

22nd European Conference on Cyber Warfare and Security - ECCWS 2023
The Hellenic Air Force Academy (HAFA) and the University of Piraeus
22 -23 June 2023 - All timings are GMT+3 - Greece Time

Wednesday 21 June			
10:00 - 13:00	Pre-Conference Workshop: How Cyber Warfare and Information Operations are changing Everything! Presented by Dr Leigh Armistead, CISSP, USA		
18:00	Pre-Conference Registration and Welcome Drink at Dekelia Hotel is Kifisias 23 Road, 136 77 Tatoi - Kifissia (until 19:00)		
Thursday 22 June			
08:15	Conference Transport leaves from the Main Gate of Dekelia Air Base		
08:30	Conference Registration		
08:45	Zoom Room 1 Opens		
09:00	Room: Main Amphitheatre and Zoom Room 1 Welcome to the Conference: Brigadier General George Lagoudakis, The Hellenic Air Force Academy, Prof. Ilias Maglogiannis and Prof Michael Filippakis, The University of Piraeus, Greece		
09:20	Keynote: Prof. Dr. Kai Rannenberg, Goethe University Frankfurt, Germany Multilateral Security: Defending one's assets without destroying one's values		
10:05	Break and conference splits into three streams		
	Stream A: Detection and Trust Chair: Iain Sutherland Room A PHYSICAL	Stream B: Risk and Trust Chair: Sabarathinam Chockalingam Room B & Zoom Room 2 VIRTUAL	Stream C: Mini Track: Education for Cyber Security, Defence & Warfare Chair: Olga Angelopoulou Room C & Zoom Room 1 - VIRTUAL
10:20	Spam email Detection using Machine Learning Techniques Ioannis Moutafis , Antonios Andreatos , Hellenic Air Force Academy, Dekeleia, Attica, Greece and Petros Stefaneas , National Technical University of Athens, Greece (P)	Assessment of Cyber Security Risks: Smart Terminal Process Jouni Pöyhönen , Jussi Simola , Martti Lehto , University of Jyväskylä, Finland, Syed Wali and Irfan Khan , Texas A&M University, USA (V)	Cyber Lessons that the world can learn from Lithuania Matthew Warren , RMIT University, Melbourne, Australia, Darius Štītis , and Marius Laurinaitis , Mykolas Romeris University, Lithuania (V)
10:40	Smart Terminal System of Systems' Cyber Threat Impact Evaluation Jussi Simola , Jouni Pöyhönen and Martti Lehto , University of Jyväskylä, Finland (P)	Cybersecurity Risk Identification and Scoring (CRIS) for Risk Assessment of Critical Systems Nikolaos Papakonstantinou and Jani Suomalainen , VTT Technical Research Centre of Finland Ltd., Espoo, Finland (Presentation only) (V)	Privacy Legislation Webpage Notifications of South African Higher Education Institutions Trishana Ramluckan , UKZN School of Law, Durban, South Africa and Brett van Niekerk , Durban University of Technology, South African (Presentation only) (V)
11:00	A Methodical Framework for Conducting Reconnaissance and Enumeration in Penetration Testing Lifecycle Faoz Barman , Mahra Alshedi , Nora Alkaabi , Hamda AlMenhali and Richard Ikuesan , Zayed University, United Arab Emirates (P)	Design Lessons from Building Deep Learning Disinformation Generation and Detection Solutions Clara Maathuis , Iddo Kerkhof , Rik Godschalk and Harrie Passier , Open University, Heerlen, Netherlands (V)	Towards Norms for State Responsibilities Regarding Online Disinformation and Influence Operations Brett van Niekerk , Durban University of Technology, and Trishana Ramluckan , University of KwaZulu-Natal and Educor, South Africa (V)
11:20	Digital Streets of Rage: Identifying Rhizomatic Extremist Messages During a Hybrid Media Event in Finland Teija Sederholm , Petri Jääskeläinen , Milla Lonka and Aki-Mauri Huhtinen , Finnish National Defence University, Helsinki, Finland (P)	Attention-Based Deep Learning Modeling for Intrusion Detection Ban Al Omar , Zouheir Trabelsi , United Arab Emirates University, Al Ain, UAE and Firas Saidi , University of Reading, UK (V)	Semiotics of Strategic Narratives of "Antichrist" in Russia's War in Ukraine Michael Hotchkiss , Independent Researcher, Griswold, USA (V)
