

Welcome Message



On behalf of the IEEE Instrumentation & Measurement Society, the official sponsor of the conference, I am pleased to offer a very sincere welcome to the first edition of the IEEE International Workshop on "Measurements & Networking" M&N 2011.

The Workshop has been co-organized by the IEEE Instrumentation and Measurement Society, Technical Committee TC-37 "Measurements and Networking", the School of Science and Technology and the Faculty of Engineering of the University of Naples Federico II.

The University of Naples Federico II is one of the oldest academic institutions in the world having been founded by the Holy Roman Emperor Frederick II von Schwaben in 1224, and its Faculty of Engineering is one of the oldest and largest in Italy. The Workshop is included in the program to celebrate the bicentenary of the first school of Engineering in Naples, which was set in 1811 during the Napoleonic occupation of the Kingdom of Naples. Joachim Murat, King of Naples and Napoleon brother-in-law, decreed the foundation of the "Scuola di Applicazione di Ponti e Strade" (School for the construction of bridges and roads) on 4th March 1811.

The Workshop M&N 2011 aims to represent a forum for researchers and practitioners from industry, academia, and government involved in the area of modelling, measurement and quantitative evaluation of communication networks and distributed infrastructures. The distinguishing mark is its cross-competency character, gathering scholars and technicians in the fields of measurements, communication, computer science, wireless propagation, sensor networks, and fostering discussion on the role of both measurements for networking and networking for measurements.

Researchers and experts from universities, research institutes and industry coming from many countries all around the world have submitted more than 45 papers. Among them, 31 manuscripts presenting contributions of high quality have been selected for presentation.

A special appreciation goes to all the Technical Program Co-Chairs, the Technical Program Committee members, the reviewers, and the organizers who have contributed to make the program possible. A particular gratitude and recognition go to the Authors for their contributions and for sharing their scientific findings with the international community.

Finally, I wish to everybody a pleasant and relaxing stay in the beautiful island of Capri, famous for its natural beauty, long history, mild climate and breathtaking views. *Tacitus*, a famous Latin author, described Capri in his *Annales* as "mild in winter thanks to the protection of the mountain that brakes the winds' strenghts; freshened in summer by the Foehn wind, by the west winds, temperature is made more agreeable by the big sea that surrounds it."

Leopoldo Angrisani

General Chairman of M&N2011

FINAL PROGRAM



Monday, October 10

8:30 AM - 10:00 AM

Registration, Announcements

Room: Auditorium, Anacapri

10:00 AM - 10:30 AM

Welcome Addresses

Prof. Leopoldo Angrisani, *General Chair of M&N2011, University of Naples Federico II*

Prof. Giovanni Betta, *President of Italian Research Group on Electrical and Electronic Measurements (GMEE)*

Prof. Massimo D'Apuzzo, *President of School of Science and Technology, University of Naples Federico II*

Prof. Claudio Quintano, *Rector of the University of Naples "Parthenope"*

Prof. Piero Salatino, *Dean of the Faculty of Engineering, University of Naples Federico II*

On. Enzo Savarese, *Commissioner of AGCOM (Authority for Guarantees in Electronics Communications)*

Room: Auditorium, Anacapri

10:30 AM - 11:10 AM

Keynote Speech

"AGCOM activities on Internet speed measurements & Registry of Next Generation Infrastructures (RING)"

Prof. Fulvio Ananasso, *Director of Studies, Research & Education Directorate of AGCOM*

Dr. Federico Flaviano, *Director of AGCOM Consumer Protection Directorate*

Room: Auditorium, Anacapri

11:10 AM - 11:30 AM

Coffee Break

Room: Auditorium, Anacapri

11:30 AM - 13:10 PM

Session 1 – Security Measurements

Chair: Prof. Claudio Narduzzi, University of Padua, Italy

Room: Auditorium, Anacapri

An On-line Wireless Attack Detection System Using Multi-layer Data Fusion

Francisco Javier Aparicio Navarro (Loughborough University, United Kingdom)

Konstantinos G Kyriakopoulos (Loughborough University, United Kingdom)

David Parish (Loughborough University, United Kingdom)

Localization errors of low-cost GPS devices in railway worksite-like scenarios

Andrea Bondavalli (University of Florence, Italy)

Andrea Ceccarelli (University of Florence, Italy)

Florjan Gogaj (University of Firenze, Italy)

Andrea Seminatore (Ansaldo STS, Italy)

Michele Vadursi (University of Naples "Parthenope", Italy)

Robotic sensor networks for security

Aniello Buonanno (SELEX Sistemi Integrati, Italy)

Michele D'Urso (SELEX Sistemi Integrati, Italy)

Massimiliano Mattei (Seconda Università di Napoli, Italy)

Ettore Flavio Meliàdò (SESM, Italy)

Valerio Scordamaglia (University of Reggio Calabria, Italy)

