

# **2023 21st Mediterranean Communication and Computer Networking Conference (MedComNet 2023)**

**Island of Ponza, Italy  
13-15 June 2023**



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Tuesday, June 13

Tuesday, June 13 8:30 - 9:00

R1: Registration

Tuesday, June 13 9:00 - 9:30

W1: Welcome

Tuesday, June 13 9:30 - 10:30

K1: Keynote 1

Title: Moonshot for Mental Health

Prof. Andrew Campbell, Dartmouth College (USA)

Chair: Michele Segata (University of Trento, Italy)

Tuesday, June 13 10:30 - 11:00

C1: Coffee break

Tuesday, June 13 11:00 - 11:40

S1: Network security and privacy

Chair: Leonardo Badia (Università degli Studi di Padova, Italy)

**11:00 Deep Ensemble-Based Efficient Framework for Network Attack Detection.....1**

Furqan Rustam (University College Dublin, Ireland); Ali Raza (Khwaja Fareed University of Engineering and Information Technology, Pakistan); Imran Ashraf (Yeungnam University, Korea (South)); Anca Delia Jurcut (University College Dublin, Ireland)

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Giorgio Bernardinetti (CNIT & University of Rome "Tor Vergata", Italy); Pasquale Caporaso (CNIT, Italy); Dimitri Di Cristofaro (SECFORCE LTD, United Kingdom (Great Britain)); Francesco Quaglia (University of Rome Tor Vergata, Italy); Giuseppe Bianchi (University of Rome "Tor Vergata", Italy)

Tuesday, June 13 11:40 - 12:45

S2: Vehicular and aerial networks

Chair: Renato Lo Cigno (University of Brescia & CNIT - Consorzio Nazionale Interuniversitario Telecomunicazioni, Italy)

**11:40 Impact of Persistence on the Age of Information in 5G NR-V2X Sidelink Communications.....15**

Alexey Rolich (University of Rome Sapienza, Italy); Ion Turcanu (Luxembourg Institute of Science and Technology, Luxembourg); Alexey Vinel (Halmstad University, Sweden); Andrea Baiocchi (University of Roma Sapienza, Italy)

**12:05 Data Injection in a Vehicular Network Framed Within a Game Theoretic Analysis.....25**

Laura Crosara (Università degli Studi di Padova, Italy); Mattia Brocco, Chiara Cavalagli, Xianlong Wu and Elvina Gindullina (University of Padova, Italy); Leonardo Badia (Università degli Studi di Padova, Italy)

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Mingzhi Xu and Haowen Xu (Sun Yat-Sen University, China); Kuan Wu (Sun Yat-sen University, China); Jianchao Chen (Sun Yat-Sen University, China); Ming Jiang (Sun Yat-sen University, China)

Tuesday, June 13 12:45 - 14:00

L1: Lunch

Tuesday, June 13 14:00 - 15:20

S3: Energy efficiency and optimization

Chair: Antonio Di Maio (University of Bern, Switzerland)

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Olga Kondrateva (Humboldt-Universität zu Berlin, Germany); Stefan Dietzel (Merantix Momentum GmbH, Germany); Ansgar Lösser (Technical University of Darmstadt, Germany); Björn Scheuermann (TU Darmstadt, Germany)

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Javier Talavante (IMDEA Networks Institute, Spain); Borja Genoves Guzman (University of Virginia, USA); Domenico Giustiniano (IMDEA Networks Institute, Spain)

Tuesday, June 13 15:20 - 15:50

C2: Coffee break

Tuesday, June 13 15:50 - 16:55

S4: Localization, 5G, and beyond

Chair: Marco G Ajmone Marsan (IMDEA Networks Institute, Spain)

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Eugenio Moro (Politecnico di Milano, Italy); Gabriele Gemmi (University of Venice, Italy & Universitat Politècnica de Catalunya, Spain); Michele Polese (Northeastern University, USA); Leonardo Maccari (University of Venice, Italy); Antonio Capone (Politecnico di Milano, Italy); Tommaso Melodia (Northeastern University, USA)