11:40	Data Protection Impact Assessment (DPIA) for Cloud-Based Health Organizations in the Context of the General Data Protection Regulation (GDPR) Dimitra Georgiou and Costas Lambrinouidakis , University of Piraeus, Greece (P)	We See What we want to See: Pitfalls of Perception and Decision Making in Security Management Helvi Salminen , Thales DIS Finland Oy, Vantaa, Finland (Non-Academic) (V)	Students' Application of the MITRE ATT&CK Framework via a Real-Time Cybersecurity Exercise Aunshul Rege , Rachel Bleiman , Katorah Williams , Temple University Philadelphia and Jamie Williams, MITRE Corporation, USA (V)
12:00	UN Global Digital Compact: Achieving a Trusted, Free, Open and Secure Internet-Trust Building Allison Wyld , Glasgow Caledonian University, Glasgow, UK (P)	Zero Trust: The Magic Bullet or Devil's Advocate? Helvi Salminen , Thales DIS Finland Oy, Vantaa, Finland (Non-academic) (V)	Participants Prefer Technical Hands-on Cyber Exercises Instead of Organisational and Societal Ones Jani Päijänen , Tuomo Sipola , Tero Kokkonen , JAMK University of Applied Sciences, Jyväskylä, Jarno Salonen and Anni Karinsalo , VTT Technical Research Centre of Finland, Finland, (V)
12:20	Lunch Break	Lunch Break	Lunch Break

	Stream A: Mini Track: Education for Cyber Security, Defence & Warfare Chair: Olga Angelopoulou Room A (PHYSICAL)	Stream B: Modelling and Mitigating Misinformation Chair: Dimitra Georgiou Room B PHYSICAL	Stream C: PhD and Masters Colloquium Chair: Ioanna Lekea Room C & Zoom Room 1 VIRTUAL - 10 minute presentations with time for discussion & feedback
13:20	An Educational Scenario for Teaching Cybersecurity using Low-cost Equipment and Open Source Software Antonios Andreatos , Hellenic Air Force Academy, Dekeleia, Attica, Greece	Cognitive Security: Facing Cognitive Operations in Hybrid Warfare Didier Danet , Saint-Cyr Coetquidan Military Academy, GUER, France (P)	Hybrid Threats: Possible Consequences in Societal Context Georgiana-Daniela Lupulescu , Carol I National Defense University, Bucharest, Romania
13:40	On Benchmarking and Validation in Wargames Adam Wilden , Trish Williams , Flinders University, Adelaide, Mehwish Nasim , University of Western Australia and Peter Williams , Department of Defence, Australia (P)	A Survey on National Cyber Emergency Plans Konstantinos Adamos , Ioannis Filippopoulos , Georgios Stergiopoulos , University of the Aegean, Samos and Dimitris Gritzalis , Athens University of Economics and business, Greece (P)	Target Audiences' Characteristics and Perspectives in Countering Information Warfare Daniel Ionel Andrei Nistor , National Defence University „Carol I”, Bucharest, Romania
14:00	Teaching Pentesting to Social Science Students Using Experiential Learning Techniques to Improve Attitudes Towards Possible Cybersecurity Careers Aleksandras Melnikovas , General Jonas Žemaitis Military Academy of Lithuania, Vilnius, Ricardo Gregorio Lugo , Østfold University College, Norway, Kaie Maennel , Tallinn University of Technology, Estonia and Agnė Brilingaitė , Vilnius University, Lithuania (P)	Determination of the End Device Risk Likelihood using the Bayesian Network Tools Tabisa Ncubekezi , Cape Peninsula University of Technology, Cape Town, South Africa (P)	Building Situational Awareness of GDPR Pauliina Hirvonen and Martti J. Kari , University of Jyväskylä, Finland
