

SCHEDULE - Start time (CEST, UTC +2)

Day 1 - Tuesday, 4 May 2021

1230 – 1300	Virtual room is open for line/connection checks	
1300 – 1315	Welcome and Administrative Remarks	Dr Peter Lenk, Steering Committee Chair, Dr Michael Street, Programme Committee Chair
1315 – 1335	Keynote I : NCI Agency as an innovation hub: collaborating to solve NATO's challenges	MG Sevindik Goksel, Chief of Staff, NCI Agency
1335 – 1345	CIS Research in NATO	Dr Michael Wunder, IST Panel Chair
1345 – 1415	Keynote II: Emerging and Disruptive Technologies: Challenges and Opportunities	Dr Bryan Wells, NATO Chief Scientist
1415 – 1545 Parallel Session I&II	Session I - Communications I - Chair: Prof Bart Scheers	
	Design of RF Self-interference Cancellation Circuit for 100-W Full-Duplex Radio at 225-400 MHz	Mikko Heino, Matias Turunen, Miika Vuorenmaa and Taneli Riihonen
	Performance Evaluation of Kubernetes Distributions (K8s, K3s, KubeEdge) in an Adaptive and Federated Cloud Infrastructure for Disadvantaged Tactical Networks	Mattia Fogli, Thomas Kudla, Bram Musters, Niranjan Suri, Harrie Bastiaansen, Sean Webb, Casper van den Broek and Geert Pingen
	NATO Core Services profiling for Hybrid Tactical Networks — Results and Recommendations	Norman Jansen, Marco Manso, Andrew Toth, Kevin S. Chan, Trude Bloebaum and Frank Johnsen
	Performance Analysis of Proactive Neighbor Discovery in a Heterogeneous Tactical Network	Roberto Rigolin Ferreira Lopes, Paulo H. L. Rettore, Sharath M. Eswarappa, Johannes Loevenich and Peter Sevenich.
	Session II - Data Science I : Imagery and Intelligence - Chair: Ms. Ivana Ilic Mestric	
	Application of Image Captioning and Retrieval to Support Military Decision Making	Darminder Ghataoura and Sam Ogonnaya
	A Multimodal Mixed Reality Data Exploration Framework for Tactical Decision Making	Tim Mittermeier, Matthias Frank, Sabine Ullrich, Gabi Dreo and Michaela Geierhos
	Application of Gaze-Based Adaptive Notifications to Support Image Analysts	Maykel van Miltenburg and Ghanshaam Sewnath
	Value Based Collection in Intelligence Analysis	Todd Robinson and Liam Pardoe
1545 – 1615 Parallel Streams	Stream #1 - Lightning presentations - Chair: Dr Markus Antweiller	
	Stream #2 - IST-168 Cloud demonstration - Chair: Mr Frank Trenthan Johnson	
1615 - 1630	Break	

Day 1 - Tuesday, 4 May 2021 (Continued)

1630 – 1800 Parallel Session III&IV	Session III - Communications II - Chair: Prof Marek Amanowicz	
	Towards Adaptive QoS in SDN-enabled Heterogeneous Tactical Networks	Sharath Maligera Eswarappa, Paulo Rettore, Johannes Loevenich, Peter Sevenich and Roberto Rigolin Ferreira Lopes
	Software-Defined Networking Applied in Tactical Networks: Problems, Solutions and Open Issues	Merlin von Rechenberg, Paulo Rettore, Roberto Rigolin Ferreira Lopes and Peter Sevenich
	Preliminary results of OLSR based MANET routing algorithms: OLSRd2-Qx reinforcement learning agents and ODRb	Yann Maret, Jean-Frédéric Wagen, Mohsin Raza, Junyuan Wang, Nik Bessis and Franck Legendre
	Mobile cyber defense agents for low throughput DNS-based data exfiltration detection in military networks	Thorsten Aurisch and Jacke Andreas
	Session IV - Data Science II : Natural Language Processing - Chair: Prof Jan Holub	
	Adapting BERT Embeddings for Text Correlation of Military Domain Specific Content	Arvid Kok, Giavid Valiyev and Michael Street
	Towards a NATO Lessons Learned Ontology	Maximilian Zocholl, Anne-Laure Joussetme and Jacqueline Eaton
	Finding a line between trusted and untrusted information on tweets through sequence classification	Albert Pritzkau, Theresa Krumbiegel and Steffen Winandy
	Aspect detection enhancement for aspect based sentiment analysis	Michael Street, Ivana Ilic Mestric and Adelica Ndoni
1800 – 1900	Virtual Networking – Virtual Rooms will be opened according to selected areas of interest	
1900	Close	

