IEEE CSR 2021

Athena room (main conference)
Nafsika and Nefeli rooms (workshops)

2021 IEEE International Conference on Cyber Security and Resilience

Legend: 2021 IEEE CSR Workshop on…
— Actionable Cyber Threat Intelligence (ACTI)
— Cyber Resilience and Economics (CRE)
— Cyber Ranges and Security Training (CRST)
— Data Science for Cyber Security (DS4CS)
— Electrical Power and Energy Systems Security, Privacy and Resilience (EPES-SPR)
— Maritime Cyber Security (MCS)
— Resilient Artificial Intelligence (RAI)

Monday 26th of July

08:40–09:00 CET Welcome from the chairs WL
Stavros Shiaeles, Nicholas Kolokotronis, Emanuele Bellini
Room: Athena

09:00–10:00 CET Plenary session PL1
Chair: Emanuele Bellini, University of Campania Vanvitelli (IT)
Room: Athena

Invited talk: Israel national and organisational cyber resiliency strategy and policy
Isaac Ben Israel

10:00–11:20 CET Technical session CSR1
Chair: Francesco Flammini, Mälardalen University (SE)
Room: Athena

10:00–10:20 Anomaly based resilient network intrusion detection using inferential autoencoders
A. Hannan, C. Gruhl, and B. Sick

10:20–10:40 Act proactively: An intrusion prediction approach for cyber security
P. Panagiotidis, C. Angelidis, I. Karalis, G. Spyropoulos, and A. Liapis

10:40–11:00 A stream clustering algorithm for classifying network IDS alerts
R. Vaarandi

11:00–11:20 Statistical metamorphic testing of neural network based intrusion detection systems
F. Rehman and C. Izurieta

10:00–11:20 CET Keynote session WS-DS4CS1
Chair: Christos Tryfonopoulos, University of Peloponnese (GR)
Room: Nafsika

10:00–10:20 Welcome from the DS4CS workshop chairs
C. Tryfonopoulos, S. Skiadopoulos, and S. Idreos

10:20–11:00 **Invited talk:** Cyber threat intelligence/botnet profiling
Angelos K. Marnerides, University of Glasgow (UK)

10:00–11:20 **Technical session WS-CRST1**
CET Chair: Konstantina-Eleni Davri, Center for Security Studies (GR)
Room: Nefeli

10:00–10:20 The current SOTA and future of European cyber range ecosystem
C. Virag, T. Lieskovan, J. Čegan, and M. Merialdo

10:20–10:40 Frankenstack: Real-time cyberattack detection and feedback system for technical cyber exercises
M. Pihelgas and M. Kont

10:40–11:00 ECHO federated cyber range: Towards next-generation scalable cyber ranges
N. Oikonomou, N. Mengidis, M. Spanopoulos – Karalexidis, A. Voulgaridis, M. Merialdo, I. Raisr, K. Hanson, P. de La Vallee, T. Tsikrika, S. Vrochidis, and K. Votis

11:00–11:20 The Cyber-MAR project: First results and perspectives on the use of hybrid cyber ranges for port cyber risk assessment
O. Jacq, P. Giménez Salar, K. Parasuraman, J. Kuusijärvi, A. Gkaniatsou, E. Latsa, and A. Amditis

11:20–11:40 **Coffee break**
CET

11.40–13:00 **Technical session CSR2**
CET Chair: Stefano Marrone, University of Campania Vanvitelli (IT)
Room: Athena

11.40–12:00 Detecting SQL injection web attacks using ensemble learners and data sampling
R. Zuech, J. Hancock, and T. Khoshgoftaar

12.00–12:20 SK-Tree: A systematic malware detection algorithmon streaming trees via the signature kernel
C. Salvi, T. Lyons, M. Lemercier, T. Cochrane, V. Chhabra, and P. Foster

12.20–12:40 Software vulnerabilities, products and exploits: A statistical relational learning approach
C. Figueiredo, J. G. Lopes, R. Azevedo, G. Zaverucha, D. S. Menasche, and L. Aguiar

12.40–13:00 Rapid ransomware detection through side channel exploitation
M. Taylor, E. Larson, and M. Thornton

11.40–13:00 **Technical session WS-DS4CS2**
CET Chair: Spiros Skiadopoulos, University of Peloponnese (GR)
Room: Nafsika