14:20	Teaching Social Science Aspects of Information Security Igor Bernik , University of Maribor, Ljubljana, Slovenia (P)	Cyber Power in the African Context: an Exploratory Analysis and Proposition Petrus Duvenage , Wilhelm Bernhardt and Sebastian von Solms , University of Johannesburg, South Africa (P)	Organisational GDPR Investments and Impacts Pauliina Hirvonen , University of Jyväskylä, Finland
14:40	Cybersecurity Through Thesis in Laurea University of Applied Sciences Ilona Frisk , Ilkka Tikanmäki and Harri Ruolahti , Laurea University of Applied Sciences, Finland EWS-105 (P)	NCCS: A Global Census of National Positions on Conflicts, Neutrality and Cooperation Radu Antonio Serrano Iova , Tallinn University of Technology and Tomoe Watashiba , Tallinn University, Estonia (P)	The Concept of Comprehensive Security as a Tool for Cyber Deterrence Maria Keinonen , National Defense University, Helsinki, Finland
15:00	Designing an Email Attack by Analysing the Victim's Profile: An Alternative Anti-Phishing Training Method Dimitrios Lappas and Panagiotis Karampelas , Hellenic Air Force Academy, Athens, Greece (P)	Mitigation of Cyber Threats Emerging in Armed Forces Supply Chains Aidas Vasilis Vasiliauskas , General Jonas Žemaitis Military Academy of Lithuania, Vilnius, Lithuania (Presentation only) (P)	A Whole-of-Society Approach to Organise for Offensive Cyberspace Operations: The Case of the Smart State Sweden Gazmend Huskaj and Stefan Axelsson , Stockholm University, Sweden
15:20	Break	Break	Break
	Stream A: Cyber Issues Chair: Christos Douligeris Room A PHYSICAL	Stream B: PhD and Masters Colloquium Chair: Ioanna Lekea Room B PHYSICAL - 10 minute presentations with time for discussion & feedback	Stream C: Cyber Issues Chair: Michael Hotchkiss Room C & Zoom Room 1 VIRTUAL
15:40	Inter-Institutional and Cross-border Cooperation Challenges for Cyber Security in Small Countries Olga Navickienė , General Jonas Žemaitis Military Academy of Lithuania, Lithuania, Vilnius (Presentation only)	Spreading Lies Through the Cyber Domain Thomas Dempsey , American Military University, Lovettsville, USA (PhD) (P)	A Commentary and Exploration of Maritime Applications of Biosecurity and Cybersecurity Intersections Michaela Barnett , Xavier-Lewis Palmer , Blacks in Cybersecurity Headquarters, Inc., VA, Lucas Potter , Biosview, USA, Issah Samori , Minohealth AI Labs, Accra, Ghana and Brandon Griffin , CySecSol, Franklin, VA, USA (V)
16:00	Legal and Ethical Issues of Pre-Incident Forensic Analysis Iain Sutherland , Noroff University College, Kristiansand S, Norway, Matthew Bovee , Huw Read , Norwich University, USA and Konstantinos Xynos , Mycenx, Germany (P)	Fake News as a Distortion of Media Reality: Tell-Truth Strategy in the Post-Truth Era Anastasiia Iufereva , IULM, Milan, Italy (PhD) (P)	Enabling Fine-Grained Access Control in Information Sharing with Structured Data Formats Tatu Niskanen and Jarno Salonen , VTT Technical Research Centre of Finland, Espoo, Finland (V)
16:20	Towards the Development of Indicators of Fake Websites for Digital Investigation Mera Alremeithi , Aysha Alkuwaiti , Haya Alobeidli and Richard Ikuesan , Zayed	Technology-Oriented Innovations and Cyber Security Challenges in the Healthcare Delivery System: A Perspective from a Developing Economy Victor Kwarteng Owusu , and Ales Gregar , Tomas Bata University in Zlin, Czech Republic (PhD) (P)	Influence Diagrams in Cyber Security: Conceptualization and Potential Applications Sabarithnam Chockalingam , Institute for Energy Technology, Halden, Norway and Clara Maathuis , Open University of the Netherlands, Netherlands (V)