Distributed sensing in homeland security applications

Marcello Ascione (Selex S.I., Italy)

Aniello Buonanno (SELEX Sistemi Integrati, Italy)

Michele D'Urso (SELEX Sistemi Integrati, Italy)

Leopoldo Angrisani (University of Naples Federico II, Italy)

Rosario Schiano Lo Moriello (Università degli Studi di Napoli Federico II, Italy)

Security in VoIP systems: towards the design and implementation of a reconfigurable test bed for real-time measurements

Leopoldo Angrisani (University of Naples Federico II, Italy)

Pasquale Morabito (ATS Assistance Technical Service, Italy)

Rosario Schiano Lo Moriello (University of Naples Federico II, Italy)

Michele Vadursi (University of Naples "Parthenope", Italy)

13:10 PM - 14:10 PM

Lunch

Room: Villa Orlandi, Anacapri

14:10 PM - 15:50 PM

Session 2 – Physical layer issues: spectrum sensing and interference

Chair: Prof. Leopoldo Angrisani, University of Naples, Italy

Room: Villa Orlandi, Anacapri

Reconfigurable nonconformal spiral microantenna for wireless communication devices

Aime' Lay-Ekuakille (University of Salento, Italy)
Diego Caratelli (Delft University of Technology, The Netherlands)
Alessandro Massaro (IIT, Italy)
Zhihong Li (Peking University, P.R. China)

A robust wireless proximity detection technique based on RSS and ToF measurements

David Macii (University of Trento, Italy)
Fabrizio Trenti (University of Trento, Italy)
Paolo Pivato (University of Trento, Italy)

Spectrum sensing and vector signal analysis preprocessing based on compressed sampling

Guglielmo Frigo (University of Padua, Italy)
Claudio Narduzzi (University of Padua, Italy)

Experimental evaluation of the effects of in-channel interference on GPS receivers

Mauro D'Arco (University of Naples Federico II, Italy)
Giovanni Scarpato (Istituto Nazionale di Geofisica e Vulcanologia, Italy)
Umberto Tammaro (Istituto Nazionale di Geofisica e Vulcanologia, Italy)
Michele Vadursi (University of Naples "Parthenope", Italy)

Spectrum segmentation for wideband sensing of radio signals

Doris Bao (University of Sannio, Italy)
Luca De Vito (University of Sannio, Italy)
Sergio Rapuano (University of Sannio, Italy)

15:50 PM - 16:10 PM

Coffee Break

Room: Villa Orlandi, Anacapri

16:10 PM - 17:50 PM

Session 3 – Dependability assessment and anomaly detection and classification

Chair: Prof. Andrea Bondavalli, University of Florence, Italy

Room: Villa Orlandi, Anacapri

Fuzzy-enabled failure behaviour analysis for dependability assessment of networked systems

Barbara Gallina (Mälardalen University, Sweden)
Aleksandar Dimov (University of Sofia, Bulgaria)
Sasikumar Punnekkat (Mälardalen University, Sweden)

Compressed video QoE assessment based on codec agnostic semantic video model

Ciro D'Elia (University of Cassino, Italy)
Paola Mariano (University of Cassino, Italy)
Antonio Marino (University of Cassino, Italy)

A machine learning based algorithm for routing bandwidth-guaranteed paths in MPLS TE: improvements and performance assessment

Pasquale D'Andreti (University of Cassino, Italy)
Francesco Tortorella (University of Cassino, Italy)

Towards identifying OS-level anomalies to detect application software failures

Antonio Bovenzi (University of Naples Federico II, Italy)
Francesco Brancati (University of Florence, Italy)
Andrea Bondavalli (University of Florence, Italy)
Stefano Russo (University of Naples Federico II, Italy)

A comparative study of use of Shannon, Rényi and Tsallis entropy for attribute selecting in network intrusion detection

Christiane Ferreira Lemos Lima (Federal Institute of Maranhão, Brazil)
Francisco M. Assis (Federal University of Campina Grande, Brazil)
Cleonilson Protasio Souza (Federal University of Paraiba, Brazil)

20:30 PM - 22:30 PM

Social Dinner

Tuesday, October 11

09:00 AM - 10:40 AM

Session 4 – Synchronization issues and distributed measurements

Chair: Prof. Bruno Andò, University of Catania, Italy

Room: Villa Orlandi, Anacapri

A cross-layer simulator for industrial wireless communication systems

Matteo Bertocco (University of Padua, Italy)

Federico Tramarin (University of Padua, Italy)

Distributed laboratory system for characterization of current distribution in electromagnetic rail launchers

Bernardo Tellini (University of Pisa, Italy)

Mirko Marracci (University of Pisa, Italy)

Roberto Ferrero (Politenico di Milano, Italy)

Saulius Balevicius (Center for Physical Sciences and Technology, Lithuania)