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Tuesday, June 13 16:55 - 17:10

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Tuesday, June 13 17:10 - 18:25

S5: Security of wireless networks

Chair: Eugenio Moro (Politecnico di Milano, Italy)

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Andrea Lacava (Northeastern University, Italy & Sapienza, University of Rome, Italy); Pierluigi Locatelli (University of Rome La Sapienza, Italy); Francesca Cuomo (University of Rome Sapienza, Italy)

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Tuesday, June 13 18:25 - 20:00

G1: Get together / networking time

Tuesday, June 13 20:00 - 22:00

B1: Social dinner

Wednesday, June 14

Wednesday, June 14 8:30 - 10:10

SS: Special Session: Networking for a better Quality of Life

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Wednesday, June 14 10:10 - 10:40

C4: Coffee break

Wednesday, June 14 10:40 - 11:55

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Chair: Sebastian Troia (Politecnico di Milano, Italy)

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Wednesday, June 14 11:55 - 13:00

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Chair: Torsten Ingo Braun (University of Bern, Switzerland)

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Wednesday, June 14 13:00 - 14:00

L2: Lunch

Wednesday, June 14 14:00 - 15:00

K2: Keynote 2

Title: A Low-Cost LoRaWAN sensor network for analyzing urban heat islands

Prof. Torsten Braun, University of Bern (Switzerland)

Chair: Giuseppe Bianchi (University of Rome "Tor Vergata", Italy)

Wednesday, June 14 15:00 - 15:30

C5: Coffee break

Wednesday, June 14 15:30 - 16:45

S8: Next generation networks

Chair: Vincenzo Mancuso (IMDEA Networks Institute, Spain)

**15:30 *Optimal RIS Allocation in Multi-User MIMO Communications*.....188**

Silvia Palmucci and Andrea Abrardo (University of Siena, Italy); Marco Moretti (Università di Pisa - Dipartimento Ingegneria dell'Informazione, Italy)

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David Nuñez (Universitat Pompeu Fabra, Spain); Malcolm Smith (Cisco Systems, Canada); Boris Bellalta (Universitat Pompeu Fabra, Spain)

Wednesday, June 14 16:45 - 17:30

G2: Get together / networking time

Wednesday, June 14 17:30 - 22:00

B2: Boat trip

Thursday, June 15

Thursday, June 15 9:00 - 9:45

K3: Invited talk

Title: Efficient Collaborative Optimization and Execution of Neural Models for Real-Time Applications

Prof. Marco Levorato, University of California Irvine (USA)

Chair: Leonardo Maccari (University of Venice, Italy)

Thursday, June 15 9:45 - 10:15

O1: Oral presentations 1 (Tutorials)

Chair: Ion Turcanu (Luxembourg Institute of Science and Technology, Luxembourg)

**9:45 *Tutorial: Joint Communication and Sensing - A Networking and User-Centric Perspective*.....N/A**

Renato Lo Cigno (University of Brescia & CNIT - Consorzio Nazionale Interuniversitario Telecomunicazioni, Italy)

**10:00 *Tutorial: Using Open Data and GPUs for Network Planning*.....N/A**

Leonardo Maccari (University of Venice, Italy)



Thursday, June 15 10:15 - 10:45

C6: Coffee break

Thursday, June 15 10:45 - 12:45

O2: Oral presentations 2 (Young researchers)

Chair: Michele Segata (University of Trento, Italy)

**10:45 Strategic Status Updates in an Eavesdropping Game.....N/A**

Laura Crosara (Università degli Studi di Padova, Italy)

**10:55 Agile Security Assessment of 5G Networks: Integrating SCAS Tests as DevSecOps.....N/A**

Francesco Mancini (CNIT / University of Rome "Tor Vergata", Italy)