11.40–12:00 Social media monitoring for IoT cyber-threats
S. Alevizopoulou, P. Koloveas, C. Tryfonopoulos, and P. Raftopoulou

12.00–12:20 Data exfiltration: Methods and detection countermeasures
J. King, G. Bendiab, N. Savage, and S. Shiaeles

12.20–12:40 Detecting adversarial DDoS attacks in software-defined networking using deep learning techniques and adversarial training
B. Nugraha, N. Kulkarni, and A. Gopikrishnan

11.40–13:00 **Technical session WS-CRST2**
CET Chair: Angelos Amditis, Institute of Communication and Computer Systems (GR)
Room: Nefeli

11.40–12:00 The SPIDER cyber security investment component (CIC)
M. Tsiodra, M. Chronopoulos, M. Ghering, E. Karapistoli, N. Gerosavva, and N. Kylilis

12.00–12:20 The THREAT-ARREST cyber ranges platform
G. Hatzivasilis, S. Ioannidis, M. Smyrlis, G. Spanoudakis, F. Frati, C. Braghin, E. Damiani, H. Koshutanski, G. Tsakirakis, T. Hildebrandt, L. Goeke, S. Pape, O. Blinder, M. Vinov, G. Leftheriotis, M. Kunc, F. Oikonomou, G. Magilo, V. Petrarolo, A. Chieti, and R. Bordianu

12.20–12:40 Cyber security certification programmes
E.-C. Davri, E. Darra, I. Monogioudis, A. Grigoriadis, C. Iliou, N. Mengidis, T. Tsikrika, S. Vrochidis, A. Peratikou, H. Gibson, D. Haskovic, D. Kavallieros, E. Chaskos, P. Zhao, S. Shiaeles, N. Savage, B. Akhgar, X. Bellekens, and M. Amine Ben Farah

13:00–14:00 Lunch break
CET

14:00–15:20 Technical session CSR3
CET Chair: Nicholas Kolokotronis, University of the Peloponnese (GR)
Room: Athena

14:00–14:20 Reinforcement learning-driven attack on road traffic signal controllers
N. Seifollahpour Arabi, T. Halabi, and M. Zulkernine

14:20–14:40 Resilient boot
S. Ostrikov

14:40–15:00 Cyber resilience for self-monitoring IoT devices
M. Medwed, V. Nikov, J. Renes, T. Schneider, and N. Veshchikov

15:00–15:20 Resilience learning through self adaptation in digital twins of human-cyber-physical systems
E. Bellini, F. Bagnoli, M. Caporuscio, E. Damiani, F. Flammini, I. Linkov, P. Lio, and S. Marrone

14:00–15:20 Technical session WS-DS4CS3
CET Chair: Christos Tryfonopoulos, University of Peloponnese (GR)
Room: Nafsika

14:00–14:20 Unveiling MIMETIC: Interpreting deep learning traffic classifiers via XAI techniques
A. Nascita, A. Montieri, G. Aceto, D. Ciuonzo, V. Persico, and A. Pescape

14:20–14:40 Detecting attacks on IoT devices using featureless 1D-CNN
A. Khan and C. Cotton

14:40–15:00 DAHID: Domain adaptive host-based intrusion detection
O. Ajayi and A. Gangopadhyay

15:20–15:40 Coffee break
CET

15:40–17:20 Technical session CSR4
CET Chair: Stavros Shiaeles, University of Portsmouth (UK)
Room: Athena

15:40–16:00 Machine learning on knowledge graphs for context-aware security monitoring
J. Soler Garrido, D. Dold, and J. Frank

16:00–16:20 SoK: Investigation of security and functional safety in industrial IoT
E. Tomur, U. Gulen, E. Ustundağ Soykan, M. A. Ersoy, F. Karakoc, L. Karacay, and P. Comak

16:20–16:40 Mc-PUF: memory-based and machine learning resilient strong PUF for device authentication in internet of things
P. Williams, H. Idriss, and M. Bayoumi

16:40–17:00 SoK: Autonomic cybersecurity – Securing future disruptive technologies
C. Rouff, L. Watkins, R. Sterritt, and S. Hariri

17:00–17:20 ERAMO: Effective remote attestation through memory offloading
J. H. Ostergaard, E. Dushku, and N. Dragoni

15:40–17:20 Technical session WS-MCS1
CET Chair: Leandros Maglaras, De Montfort University (UK)
Room: Nefeli