Voitech Stankevici (Center for Physical Sciences and Technology, Lithuania)

Nerija Zurauskiene (Center for Physical Sciences and Technology, Lithuania)

Markus Schneider (French-German Research Institute of Saint-Louis, France)

Emil Spahn (German-French Research Institute of Saint-Louis, France)

A reliable and self-aware clock for reference time failure detection in internal synchronization environment

Andrea Bondavalli (University of Florence, Italy)

Francesco Brancati (University of Florence, Italy)

Alessandra Flammini (University of Brescia, Italy)

Stefano Rinaldi (University of Brescia, Italy)

Web-based networking protocol for expanding IEEE-488 ATE capabilities

Aldo Baccigalupi (Università di Napoli Federico II, Italy)

Umberto Cesaro (University of Naples Federico II, Italy)

Mauro D'Arco (University of Naples Federico II, Italy)

Annalisa Liccardo (University of Naples Federico II, Italy)

Networking clock synchronization of embedded hardware to trigger measurement instruments

Domenico Grimaldi (University of Calabria, Italy)

Francesco Lamonaca (University of Calabria, Italy)

10:40 AM - 11:00 AM

Coffee Break

Room: Villa Orlandi, Anacapri

11:00 AM - 13:00 PM

Session 5 – Wireless sensor networks

Chair: Prof. David Parish, Loughborough University, United Kingdom

Room: Villa Orlandi, Anacapri

A topology control strategy addressing for high scalability and low energy demands in large scale wireless sensor networks

Vincenzo Ciriello (SESM scarl, Italy)

Gabriella Carrozza (Sesm scarl, Italy)

Stefano Tennina (CISTER/ISEP, Polytechnic Institute of Porto, Portugal)

A wireless sensor node with enhanced lifetime for indoor fall detection

Paolo Pivato (University of Trento, Italy)

David Macii (University of Trento, Italy)

Dario Petri (University of Trento, Italy)

Stefano Dalpez (Fondazione Bruno Kessler, Italy)

A smart wireless sensor network for AAL

Bruno Andò (University of catania, Italy)

Salvatore Baglio (University of Catania, Italy)

Salvatore La Malfa (University of Catania, Italy)

Antonio Pistorio (University of Catania, Italy)

Carlo Trigona (University of Catania, Italy)

Approach for characterisation and performance assessment of wireless sensor networks

Marko Kraetzig (IFAK e. V. Magdeburg, Germany)

Analytical design of top power-bandwidth efficient transmitters for sensor nodes of WSN

Anatoliy Platonov (Warsaw University of Technology, Poland)

Modeling and dynamic gain scheduling for networked systems with bounded packet losses

Shichao Liu (Carleton University, Canada)

Peter Liu (Carleton University, Canada)

Abdulmotaleb El Saddik (University of Ottawa, Canada)

13:00 PM - 14:00 PM

Lunch

Room: Villa Orlandi, Anacapri

14:00 PM - 15:40 PM

Session 6 – Traffic analysis and monitoring

Chair: Prof. Abdulmotaleb El Saddik, University of Ottawa, Canada

Room: Villa Orlandi, Anacapri

A study of SIP proxy load patterns

Christoph Egger (Vienna University of Technology, Austria)
Marco Happenhofer (Vienna University of Technology, Austria)
Michael Hirschbichler (Vienna University of Technology, Austria)

A sensitivity analysis of packet jitter to measurement settings in communication networks

Leopoldo Angrisani (University of Naples Federico II, Italy)
Domenico Capriglione (University of Cassino, Italy)
Luigi Ferrigno (University of Cassino, Italy)
Gianfranco Miele (University of Cassino, Italy)

An efficient storage technique for network monitoring data

Giuseppe Aceto (University of Naples Federico II, Italy)
Alessio Botta (University of Naples Federico II, Italy)
Antonio Pescapé (University of Naples Federico II, Italy)
Cedric Westphal (Docomo Labs USA, USA)

One-way loss measurements from IPFIX records

Fabio Ricciato (University of Salento, Italy)
Felix Strohmeier (Salzburg Research Forschungsgesellschaft m.b.H., Austria)
Peter Dorfinger (Salzburg Research Forschungsgesellschaft m. b. H., Austria)

Packet capturing on parallel architectures

Nicola Bonelli (CNIT, Italy)
Andrea Di Pietro (University of Pisa, Italy)
Stefano Giordano (University of Pisa, Italy)
Gregorio Procissi (Università di Pisa, Italy)

15:40 PM - 16:00 PM

Coffee break

Room: Villa Orlandi, Anacapri

16:00 PM - 17:00 PM

Wrap-up table

“What’s next in measurements and networking?”

Chairs: Prof. Leopoldo Angrisani, University of Naples, Italy
Prof. Claudio Narduzzi, University of Padua, Italy

Room: Villa Orlandi, Anacapri