16:40	A New Interpretation of Integrated Deterrence: Physical and Virtual Strategies Jim Chen , U.S. National Defense University, Washington DC., USA (P)	Deep-Learning Based Intrusion Detection for Software-Defined Networking Systems Uakomba Uhongora , Ronald Mulinde , Yee Wei Law and Jill Slay , University of South Australia, Australia (PhD) (P)	Known Unknowns: The Inevitability of Cyber Attacks Virginia Greiman , Boston University, Boston, MA, USA (P)
17:00	How to Safely Communicate with a Phishing Attacker by Email? Ladislav Burita , Aneta Coufalikova and Kamil Halouzka , University of Defence, Brno, Czech Republic (P)	How does the Tallinn Manual 2.0 Shed Light on the Threat of Cyber Attacks against Taiwan Sharon Chih-Hsiang Chang , National Taiwan University, Taipei City, Taiwan (Masters) (P)	National Security, White Supremacy, and the War on Democracy: Ethical and Anticipated Ethical Issues Richard Wilson and Nahali Tittle , Towson University, USA
17:20	Close of Conference Day	Close of Conference Day	Close of Conference Day
17:30	Bus leaves conference venue to the Main Gate of Dekelia Air Base		
19:30	Bus leaves from the Main Gate of Dekelia Air Base for Conference Dinner at the Officers Mess of the Dekeleia Air Force Base		

	Friday 23 June		
08:40	Conference Transport leaves from the Main Gate of Dekelia Air Base		
09:00	Room: Main Amphitheatre and Zoom Room 1		
09:05	Keynote Address: Prof Nineta Polemi, University of Piraeus-UNIPi- Athens, Greece <i>CyberSecPro: An agile and collaborative approach to cybersecurity practical trainings</i>		
09:50	Introduction to ECCWS 2024		
10:00	Break and Poster Presentations		
	Stream A: Cyber Warfare Chair: Jim Chen Room A PHYSICAL	Stream B: Governance and Careers Chair: Christoph Lipps Room B PHYSICAL	Stream C: Mini Track on Offensive Cyber-operations: Multi-disciplinary perspectives Chair: Brett van Niekerk & Trishana Ramluckan Room C & Zoom Room 1
10:40	Cyber Warfare 2023 The Next Level \$#@! You Need to Know Michele Boland , Check Point Software Technologies, Fort Worth, USA (Presentation only) (P)	Role of Techno-Economic Coalitions in Future Cyberspace Governance: 'Backcasting' as a Method for Strategic Foresight Mari Ristolainen , Finnish Defence Research Agency, Riihimäki, Finland (P)	Governance and Management Information System for Cybersecurity Centers and Competence Hubs Jyri Rajamäki and Janne Lahdenpera , Laurea University of Applied Sciences, Helsinki, Finland (V)
11:00	Cyber Warfare and Cyber Terrorism Threats Targeting Critical Infrastructure: A HCPS-Based Threat Modelling Intelligence Framework Rennie Naidoo and Carla Jacobs , University of Pretoria, South Africa (P)	Cyber Geography and Cyber Terrain: Challenges Producing a Universal map of Cyberspace Alexander Grandin, Finnish Defence Research Agency, Riihimäki, Finland (P)	Tackling Uncertainty Through Probabilistic Modelling of Proportionality in Military Operations Clara Maathuis , Open University, Heerlen, Netherlands and Sabarathinam Chockalingam , Institute for Energy Technology, Norway (V)
11:20	Permission-Based Classification of Android Malware Application using Random Forrest Nikolaos Chrysikos , Panagiotis Karampelas , Hellenic Air Force Academy, Athens, Greece and Konstantinos Xylogiannopoulos , University of Calgary, Canada (P)	A Cyber Counterintelligence Competence Framework: Developing the Job Roles Thenjiwe Sithole , Jaco Du Toit and Sebastian Von Solms , University of Johannesburg, South Africa (P)	The Identification of Cybersecurity Work Roles for the Water Sector in South Africa Sune von Solms , Aby Melanie and Annlike Marnewick , University of Johannesburg, South Africa (V)