15:40–16:00 Advancing the state of maritime cybersecurity guidelines to improve the resilience of the maritime transportation system
L. Drazovich, L. Brew, and S. Wetzel

16:00–16:20 The impact of COVID-19 on the security and resilience of the maritime transportation system
L. Brew, L. Drazovich, and S. Wetzel

16:20–16:40 Impact assessment of anomaly propagation in a naval water distribution cyber-physical system
N. Pelissero, P. Merino Laso, and J. Puentes

16:40–17:00 A backwards compatible approach to authenticate automatic identification system messages
M. Struck and J. Stoppe

17:00–17:20 Quantum cryptography in maritime telecommunications
M. Papathanasaki, P. Fountas, L. Maglaras, C. Douligeris, and M. A. Ferrag

17:20–17:40 Coffee break
CET

17:40–18:20 Panel discussion WS-MCS2
CET Chairs: Christos Douligeris, University of Piraeus (GR);
Despina Polemi, University of Piraeus (GR)
Room: Nefeli

Panel topic: Future trends and perspectives in maritime communications
Moderator: Despina Polemi, University of Piraeus (GR)
— Ravishankar Borgaonkar, SINTEF Digital (NO)
— Bruno Bender, Ventura (FR)
— Sofoklis Efremidis, Maggioli SpA (IT)
— Corinna Schmitt, Unibw (DE)

Tuesday 27th of July

09:00–10:00 Plenary session PL2
CET Chair: Nicholas Kolokotronis, University of the Peloponnese (GR)
Room: Athena

Invited talk: Threat modelling for machine-learning systems
Ernesto Damiani

10:00–11:20 Technical session CSR5
CET Chair: Nicholas Kolokotronis, University of the Peloponnese (GR)
Room: Athena

10:00–10:20 ENAD: An ensemble framework for unsupervised network anomaly detection
J. Liao, S. G. Teo, P. P. Kundu, and T. Truong-Huu

10:20–10:40 Using deep packet inspection in cyber traffic analysis
L. Deri and F. Fusco

10:40–11:00 Towards anomaly detection in smart grids by combining complex events processing and SNMP objects
M. L. Itria, E. Schiavone, and N. Nostro

11:00–11:20   Clustering analysis of email malware campaigns
              R. Zhang, S. Wang, R. Burton, M. Hoang, J. Hu, and A. Nascimento

10:00–11:20 Technical session WS-CRE1
CET   Chair: Nicholas J. Multari, Pacific Northwest National Lab (US)
       Room: Nafsika

10:00–10:20   Welcome from the CRE workshop chairs
              N. J. Multari and J. Picciotto
10:20–10:40   Modelling cyber-risk in an economic perspective
              I. Bothos, V. Vlachos, D. Kyriazanos, I. Stamatiou, K. G. Thanos, P. Tzamalis, S. Nikoletseas, and S. Thomopoulos
10:40–11:00   Disposable identities; Enabling trust-by-design to build more sustainable data driven value
              J. Isohanni, K. M. Hermsen, L. Goulden, M. Ross, and J. Vanbockryck
11:00–11:20   Influence pathways: Mapping the narratives and psychological effects of russian COVID-19 disinformation
              A. Hoyle, T. Powell, B. Cadet, and J. van de Kuijt

11:20–11:40 Coffee break
CET

11.40–13:00 Technical session CSR6
CET   Chair: Emanuele Bellini, University of Campania Vanvitelli (IT)
       Room: Athena

11.40–12:00   Enabling efficient common criteria security evaluation for connected vehicles
              A. Stamou, P. Pantazopoulos, S. Haddad, and A. Amditis
12.00–12:20   Analyzing cascading effects of spoofing attacks on ADS-B using a discrete model of air traffic control responses and AGMOD dynamics
              M. R. Kamaruzzaman, B. O. Sane, D. Fall, Y. Taenaka, and Y. Kadobayashi
12.20–12:40   Towards HybridgeCAN, a hybrid bridged CAN platform for automotive (security) testing
              D. Granata, M. Rak, and G. Salzillo
12.40–13:00   Securing an MQTT-based traffic light perception system for autonomous driving
              A.-A. Affia and R. Matulevicius

13:00–14:00 Lunch break
CET

14:00–15:00 Plenary session PL3
CET   Chair: Stavros Shiaeles, University of Portsmouth (UK)
       Room: Athena