Day 2 - Wednesday, 5 May 2021

1230 – 1300	Virtual room is open for line/connection checks	
1300 – 1330	Keynote III : The Holistic Landscape for Deploying New Military Technologies	Liisa Janssen, TNO Heleen Huijgen, TNO
1330 - 1515 Parallel Session V, VI,&VII	Session V - RF, C-UAS and Data Challenge - Chairs: Dr Michael Street, Mr Claudio Palestini	
	CNN-based processing of radio frequency signals for augmenting acoustic source localization and enhancement in UAV security applications	Andrea Toma, Niccolò Cecchinato, Carlo Drioli, Gian Luca Foresti and Giovanni Ferrin
	Electromagnetic Environment Situational Awareness	Yvon Livran, Marek Suchanski, Alexander Hamilton, Vincent Le Nir, Pawel Kaniewski, Paul Howland, Stefan Couturier, Janusz Romanik and Mark Tracy
	Self-interference Cancellation Performance in Full-Duplex Jamming and Spectrum Monitoring	Jaakko Marin, Matias Turunen, Micael Bernhardt and Taneli Riihonen
	Overview of ICMCIS'21 C-UAS Data Challenge	Cristian Coman, Adela Ndoni
	Presentations on ICMCIS'21 C-UAS Data Challenge	Winning teams
	Session VI - 5G - Chair: Mr Warren Low	
	Potential of 5G technologies for military applications	Luis Bastos, Germano Capela, Alper Koprulu and Gerard Elzinga
	5G for deployable and maritime communications	Germano Capela, Warren Low and Luis Bastos
	MCIS Considerations for 5G Networks	Kevin McFadden and Ravi Guntupalli
	Downlink Service Extension for UAV 5G Micro Base Stations through V2V Communications	Hüsne Şahan, Kerem Çağdaş Durmuş, Mahmut Demirtaş and Caner Arslan
	5G Security	Pramod Nair and Nicolas Degand
	Diversity Effect in MIMO-Based Mobile Communication Systems – A New Calculation Approach in the Case of OFDM Signals	Juergen Bogenfeld
	Session VII - Data Science III: Applications in CIS - Chair: Mr Antoine Smallegange	
	Building a Maritime Picture in the Era of Big Data: The Development of the Geospatial Communication Interface+	M. Scott Syms, Anthony W. Isenor, Brad Chivari, Andrew DeBaie, Alicia Hogue and Brad Glessing
	Tactical information aggregation	Sebastian Stucken, Fahrettin Gökğöz and Hans-Christian Schmitz
	Reinforcement Learning Environment For Tactical Networks	Thies Möhlenhof, Norman Jansen and Wiam Rachid
	Integrating Command & Control, Constructive Simulation and Artificial Intelligence	Peter Meyer zu Drewer and Hans-Christian Schmitz
Comparison of Q-Learning and Genetic Algorithm for Narrow-Band Cognitive Radio Networks	Apurva, Stefan Couturier and Michael Reyer	
Tactical information aggregation	Sebastian Stucken, Fahrettin Gökğöz and Hans-Christian Schmitz	

Day 2 - Wednesday, 5 May 2021 (Continued)		
1515 – 1530	Break	
1530 – 1600	Keynote III: Quantum Technologies as Sovereignty Technologies	Prof Yasser Omar, IT & IST, University of Lisbon
1600 – 1730 Parallel Session VIII & IX	Session VIII - Quantum technology and Cyber Security Challenges Chair: Prof Bob Madahar	
	A Status Update on Quantum Safe Cryptography	Martin Strand
	Quantum Computing for Military Applications	Niels Neumann, Manan van Heesch, Frank Philipson and Antoine Smallegange
	Cyber Security in Virtualized Communication Networks: Open Challenges for NATO	Roberto Rigolin Ferreira Lopes, Caroline Bildsten, Konrad Wrona, Simo Huopio, Daniel Eidenskog and Olwen L. Worthington
	Cyber Intrusion Detection using Natural Language Processing on Windows Event Logs	Kai Steverson, Caleb Carlin, Jonathan Mullin and Metin Ahiskali
	Session IX - Communications III Chair: Mr Anthony Isenor	
	Novel Multi-Parameter based Rate-Matching of Polar Codes	Souradip Saha and Marc Adrat
	Evaluating the Scalability of Group Communication Protocols over Synchronized Cooperative Broadcast	Niranjan Suri, Maggie Breedy, Eelco Cramer, Jan Nilsson, Anders Hansson, Roberto Fronteddu, Alessandro Morelli, Kelvin Marcus, Ronald In T Velt and Andreas Martens
	Information Bottleneck Message Passing for Military Applications	Jan Lewandowsky, Marc Adrat and Gerhard Bauch
	Fountain Coding for Information Protection in Tactical Networks	Vignesh Sridharan, Mehul Motani, Brian Jalaian and Niranjan Suri
1730 – 1800 Main Meeting Room	Best Paper Awards ICMCIS '22	Dr Peter Lenk, Steering Committee Chair Prof Gianluca Foresti, University of Udine
18:00	Close	