11:40	Developing Robust Cyber Warfare Capabilities for the African Battlespace Mphahlela Thaba and Jabu Mtsweni , Council for Scientific and Industrial Research, Centurion, South Africa (P)	An Analysis of Critical Cybersecurity Controls for Industrial Control Systems Nkata Sekonya and Siphesihle Sithungu , University of Johannesburg, South Africa (P)	Podcasts Disinformation and Information Warfare: Ethical and Anticiated Ethical Issues Richard Wilson , Towson University, Towson, USA
12:00	Towards an Active Cyber Defence Framework for SMMES in Developing Countries Nombeko Ntingi , Jaco du Toit and Sebastian von Solms , University of Johannesburg, South Africa (P)	Functional Architectural Design of a Digital Forensic Readiness Cybercrime Language as a Service (DFCaaS) Stacey Omeleze Baror , Hein Venter , University of Pretoria, South Africa and Richard Adeyemi Ikuesan , Zayed University, UAE (P)	Processing Model and Classification of Cyber Cognitive Attacks: Based on Cognitive Psychology Ki Beom Kim , Ministry of National Defense, Seoul, Eugene Lim and Hun Yeong Kwon , Korea University, Republic of Korea EWS-095 (V)
12:30	Developing Cybersecurity in an Industrial Environment by using a Testbed Environment Jussi Simola , Tapio Frantti , Reijo Savola , Arttu Takala and Riku Lehkonen , University of Jyväskylä, Finland (P)	Designing a High-fidelity Testbed for 5G-Based Industrial IoT Diogo Cruz , Tiago Cruz , Vasco Pereira and Paulo Simões , University of Coimbra, Portugal (P)	The Legality of Collective Countermeasure Under the New Era of Cyber Aggression Pardis M Tehrani , University of Sunderland, Sunderland, United Kingdom
12:40	Lunch Break	Lunch Break	Lunch Break

	Stream A: Cyber Issues Chair: Tim Grant Room A PHYSICAL	Stream B: Mini Track on 5G, Smart Grid cybersecurity and cyber-ranges Chair: Paulo Simões and Tiago Cruz Room B PHYSICAL	Stream C: Mini Track on Offensive Cyber-operations: Multi-disciplinary perspectives Chair: Brett van Niekerk & Trishana Ramluckan Room C & Zoom Room 1 VIRTUAL
13:30	Detect, Deny, Degrade, Disrupt, Destroy, Deceive: Which is the Greatest in OCO? Tim Grant, R-BAR, Benschop, Netherlands (P)	On the Software Architectures for Fog-Based Secure Industrial Internet of Things Deployments Christos Tselikis and Christos Douligeris, University of Piraeus, Greece, Leandros Maglaras, Edinburgh Napier University, Edinburgh, UK and Sarandis Mitropoulos, Ionian University, Lefkada, Greece (P)	Complicity in Unlawful Offensive Cyber Operations Under International Law on State Responsibility Samuli Haataja, Griffith University, Gold Coast, Australia (V)
13:50	Cultural Influences on Information Security Henry Collier, Norwich University, Northfield, USA, Charlotte Morton, University of Chester, UK, Dalal Alharthi, The University of Arizona, USA and Jan Kleiner, Masaryk University, Czech Republic (P)	Designing Security for the Sixth Generation: About Necessity, Concepts and Opportunities Christoph Lipps et al, German Research Center for Artificial Intelligence, Kaiserslautern, Germany (P)	JTF-ARES as a Model of a Persistent, Joint Cyber Task Force Charlie Donnelly, University of Chicago, USA and Marcel Stolz, Oxford University, UK (V)
14:10	An Analysis of the MTI Crypto Investment Scam: User Case Johnny Botha, CSIR, Pretoria, Thor Pederson, TCG Forensics, Cape Town and Louise Leenen, University of Western Cape, South Africa (P)	Agile Methods for Improved Cyber Operations Planning Jami M Carroll, Unaffiliated, MA, USA (P)	Static Vulnerability Analysis Using Intermediate Representations: A Literature Review Adam Spanier and Bill Mahoney, University of Nebraska at Omaha, USA (V)