       Invited talk: Actionable and interpretable AI (AI^2) and resilience
       Igor Linkov

15:20–15:40 Coffee break
CET

15:40–17:20 Technical session CSR7
CET   Chair: Gueltoum Bendiab, University of Portsmouth (UK)
       Room: Athena

15:40–16:00   Secure communication in smart meters using elliptic curve cryptography and digital signature algorithm
              S. Shukla, S. Thakur, and J. G. Breslin

16:00–16:20 Enhancing medical data security on public cloud
N. Santos, W. Younis, B. Ghita, and G. Masala

16:20–16:40 Development of a testbed for fully homomorphic encryption solutions
S. Marrone, A. Tortora, E. Bellini, A. Maione, and M. Raimondo

16:40–17:00 On security of key derivation functions in password-based cryptography
G. Kodwani, S. Arora, and P. Atrey

15:40–17:20 Keynote session WS-CRE2
CET Chair: Rosalie McQuaid, MITRE Corporation (US)
Room: Nafsika

15:40–16:10 **Invited talk:** A process-based approach to cybersecurity certification
Volkmar Lotz, SAP Security Research (FR)

16:10–16:40 **Invited talk:** Adaptable cyber matrix in energy security hybrid threat analysis
Gabriel Raicu, Constanta Maritime University (RO)

16:40–17:10 **Invited talk:** Hybridized exercising of critical infrastructure cyber resilience
George Sharkov, European Software Institute (BG)

17:20–18:20 Awards session AW
CET Chairs: Emanuele Bellini, University of Campania Vanvitelli (IT); Giancalro Fortino, University of Calabria (IT)
Room: Athena

18:20–20:00 Panel discussion WS-CRE3
CET Chair: Jeffrey Picciotto, MITRE Corporation (US);
Nicholas J. Multari, Pacific Northwest National Lab (US)
Room: Nafsika

18:20–18:50 **Invited talk:** Cyber reflections, cyber projections
Paul Nielsen, Carnegie Mellon University/Software Engineering Institute (US)

18:50–19:20 **Invited talk:** On the resilience of command and control architectures for cyber defense
Marco Carvalho, Florida Institute of Technology (US)

19:20–20:00 **Panel topic:** The next step for cyber resilience
Moderator: Nicholas J Multari, Pacific Northwest National Lab (US)
— Marco Carvalho, Florida Institute of Technology (US)
— Volkmar Lotz, SAP Security Research (FR)
— Paul Nielsen, Carnegie Mellon University/Software Engineering Institute (US)
— Gabriel Raicu, Constanta Maritime University (RO)
— George Sharkov, European Software Institute (BG)

Wednesday 28th of July

09:00–10:00 Plenary session PL4
CET Chair: Stavros Shiaeles, University of Portsmouth (UK)
Room: Athena

Invited talk: Recognising knowledge and skills for cyber security and resilience
Steve Furnell

10:00–11:20 Technical session CSR8
CET Chair: Bogdan Ghita, University of Plymouth (UK)
Room: Athena

10:00–10:20 Real-time, simulation-based identification of cyber-security attacks of industrial plants
A. Patel, T. Schenk, S. Knorn, H. Patzlaff, D. Obradovic, and A. Botero Halblaub

10:20–10:40   Web bot detection evasion using generative adversarial networks
C. Iliou, T. Kostoulas, T. Tsikrika, V. Katos, S. Vrochidis, and I. Kompatsiaris

10:40–11:00   Understanding and mitigating banking trojans: From Zeus to Emotet
K. P. Grammatikakis, I. Koufos, N. Kolokotronis, C. Vassilakis, and S. Shiaeles

11:00–11:20   Insider threat detection using deep autoencoder and variational autoencoder neural networks
E. Pantelidis, G. Bendiab, S. Shiaeles, and N. Kolokotronis

10:00–11:20 CET   Keynote session WS-ACTI1
Chair: Vasilis Katos, Bournemouth University (UK)
Room: Nafsika

10:00–10:20   Welcome from the ACTI workshop chair
V. Katos

10:20–11:00   **Invited talk:** Stop chasing rabbits: The case of actionable intelligence where the rubber meets the road
Azeem Aleem, NTT (UK)

10:00–11:20 CET   Technical session WS-RAI1
Chair: Fiammetta Marulli, University of Campania (IT)
Room: Nefeli