**11:05 Overcoming TCP Challenges in SD-WAN with an Adaptive Reinforcement Learning Approach.....N/A**

Luca Borgianni (University of Pisa, Italy); Davide Adami (CNIT Pisa Research Unit, University of Pisa, Italy); Stefano Giordano (University of Pisa, Italy)

**11:15 Faster Software Packet Processing on FPGA NICs with eBPF Program Warping.....N/A**

Giacomo Belocchi (University of Rome Tor Vergata & Axbryd, Italy)

**11:25 eHDL: Turning eBPF/XDP Programs into Hardware Designs for the NIC.....N/A**

Alessandro Rivitti (Università di Roma Tor Vergata & Axbryd, Italy)

**11:35 Network Softwarization at the Edge with SD-WAN.....N/A**

Sebastian Troia (Politecnico di Milano, Italy)

**11:45 RAN Functional Splits in NTN: Architectures and Challenges.....N/A**

Riccardo Campana (University of Bologna, Italy)

**11:55 Improve IoT Gateways Forensic Capabilities with "HomeSniff" .....N/A**

Antonio Boiano (Politecnico di Milano, Italy)

**12:05 Service Orchestration in the Cloud Continuum for Intelligent Automation.....N/A**

Gianluca Davoli (University of Bologna, Italy)

**12:15 Leveraging Machine Learning for Intelligent Service Provisioning in the Fog.....N/A**

Gaetano Francesco Pittalà (University of Bologna, Italy)

**12:25 LoRaWAN Security, from Privacy Preservation to Protocol Vulnerabilities: The EU ELEGANT Case.....N/A**

Pietro Spadaccino (La Sapienza Università di Roma, Italy)

**12:35 Bridging ns-3 and O-RAN with ns-O-RAN.....N/A**

Andrea Lacava (Northeastern University, Italy & Sapienza, University of Rome, Italy)

Thursday, June 15 12:45 - 14:00

L3: Lunch

Thursday, June 15 14:00 - 15:40

O3: Oral presentations 3 (Young researchers)

Chair: Renato Lo Cigno (University of Brescia & CNIT - Consorzio Nazionale Interuniversitario  
Telecomunicazioni, Italy)

**14:00 *Dynamic Topology Control in Integrated Access and Backhaul.....N/A***

Gabriele Gemmi (University of Venice, Italy & Universitat Politecnica de Catalunya, Spain)

**14:10 *Network Systems Testing Meets AI: How to Cut off Development Costs.....N/A***

Andrea Vignali (Università di Napoli Federico II, Italy)

**14:20 *Shaping Next-Generation mm-Wave RAN Topologies with Smart Radio Devices and Goal-Driven Network Planning.....N/A***

Paolo Fiore (Politecnico di Milano, Italy)

**14:30 *Exploring Cloud Native Readiness of 5G Core Components: Are We There Yet?.....N/A***

Ludovico Funari (University of Rome "Tor Vergata", Italy)

**14:40 *AI-Based NOMA for 6G NTN.....N/A***

Bruno De Filippo (University of Bologna, Italy)

**14:50 *A Deep Learning Approach to Forecasting Network Traffic Peaks with Football Events.....N/A***

Andrea Pimpinella (Politecnico di Milano, Italy)

**15:00 *High-Frequency Campus: The First Commercial 5G mmWave Deployment for Academic Research.....N/A***

Marcello Morini (Politecnico di Milano, Italy)

**15:10 *Overview and Evaluation of Digital Beamforming Schemes for Non-Terrestrial Networks in 6G Systems.....N/A***

M Rabih Dakkak (University of Bologna, Italy)

**15:20 *Experimental O-RAN Secure Local Indoor Positioning.....N/A***

Ivan Palamà (University of Rome Tor Vergata & CNIT, Italy)

**15:30 *Static or Dynamic Malware Analysis? A Third Way: Just-In-Time Executable Page Check.....N/A***

Pasquale Caporaso (CNIT, Italy)

Thursday, June 15 15:40 - 16:10

W2: Concluding remarks and goodbye

Thursday, June 15 16:10 - 18:25

G3: Get together / networking time