14:30	Digital Forensics in a Virtual World: A Case of Metaverse and VR Tayba Al Ali, Sara Al Fulaiti, Manal Abuzour, Sheikah Almaghami and Richard Ikuesan, Zayed University, Abudhabi, United Arab Emirates (P)		A Reflection on Typology and Verification Flaws in Consideration of Biocybersecurity / Cyberbiosecurity: Just Another Gap in the Wall Lucas Potter, Kimberly Mossburg and Xavier-Lewis Palmer, BiosView, Oswego, USA
14:50	Summary of the conference and Award to the winner of the best PhD paper and the Best Poster Close of Conference		
15:00	Bus leaves conference venue to the Main Gate of Dekelia Air Base		
	Friday 19th May 9:50-10:30 PHYSICAL POSTERS Poster Presenters stand by their poster to discuss their research	Friday 19th May 10:00-11:00 VIRTUAL POSTERS ECCWS Zoom Room 2 5 minute Presentations with time for Discussion and Feedback	
	Security Issues of GPUs and FPGAs for AI-powered Near & Far Edge Services Stylianos Koumoutzelis et al, Eight Bells Ltd, Athens, Greece (WIP) (P)	Demand Analysis of the Cyber Security Knowledge Areas and Skills for Nurses: Preliminary Findings Jyri Rajamäki and Paresh Rathod, Laurea University of Applied Sciences, Espoo, Finland (WIP) (V)	
	Hybrid Threat and Information Influence in Connection with the Security of Supply Tehi Palletvuori and Jyri Rajamäki, Laurea University of Applied Sciences, Finland (WIP) (P)	Embedding Machine Intelligence Logic and IT-Security into Edge Devices Bastian Fraune, Richard Sethmann and Woltjen Torben, City University of Applied Sciences Bremen, Germany (Poster Only) (V)	
	ENCRYPT: A Scalable and Practical Privacy-Preserving Framework Konstantina Papachristopoulou and Konstantinos Kaltakis, Eight Bells Ltd., Greece (Poster Only) (P)	Reconnaissance Techniques and Industrial Control System Tactics Knowledge Graph Eve Cohen, Elsa Deitz, Jordana Wilkes and Thomas Heverin Girls Learn Cyber LLC, USA (WIP) (V)	
	Compositional Security Verification and Assurance of SoS Lifecycle: The Case of REWIRE Konstantina Papachristopoulou and Konstantinos Kaltakis, Eight Bells Ltd., Greece (Poster Only) (P)	The War on 'Woke', the War on Books and the War on Race: An Ethical and Anticipatory Ethical Analysis Richard Wilson, Towson University, Towson, USA (Poster only) (V)	
	Towards An Intrusion Detection System For Smart Grids: a federated approach Dylan Gonçalves Perdigão, Pedro Henriques Abreu and Tiago José Cruz, University of Coimbra, Portugal, (Invited Poster) (P)	AI-NET – Accelerating digital transformation in Europe by Intelligent Network automation Nikolaos Papakonstantinou & Jani Suomalainen, VTT Technical Research Centre of Finland (V) (Invited Poster)	
	SRAM-based Physically Unclonable Functions: The Impact of Environmental Conditions Christoph Lipps, German Research Center for Artificial Intelligence, Kaiserslautern, Germany, (Invited Poster) (P)	Russia, Tactical Nuclear Weapons and Cyber Warfare: Ethical and Anticipated Ethical Issues Richard Wilson, Towson University, Towson, United States (Poster only) (V)	
	AI-Based Quantum-Safe Cybersecurity Automation and Orchestration for Edge Intelligence in Future Networks Aarne Hummelholm, Timo Hämäläinen and Reijo Savola, University of Jyväskylä, Finland (WIP) (P)	Hidden permissions on Android: A Permission-Based Android Mobile Privacy Risk Model Saliha Yilmaz and Mastaneh Davis, Kingston University London, UK (WIP)	