10:00–10:20   Welcome from the RAI workshop chairs
F. Marulli, F. Mercaldo

10:20–10:40   Towards resilient artificial intelligence: survey and research issues
O. Eigner, S. Eresheim, P. Kieseberg, L. D. Klausner, F. Marulli, F. Mercaldo, M. Pirker, T. Priebe, and S. Tjoa

10:40–11:00   Assessing adversarial training effect on IDSs and GANs
H. Chaitou, T. Robert, J. Leneutre, and L. Pautet

11:00–11:20   Defending against model inversion attack by adversarial examples
J. Wen, S.-M. Yiu, and L. C. K. Hui

11:20–11:40 CET   Coffee break

11.40–13:00 CET   Technical session CSR9
Chair: Costas Vassilakis, University of the Peloponnese (GR)
Room: Athena

11.40–12:00   Fast dual-field ECDSA accelerator with increased resistance against horizontal SCA attacks
I. Kabin, D. Klann, Z. Dyka, and P. Langendoerfer

12.00–12:20   On the detection of channel switch announcement attack in 802.11 networks
C. Louca, A. Peratikou, and S. Stavrou

12.20–12:40   Toward automated threat modeling of edge computing systems
C. Mazzocca, A. De Benedictis, R. Montanari, and V. Casola

12.40–13:00   A dynamic reconfiguration-based approach to resilient state estimation
A. Joss, A. Grassbaugh, M. Poshtan, and J. Callenes

11.40–13:00 CET   Technical session WS-ACTI2
Chair: Cagatay Yucel, Bournemouth University (UK)
Room: Nafsika

11.40–12:00   Mapping cyber threat intelligence to probabilistic attack graphs
A. Gylling, M. Ekstedt, Z. Afzal, and P. Eliasson

12.00–12:20   A tree-based machine learning methodology to automatically classify software vulnerabilities
G. Aivatoglou, M. Anastasiadis, G. Spanos, A. Voulgaridis, K. Votis, and D. Tzovaras

12.20–12:40   Evaluation and enhancement of the actionability of publicly available cyber threat information in digital forensics
A. Dimitriadis, E. Lontzetidis, and I. Mavridis

12.40–13:00   A workflow and toolchain proposal for analyzing users' perceptions in cyber threat intelligence sharing platforms
B. Stojkovski and G. Lenzini

11.40–13:00 CET   Technical session WS-RAI2
Chair: Francesco Mercaldo, University of Molise (IT)
Room: Nefeli

11.40–12:00   X-BaD: A flexible tool for explanation-based bias detection
M. Pacini, F. Nesti, A. Biondi, and G. Buttazzo

12.00–12:20   Improving classification trustworthiness in random forests
S. Marrone, M. S. de Biase, F. Marulli, and L. Verde

13:00–14:00 CET   Lunch break

14:00–15:20 CET   Technical session CSR10
Chair: Nicholas Kolokotronis, University of the Peloponnese (GR)
Room: Athena

14:00–14:20   Systematic and efficient anomaly detection framework using machine learning on public ICS datasets
B. Millot, J. Francq, and F. Sicard

14:20–14:40   Semi-automatic bug generation using test case negation
T. Westland, N. Niu, R. Jha, D. Kapp, and T. Kebede

14:40–15:00   STRIDE-AI: An approach to identifying vulnerabilities of machine learning assets
L. Mauri and E. Damiani

15:00–15:20   Machine learning for threat recognition in critical cyber-physical systems
P. Perrone, F. Flammini, and R. Setola

14:00–15:20 CET   Technical session WS-ACTI3
Chair: Ioannis Chalkias, Bournemouth University (UK)
Room: Nafsika

14:00–14:20   CTI blockchain-based sharing using proof-of-quality consensus algorithm
D. Chatziamanetoglou and K. Rantos

14:20–14:40   Towards intrusion response intel
K. Hughes, K. McLaughlin, and S. Sezer

14:40–15:00   Data sanitisation and redaction for cyber threat intelligence sharing platforms
C. Yucel, I. Chalkias, D. Mallis, D. Cetinkaya, J. Henriksen-Bulmer, and A. Cooper

15:00–15:20   Named entity recognition in cyber threat intelligence using transformer-based models
P. Evangelatos, C. Iliou, T. Mavropoulos, K. Apostolou, T. Tsikrika, S. Vrochidis, and I. Kompatsiaris

