
 Science and Technology Organization 	SCIENCE AND TECHNOLOGY ORGANIZATION
	NATO MODELLING AND SIMULATION GROUP

PROGRAMME

MSG-197

10 October 2022

For the 2022 NATO MODELLING & SIMULATION GROUP (NMSG) SYMPOSIUM

Emerging and Disruptive Modelling and Simulation Technologies to Transform Future Defence Capabilities

Day 1 – 20 October 2022

9.00h	INV	Invited presentation Looking Back to Look Forward	Dr Keith FORD, Thales UK
10:00h	KN1	Keynote speech NATO's Defence Innovation Accelerator for the North Atlantic (DIANA)	Prof Deepth S. CHANA, Imperial College London, Faculty of Engineering, Co-Director Institute for Security Science & Technology and Chair of NATO's Advisory Group on Emerging & Disruptive Technologies
10.30h		Break	
		Session 1: Next Generation Modelling and Simulation Opportunities	Chair: Mr Bharat PATEL
11.00h	1	Generation After Next for Defence Simulation and Synthetic Environments	Mr Jon LLOYD, Dstl, UK MOD
11.30h	2	Transforming Future Defence Capabilities through Anticipatory Innovation	Dr Anthony J MASYS, Centre for Security Science, Defence R&D Canada
12.00h	3	Leveraging Digital Era Technologies for a new Synthetic Environment – A Panacea?	Mr Nick GIANNIAS, CAE Inc
12.30h		Lunch	



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		Session 2: 3D Environment Modelling	Chair: Dr Martin ROTHER	Session 3: Next Generation Modelling and Simulation: AI		Chair: Mr Lionel KHIMECHE
13.30h	4	Reconstruction of 3D Environments from Satellite Images by AI and Computational Geometry for Exploitation in Mixed Reality	Dr Yuliya TARABALKA, LuxCarta Technology	7	M&S support to operationalization of NATO principles of responsible use of AI	Dr Jan HODICKY, NATO ACT
14.00h	5	Withdrawn		8	Artificial Intelligence applied to cyber modelling	Dr George SKROBANSKI, QinetiQ Training & Simulation Ltd
14.30h	6	Close to Real-time Object Detection Training and Detection to Provide Synthetic Environments Including Georeferenced Representations of Detected Objects of Interests for Time-critical Mission Planning	Mr Arno HOLLOSI, Blackshark.ai GmbH	9	Data quality - the foundation for effective modelling & simulation	Dr Tim KING, Engineering Services Marine & Technology Babcock International Group
15.00h	Break					
		Session 4: Next Generation Modelling and Simulation: DTs for Engineering	Chair: Mr Simon SKINNER	Session 5: Next Generation Modelling and Simulation: Training		Chair: COL Miro COLIC
15.30h	10	Framework for Developing Digital Twin Prototypes	Dr Vilius PORTAPAS, University of Nottingham	16	Maximising the Impact of Immersive Technologies for Training and Education	Ms Samantha BLACK, QinetiQ Training & Simulation Ltd Mr Mayowa OLONILUA, Dstl, UK MoD
16.00h	11	Enhancing Resilience: Model-based Simulations	Dr d'Artis KANCS, Science Research Innovation	15	Virtual Advancement of Learning for Operational Readiness with	Dr Karthik SARMA, SimX, Inc.

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			Implementation Centre, LVA Army		Non-Collocated Cross-Role Medical Simulation Training	
16.30h	12	SIMSIA: Study of the Contribution of Simulation for Intelligent Autonomous Systems	Mr Jean-Yves DONNART, Thales AVS France	14	LVC for Joint and Combined Air Power	Mr Arjan LEMMERS, Royal NLR
17.00h	13	How Digital Mission Engineering will shape your future defense systems, to increase effectiveness and efficiency	Mr Roberto GEMMA, Ansys	17	How the Spanish Military Health School is Revolutionizing Medical Training in CBRN Environments with VR	Mrs Maria MADARIETA, Virtualware
17.30h		End day 1				

Day 2 – 21 October 2022

9.00h	KN2	Keynote speech How AI standards can drive cross sector innovation	Ms Emelie BRATT British Standards Institution (BSI) Group
		Session 6: Next Generation Modelling and Simulation: Disruptive Technologies	Chair: Dr Kurtis SIMPSON
9.30h	18	A Synthetic War-game Environment to Assess Emerging and Disruptive Maritime Technologies in NATO Exercises	Mr Giovanni Luca MAGLIONE, NATO Science and Technology Organisation Centre for Maritime Research and Experimentation (CMRE)
10.00h	19	Enabling Disruptive Technologies Through Open Standards	Mr Tom GRAY, Pitch Technologies Ltd
10.30h		Break	



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		Session 7: Next Generation Modelling and Simulation: Mission Planning and Rehearsal	Chair: Prof Andrzej NAJGEBAUER	Session 8: Interoperability Standards and validation		Chair: Mr Elisseos MAVRATZOTIS
11.00h	20	Enabling Elements of Simulations Digital Twins and Its Applicability for Information Superiority in Defence Domain	Mr Kapish AGGARWAL (presented by Mr David HINDLEY), NeutronStar Systems DE UG	23	Validating M&S Standards Interoperation in CWIX 2022	Dr Mark PULLEN, George Mason University
11.30h	21	Modelling a Multi-faction Conflict in Multi-domain Operations	Mr Chris ROLFS, Cervus	24	Standards-Based Interoperability Between M&S And Operational Technology (OT) Systems	Mr Paul TINGEY, Real-Time Innovations, Inc.
12.00h	22	Fighting Disinformation, Malinformation, and Misinformation in Influence Operations Campaigns	Mr Mark HOFFMAN, Lockheed Martin Corporation, Advanced Technologies Laboratories	25	Taking Simulation Interoperability Standards to the Next Level with Digital Twins	Mr Simon SKINNER, Thales UK
12.30h		Lunch				
		Session 9: Next Generation Modelling and Simulation: Metaverse	Chair: Mr Wim HUISKAMP			
13.30h	26	Military Metaverse CONOPS	Mr Andrew FAWKES, Vedette Consulting			
14.00h	27	Unlocking the Military Potential of the Metaverse	Ms Jennifer MCARDLE, Improbable US Defense and National Security Mr Rob SOLLY, Improbable Defence			
14.30h		TER Summary	Mr Adam BROOK, Dstl Mr James KEARSE, NSC			
15.00h		End of Day 2				