-11:00	Scientific Keynote Speech: Overview of CIS in NATO and Challenges Ahead NCI Agency (TBC)			
11:00-11:30	Coffee Break			
	Track 1 Session 1 Intelligent Information Systems for C2 and Intelligence	Track 2 Session 1 Military Communication and Networks	Track 3 Session 1 Cyber Security & Information Assurance	
11:30-12:00	AI-Driven Collaboration Mode Selection for Manned- Unmanned Teaming in Future Combat Air Systems (8025), <i>Tanya S. Paul</i>	Extending the Anglova Scenario to Leverage Wideband Waveforms (8919), <i>Jan Nilson</i>	DISCRETION: First field demonstration of a quantum enabled SDN in the context of a military exercise (5617), <i>Catarina Bastos</i>	
12:00-12:30	Discrete Audio Representations from SoundStream: A Dual Approach to Efficient Transmission and Speech Detection (8350), <i>Fahrettin Gökgöz</i>	Physical-Layer Abstraction for Wireless Network Simulations (2750), <i>Marcus Karlsson</i>	Interoperability for Semi-Autonomous Unmanned Ground Vehicles (8313), <i>Kim Mathiassen</i>	
12:30-13:30	Lunch Break			
13:30-14:15	Military Keynote Speech: Insights on the Portuguese view and approach to cybersecurity for Defence Rear-Admiral Gameiro Marques, Director-General of the Portuguese National Security Authority			
14:15-15:00	<ul> <li>Lightning poster presentations:</li> <li>A Cyber Defense System for Software-Defined Tactical Networks, <i>Sean Kloth</i></li> <li>Proof of Autority based Blockchain Architecture for Decentralized Military Multi-Domain Collaboration, <i>Dallal Belabed</i></li> <li>Digital Twins for Internet of Battlespace Things (IoBT) Coalitions, <i>Patrick J. Baker</i></li> <li>Edge Computing with Kubernetes: KubeEdge in Tactical Networks, <i>Emil Paulin Andersen</i></li> <li>Solving Cybersecurity Capture-The-Flag Challenges using Red Agent with fine-tuned Large Language Models, <i>Erik Adler</i></li> <li>HATOM: Human AI-Teaming Ontology Model in Military Operations, Kasper Cools</li> <li>On the Potential of Public Network Dual-use for Medium Altitude Long Endurance Remotely Piloted Aircraft Systems (MALE RPAS), <i>Michael Rachner</i></li> <li>ThreatWeaver: Automated Kill Chain Generator based on MITRE ATT&amp;CK and Graph Theory, <i>Sara Belluccini</i></li> <li>Next-Generation Cloud Incident Responses for Military Networks, <i>Vasil Boshnakov</i></li> <li>Causes and Effects of Communications Network Discontinuity in a Tactical Environment, <i>Thom Hawkins</i></li> <li>Study and Simulation of a 5G Elementary Tactical Network, <i>Federico Valletta</i></li> </ul>			
15:00-15:30	Coffee break			
	Track 1 Session 2 Intelligent Information Systems for C2 and Intelligence	Track 2 Session 2 Military Communication and Networks	Track 3 Intelligent Information Systems for C2 and Intelligence	
15:30-16:00	Ukrainian Military Keynote Speech Lieutenant Colonel Yelyzaveta Boiko	Evaluating Short Forward Error Correction Codes for Avoiding Detection in Airborne Networks (4394), <i>Lars Lundberg</i>	Semantic Information Management Systems (4836), <i>Lorenzo Colombi</i>	
16:00-16:30	15:30-16:15	Exploring the Potential of 5G for Maritime Military Communications (3624), <i>Martin Damrath</i>	Learning of Information Bottleneck LDPC Decoding Operations with Genetic Algorithms (3001), <i>Rocio Martin Lima</i>	
16:30-17:00	Exploring Shared Large Language Models: Early Insights into Scalability and Efficiency in Al Assistant and Agent Deployment (7728), <i>Arvid Kok</i> <i>16:15-16:45</i>	5G Testbed - Enabler platform for the exploration of 5G in military scenarios (5021), <i>Victor Souza</i>	Exploration Sandbox for Augmented Reality in Armored Vehicles (2749), <i>Konrad Bielecki</i>	
17:00-17:30	Al-Driven Analysis and Mapping of NATO S&T Data (2997), <i>Charalampos Sarantopoulos</i> <i>16:45-17:15</i>	LPD-Aware 5G NR Downlink Synchronization for Tactical Networks (9424), <i>Akshay Jain</i>	Adapting Automatic Speech Recognition for Accented Air Traffic Control Communications (1916), <i>Yong Zhi Lim</i>	
17:30	End of day 1			