14:00–15:20 CET   Technical session WS-EPES-SPR1
Chair: Panagiotis Sarigiannidis, University of Western Macedonia (GR)
Room: Nefeli

14:00–14:20   Welcome from the EPES-SPR workshop chair
P. Sarigiannidis

14:20–14:40 Enhancing SIEM technology for protecting electrical power and energy sector
I. Sklavidis, C. Angelidis, R. Babagiannou, and A. Liapis

14:40–15:00 A scalable multi-agent system for black start restoration in low voltage microgrids
A. Pasias, A. Schoinas, A. Drosou, and D. Tzovaras

15:00–15:20 TRUSTY: A solution for threat hunting using data analysis in critical infrastructures
P. Radoglou-Grammatikis, A. Liatifis, E. Grigoriou, T. Saoulidis, A. Sarigiannidis, and T. Lagkas

15:20–15:40 Coffee break
CET

15:40–17:20 Technical session CSR11
CET Chair: Emanuele Bellini, University of Campania Vanvitelli (IT)
Room: Athena

15:40–16:00 Automated and on-demand cybersecurity certification
S. Karagiannis, M. Manso, E. Magkos, L. L. Ribeiro, and L. Campos

16:00–16:20 Towards a maritime cyber range training environment
G. Potamos, A. Peratikou, and S. Stavrou

16:20–16:40 Cyber-range federation and cyber-security games: A gamification scoring model
J. Diakoumakos, E. Chaskos, N. Kolokotronis, and G. Lepouras

16:40–17:00 Cyber-security training evaluation metrics
N. Koutsouris, C. Vassilakis, and N. Kolokotronis

17:00–17:20 Open source and commercial capture the flag cyber security learning platforms: A case study
M. Swann, J. Rose, G. Bendiab, S. Shiaeles, and F. Li

15:40–17:20 Technical session WS-ACTI4
CET Chair: Dimitrios Mallis, Bournemouth University (UK)
Room: Nafsika

15:40–16:00 Towards selecting informative content for cyber threat intelligence
P. Panagiotou, C. Iliou, K. Apostolou, T. Tsikrika, S. Vrochidis, P. Chatzimisios, and I. Kompatsiaris

16:00–16:20 Trust and quality computation for cyber threat intelligence sharing platforms
K. B. Mavzer, E. Konieczna, H. Alves, C. Yucel, I. Chalkias, D. Mallis, D. Cetinkaya, and L. Galindo Sanchez

16:20–16:40 Towards automated matching of cyber threat intelligence reports based on cluster analysis in an Internet-of-vehicles environment
G. E. Raptis, C. Katsini, and C. Alexakos

16:40–17:00 Workshop's closing remarks
V. Katos

15:40–17:20 Technical session WS-EPES-SPR2
CET Chair: Thomas Lagkas, International Hellenic University (GR)
Room: Nefeli

15:40–16:00 Increasing resilience of power systems using intentional islanding; a comparison of binary genetic algorithm and deep learning based method
P. Paradell, Y. Spyridis, A. Colet Subirachs, A. Ivanova, J. L. Dominguez – Garcia, A. Sesis, and G. Efstathopoulos

16:00–16:20 Enabling cyber-attack mitigation techniques in a software defined network
A. Pasias, T. Kotsiopoulos, G. Lazaridis, A. Drosou, D. Tzovaras, and P. Sarigiannidis

Program overview

Timeslot (CET)	Monday 26th of July			Tuesday 27th of July			Wednesday 28th of July		
	Athena	Nafsika	Nefeli	Athena	Nafsika	Nefeli	Athena	Nafsika	Nefeli
08:40–09:00	WL								
09:00–10:00	PL1			PL2			PL4		
10:00–11:20	CSR1	WS-DS4CS1	WS-CRST1	CSR5	WS-CRE1		CSR8	WS-ACTI1	WS-RAI1
11:20–11:40		Coffee break			Coffee break			Coffee break	
11:40–13:00	CSR2	WS-DS4CS2	WS-CRST2	CSR6			CSR9	WS-ACTI2	WS-RAI2
13:00–14:00		Lunch break			Lunch break			Lunch break	
14:00–15:00	CSR3	WS-DS4CS3		PL3			CSR10	WS-ACTI3	WS-EPES-SPR1
15:00–15:20									
15:20–15:40		Coffee break			Coffee break			Coffee break	
15:40–17:20	CSR4	WS-MCS1		CSR7	WS-CRE2		CSR11	WS-ACTI4	WS-EPES-SPR2
17:20–17:40		Coffee break		AW					
17:40–18:20			WS-MCS2						
18:20–20:00					WS-CRE3				

