

**Conferenza di Dipartimento CNR-DIITET**  
**Area Strategica: AS.10 - INGEGNERIA DEI SISTEMI E DELLE COMUNICAZIONI**  
Energy Center - Politecnico di Torino, Via Paolo Borsellino 38/16 - 10138 Torino  
Coordinate (45.067127, 7.656014)

14 novembre 2018

**PROGRAMMA**

9.00-9:30 **Registrazione e caffè di benvenuto**

9:30-9:45 **Interventi introduttivi**

**Sessione 1: *Wireless Communications***

Moderatore: Barbara Masini, IEIIT

9:45-10:15 **Intervento su Invito:**

Building the opportunity of 5G - Work in progress in the 5G trials in Italy  
Paolo Gianola, TIM, Technology Evolution and Innovation, Head of Wireless Innovation

10:15-10:30 **AP2 Internet del Futuro**

Communication technologies for the Internet of tomorrow  
Alberto Zanella, IEIIT

10:30-10:45 **AP7 Fabbrica del futuro**

Wireless industrial communication systems for high efficiency, adaptive and evolutionary production systems  
Gianluca Cena, IEIIT

10:45-11:00 **AP3 Dati, Contenuti e Media**

Big Data and Decision Intelligence  
Marco Muselli, IEIIT

**Sessione 2: *Technologies for Health, Wellbeing and for Secure Society***

Moderatore: Giancarlo Salviati, IMEM

11.00-11:30 **Intervento su Invito:**

Medical Robotics and Bionics: enabling technologies for the future of medicine  
Eugenio Guglielmelli, Università Campus Biomedico, Roma

11:30-11:45 **AP8 Healthcare and wellbeing**

Overview of CNR Research activity on Healthcare and Wellbeing  
Massimo Esposito, ICAR  
Tools, technologies and devices for advanced diagnosis and therapies  
Paolo Ravazzani, IEIIT

11:45-12:00 **AP9 Biotecnologie**

Overview of CNR Research activity on Biotechnology  
Mario Guarracino, ICAR  
Alternative 3D models for biomedical applications and the "B2B" FET-OPEN project  
Silvia Scaglione, IEIIT

12:00-12:15 **AP10 Nanotecnologie e materiali avanzati**

Overview of CNR Research activity on Nanotechnologies and Advanced Materials  
Franca Albertini, IMEM  
Nanotechnologies and Advanced Materials for Health, Wellbeing and Security  
Franca Albertini, IMEM

12:15-12:30 **AP13 Sicurezza della società**

Overview of CNR Research activity on Secure Society  
Francesco Soldovieri, IREA  
Safety of persons in ordinary and crisis situations  
Olga Zeni, IREA

12.30-14:00 **Sessione Poster e Pranzo**

### Sessione 3:

#### Technologies for Aerospace and Remote Sensing

Moderatore: Riccardo Lanari, IREA

- 14:00-14:30 **Intervento su Invito:**  
Le politiche per l'innovazione nel settore aerospaziale: la roadmap del CTNA  
Cristina Leone, Presidente del Cluster Tecnologico Nazionale Aerospazio (CTNA)
- 14:30-14:45 **AP12 Tecnologie per l'aerospazio e l'osservazione della terra**  
Aerospace and Earth Observation Activities at CNR Engineering Department  
Gianfranco Fornaro, IREA  
Lesson learnt in applications for space safety and Ozone and UV radiation monitoring: the REDSHIFT and AURORA projects  
Alessandro Rossi, IFAC
- 14:45-15:00 **AP11 Tecnologie per la Fruizione e salvaguardia dei beni culturali**  
Use and development of aerial sensing tech for Cultural Heritage  
Fabio Ganovelli, ISTI
- 15:00-15:15 **AP14 Tecnologie per l'agricoltura sostenibile e la sicurezza del cibo**  
Remote sensing for agriculture: technology to provide services from regional monitoring to farming support  
Mirco Boschetti, IREA