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### Wednesday, 14 May 2025, NCI Academy, Oeiras, Portugal

Time	Topic/Speaker			
09:00-09:15		ramme, Antoine Smallegange & Michael Street,	ICMCIS Co-Chairs	
09:15-09:55	<ul> <li>DIANA lighting presentations:</li> <li>Resquant: post quantum cryptography</li> <li>Taciql: data conditioning/ data assurance</li> <li>Secublox: safeguarding critical IT infrastructures</li> <li>Kinnami: secure edge data infrastructure</li> </ul>			
	Track 1 Session 3 Intelligent Information Systems for C2 and Intelligence	Track 2 Session 3 Military Communication and Networks	Track 3 Session 3 Cyber Security & Information Assurance	
09:55-10:25	Characteristics of the Military Domain and their Impact on Military AI Applications (3277), <i>Antoine Smallegange</i>	Performance Analysis of Different Commercial Communications Technologies in Hybrid Communications Architectures (3865), <i>Niranjan Suri</i>	Mission-aware cyber incident response generation using reinforcement learning (9122), <i>Federico Mancini</i>	
10:25-10:55	Modular Search Framework for Military Developers (7499), <i>Yong Zhi Lim</i>	Evaluating Scheduling Algorithms for Adaptive Orchestration in Federated Tactical Edge Cloud Environments (8633), <i>Thomas Kudla</i>	CERERE - An Emulation Environment to Evaluate the Resilience of Complex Systems against Cyber Electro-Magnetic Activities (9097), <i>Sara Belluccini</i>	
10:55-11:25	Coffee break			
11:25-11:55	How a Simulator's Fidelity impacts the Performance of a Decision Support System: A Military Case Study (4502), <i>Louis Weyland</i>	Experimental Analysis of the Performance of the Hyperledger Fabric over Tactical Networks (4313), <i>Niranjan Suri</i>	Cyber Operations Gyms to Train Autonomous Cyber Defense Agents for NATO (2622), <i>Tobias Hürten</i>	
11:55-12:25	Self-Supervised Real-Time Tracking of Military Vehicles in Low-FPS UAV Footage (2910), <i>Markiyan Kostiv</i>	The Applicability of 60 GHz Wireless Communications in Military Use Cases (0024), <i>Kia Wiklundh</i>	Automating Cyber Threat Intelligence and Attack Chain Generation using Cyber Security Knowledge Graphs and Large Language Models (4587), <i>Erik Adler</i>	
12:25-13:25	Lunch Break			
13:25-14:20	Scientific Keynote Speech on Al Prof Leid Zejnilovic, Nova Business School			
	Track 1 Session 4 Intelligent Information Systems for C2 and Intelligence	Track 2 Session 4 Military Communication and Networks	Track 3 Session 4 Cyber Security & Information Assurance	
14:20-14:50	Learning Heuristics for Course of Action Analysis with Reinforcement Learning (4153), <i>Jonathan Cawalla</i>	Low Latency Low Loss Scalable Throughput (L4S) for Time-Critical Defense Applications (7237), <i>Akshay Jain</i>	Concurrent Multi-Target Communication Jamming in a Single-Channel Jammer Scenario (1244), <i>Fabian Schmied</i>	
14:50-15:20	Towards Geospatial Decision Support for Dismounted Cold- Weather Operations (7437), <i>Thomas Maaiveld</i>	Improving Bandwidth Utilization in SCB for Narrowband Tactical Networks (1804), <i>Arwid Komulainen</i>	Biting the CHERI bullet: Blockers, Enablers and Security Implications of CHERI in Defence (4865), <i>Shamal Faily</i>	
15:20-15:50	Analyzing and Identifying Russian Disinformation in Telegram using Graph-Based Methods (3530), <i>Milita Songailaitė</i>	Link Performance Degradation from Frequency-Hop Collisions in Asynchronous Military Networks (8838), <i>Jan Nilson</i>		
15:50-16:20	Coffee break			
	Track 1 Session 5 Intelligent Information Systems for C2 and Intelligence	Track 2 Session 5 Military Communication and Networks	Track 3 Session 5 Cyber Security & Information Assurance	
16:20-17:05	Workshop on new TAPs	Workshop on new TAPs	Workshop on new TAPs	
17:05-17:45	Workshop feedback, Track Co-Chairs Awards Ceremony, Marek Amanowicz, ICMCIS Awards Committee Chair Close of ICMCIS 2025, Antoine Smallegange & Michael Street, ICMCIS Co-Chairs			

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