Athena room (main conference)

Timeslot (CET)	Monday 26th of July	Tuesday 27th of July	Wednesday 28th of July
08:40–09:00	Welcome from the chairs WL		
09:00–10:00	Plenary session PL1 (Isaac Ben Israel) *Chair: Emanuele Bellini*	Plenary session PL2 (Ernesto Damiani) *Chair: Nicholas Kolokotronis*	Plenary session PL4 (Steve Furnell) *Chair: Stavros Shiaeles*
10:00–11:20	Technical session CSR1 *Chair: Francesco Flammini*	Technical session CSR5 *Chair: Nicholas Kolokotronis*	Technical session CSR8 *Chair: Bogdan Ghita*
11:20–11:40	Coffee break	Coffee break	Coffee break
11:40–13:00	Technical session CSR2 *Chair: Stefano Marrone*	Technical session CSR6 *Chair: Emanuele Bellini*	Technical session CSR9 *Chair: Costas Vassilakis*
13:00–14:00	Lunch break	Lunch break	Lunch break
14:00–15:00	Technical session CSR3 *Chair: Nicholas Kolokotronis*	Plenary session PL3 (Igor Linkov) *Chair: Stavros Shiaeles*	Technical session CSR10 *Chair: Nicholas Kolokotronis*
15:00–15:20			
15:20–15:40	Coffee break	Coffee break	Coffee break
15:40–17:20	Technical session CSR4 *Chair: Stavros Shiaeles*	Technical session CSR7 *Chair: Gueltoum Bendiab*	Technical session CSR11 *Chair: Emanuele Bellini*
17:20–18:20		Awards session AW *Chairs: Emanuele Bellini, Giancarlo Fortino*	

Nafsika room (workshops)

Timeslot (CET)	Monday 26th of July	Tuesday 27th of July	Wednesday 28th of July
10:00–11:20	Keynote session **WS-DS4CS1** *Chair: Christos Tryfonopoulos*	Technical session **WS-CRE1** *Chair: Nicholas J. Multari*	Keynote session **WS-ACTI1** *Chair: Vasilis Katos*
11:20–11:40	Coffee break		Coffee break
11:40–13:00	Technical session **WS-DS4CS2** *Chair: Spiros Skiadopoulos*		Technical session **WS-ACTI2** *Chair: Cagatay Yucel*
13:00–14:00	Lunch break		Lunch break
14:00–15:20	Technical session **WS-DS4CS3** *Chair: Christos Tryfonopoulos*		Technical session **WS-ACTI3** *Chair: Ioannis Chalkias*
15:20–15:40			Coffee break
15:40–17:20		Keynote session **WS-CRE2** *Chair: Rosalie McQuaid*	Technical session **WS-ACTI4** *Chair: Dimitrios Mallis*
17:20–18:20		Break (awards session in Athena room)	
18:20–20:00		Panel discussion **WS-CRE3** *Chairs: Jeffrey Picciotto, Nicholas J. Multari*	

Nefeli room (workshops)

Timeslot (CET)	Monday 26th of July	Tuesday 27th of July	Wednesday 28th of July
10:00–11:20	Technical session **WS-CRST1** *Chair: Konstantina-Eleni Davri*		Technical session **WS-RAI1** *Chair: Fiammetta Marulli*
11:20–11:40	Coffee break		Coffee break
11:40–13:00	Technical session **WS-CRST2** *Chair: Angelos Amditis*		Technical session **WS-RAI2** *Chair: Francesco Mercaldo*
13:00–14:00			Lunch break
14:00–15:20			Technical session **WS-EPES-SPR1** *Chair: Panagiotis Sarigiannidis*
15:20–15:40			Coffee break
15:40–17:20	Technical session **WS-MCS1** *Chair: Leandros Maglaras*		Technical session **WS-EPES-SPR2** *Chair: Thomas Lagkas*
17:20–17:40	Coffee break		
17:40–18:20	Panel discussion **WS-MCS2** *Chairs: Christos Douligeris, Despina Polemi*		