### Sessione 4:

#### Systems and Sensors

Moderatore: Gualtiero Nunzi Conti, IFAC

- 15:15-15:45 **Intervento su Invito:**  
“Innovative laser systems and energy based devices for medical and aesthetical applications”  
Marco Tagliaferri, Vicepresident of Medical R&S, EL.En. SpA, Calenzano (FI)
- 15:45-16:00 **AP1 Dispositivi e sistemi ICT**  
Technological developments in the area of sensors and components  
Oscar Antonio Peverini, IEIIT
- 16:00-16:15 **AP6 Robotica e automatica**  
Advanced sensing and perception technologies for autonomous robots  
Tiziana D'Orazio, STIIMA
- 16:15-16:30 **AP4 e-infrastruttura**  
Systems and sensor(s) support via e-Infrastructures: DIITET contributions  
Paola Carrara, IREA
- 16:30-17.00 **Conclusioni**

SESSIONE POSTER  
12,30-14.00

**1: Wireless Communications**

- S1.1 **Cellular data analytics for detection and discrimination of body movements**  
Stefano Savazzi, Vittorio Rampa, Sanaz Kianoush, IEIIT
- S1.2 **Joint Spatial and Temporal Classification of Mobile Traffic Demands**  
Marco Fiore, IEIIT
- S1.3 **Forward Error Correction Codes for Coherent Optical Systems: Floorless LDPC codes**  
Marco Ferrari, IEIIT
- S1.4 **Link-layer coding for GNSS navigation messages**  
Alberto Tarable, IEIIT
- S1.5 **The THE4BEES project**  
Laura Dossi, IEIIT
- S1.6 **Wireless Communications for Connected and Autonomous Vehicles**  
Alessandro Bazzi, IEIIT

**2: Technologies for Health, Wellbeing and Security**

- S2.1 **Digital solutions for health throughout the life course (DIGHEALTH)**  
Franca Delmastro, IIT
- S2.2 **Service robotics (S-ROB)**  
Tiziana D'Orazio e Alessandro Scano, STIIMA
- S2.3 **Environmental and social health (ENVHEALTH)**  
Paolo Ravazzani, IEIIT
- S2.4 **In silico models for health (MODEL-H)**  
Lorenzo Crocco, IREA
- S2.5 **Tools, technologies and devices for advanced diagnosis and therapies (HTECH)**  
Francesco Baldini, IFAC
- S2.6 **Tools for personalised medicine (T-PERMED)**  
Massimo Esposito, ICAR
- S2.7 **e-Health and health care systems (E-HEALTH)**  
Mario Ciampi, ICAR, Elena Cardillo, IIT
- S2.8 **Overview of the CNR activities on nanotechnologies and Advanced Materials**  
Franca Albertini, IMEM
- S2.9 **Mathematical Methods for Biomechanics and Medical 3D Printing**  
Ettore Lanzarone, IMATI
- S2.10 **Biocatalysts and biomaterials for energy and therapeutics**  
Maria Elena Russo, IRC
- S2.11 **Surface enhanced Raman scattering with nanobio-amplifying systems for early diagnosis of Alzheimer's disease**  
Paolo Matteini, IFAC
- S2.12 **In-Situ laser fenestration of endovascular stent-graft in abdominal aortic aneurysm repair (EVAR)**  
Francesca Rossi, IFAC
- S2.13 **Fibre-based planar antennas for biosensing and diagnostics**  
Ambra Giannetti, IFAC
- S2.14 **Optical fibre device for simultaneous manometry, pH-metry and bilimetry in oesophagus**  
Francesco Baldini, IFAC
- S2.15 **On chip whispering gallery mode optical microcavities for emerging microcontaminant determination in waters**  
Simone Berneschi, IFAC
- S2.16 **Overview of the EMF for Health activities at CNR**  
Paolo Ravazzani, IEIIT, Maria Rosaria Scarfi, IREA, Lorenzo Crocco, IREA, Franca Albertini, IMEM, Daniele Andreuccetti, IFAC
- S2.17 **Steps toward the automated assessment of neurological diseases: computer vision and machine learning approaches**  
Ferraris Claudia, Nerino Roberto, Chimienti Antonio, Pettiti Giuseppe, IEIIT

### 3: **Technologies for Aerospace and Remote Sensing**

- S3.1 **Sentinel-1 & Sentinel-2 data for the retrieval of surface parameters over agricultural areas**  
Giuseppe Satalino, Francesco Mattia, Anna Balenzano, Francesco Paolo Lovergine, Annarita D'Addabbo, Davide Palmisano, IREA
- S3.2 **ESA's Geohazards Exploitation Platform and automatic web-tool to retrieve Sentinel-1 surface deformation maps**  
Manuela Bonano, Francesco Casu, Claudio De Luca, Riccardo Lanari, Michele Manunta, Mariarosa Manzo, Giovanni Onorato, Ivana Zinno, IREA
- S3.3 **Surface deformation mapping of Italy through the P-SBAS DInSAR processing of Sentinel-1 data in a cloud computing environment**  
Manuela Bonano, Francesco Casu, Claudio De Luca, Riccardo Lanari, Michele Manunta, Mariarosa Manzo, Giovanni Onorato, Ivana Zinno, IREA
- S3.4 **Advanced engineering system for geophysical modeling of multiplatform remote-sensing data**  
Giuseppew Solaro, Andrea Barone, Raffaele Castaldo, Vincenzo De Novellis, S. Pepe, Pietro Tizzani, IREA
- S3.5 **Remote sensing with airborne Synthetic Aperture Radar (SAR)**  
Paolo Berardino, Carmen Esposito, Riccardo Lanari, Antonio Natale, Stefano Perna, IREA
- S3.6 **Monitoring of built areas from the space with Very High Resolution Synthetic Aperture Radar (SAR)**  
Gianfranco Fornaro, Carlo Noviello, Antonio Pauciuolo, Diego Reale, Simona Verde, Virginia Zamparelli, IREA

### 4: **Systems and Sensors**

- S4.1 **High-Q optical micro-resonators technology**  
Gualtiero Nunzi Conti, Gabriele Frigenti, IFAC
- S4.2 **Applied Electromagnetics with Unmanned Aerial Vehicles**  
Fabio Paonessa, IEIIT
- S4.3 **OECTs as a multipurpose device for biosensing**  
Simone Marasso, IMEM
- S4.4 **Memristor devices and systems: from neuromorphic to functional neuronal interfaces approach**  
Silvia Battistoni, IMEM
- S4.5 **Microcontainers for controlled drug release**  
Valentina Ricci, IMEM
- S4.6 **A Multiphysics Electro-Thermo-Opto VCSEL Simulator**  
Pierluigi Debernardi, IEIIT
- S4.7 **Electronic noses for healthcare applications**  
Danila Germanese, ISTI
- S4.8 **Inductive Resonant Wireless Power Transfer System operating at 6.78 MHz ISM-band**  
Rudi Paolo Paganelli, IEIIT
- S4.9 **Sensor service enablement for research infrastructures: an open software facility**  
Paolo Tagliolato, IREA
- S4.10 **IMATI for e-infrastructures**  
Riccardo Albertoni, Andrea Clematis, Daniele D'Agostino, Monica De Martino, Franca Giannini, IMATI
- S4.11 **SENSORNAUTA - Multi-sensored Unmanned Aerial Vehicle with automatic recharge and navigation capabilities**  
Stefania Matteoli, IEIIT
- S4.12 **3D-Printing of High Performance Microwave Components**  
Giuseppe Addamo, IEIIT
- S4.13 **Cooperative Control for Energy Management Systems**  
Fabrizio Dabbene, IEIIT
- S4.14 **Innovative Control Techniques for Proximity Spacecraft Operations**  
Elisabetta Punta, IEIIT
- S4.15 **The development of matched loads at IFP-CNR for the absorption and the measurement of MW-range millimeter-wave power**  
William Bin, Alessandro Bruschi, IFP
- S4.16 **The Thematic Core Service Satellite Data of the EPOS infrastructure**  
Manuela Bonano, Francesco Casu, Claudio De Luca, Riccardo Lanari, Michele Manunta, Mariarosa Manzo, Giovanni Onorato, Ivana Zinno, IREA

#### **Segreteria organizzativa:**

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