

IEIIT is a research structure of CNR, established on October 12th, 2001. IEIIT has six territorial sites (Torino, Bologna, Genova, Milano, Padova, Pisa) with the Headquarters located inside the campus of Politecnico di Torino.

IEIIT carries out advanced scientific and technological research in the area of Information Engineering covering fields of telecommunications, computer and systems engineering, applied electromagnetics, electronics, control, robotics and bioengineering.

IEIIT activities are built on experience and know-how its staff acquired over more than 40 years of scientific action in the ICT domain, often carried out within the framework of international scientific programmes and projects.

IEIIT results concern both soft products (simulation models, design methods and synthesis techniques) and hard products (new architectures of devices, sensors and systems) designed and tested within the IEIIT labs.

The engineering approach adopted at IEIIT has been particularly beneficial to the technological transfer of research results, leading to several cooperation with the private sector.

The IEIIT researchers are also involved in advanced teaching (undergraduate and graduate courses as well as seminars for both students and professionals)



Torino Headquarters

IEIIT-CNR
c/o Politecnico di Torino
corso Duca degli Abruzzi, 24
10129 - Torino, Italy
Tel. +39 011 0905400

Bologna site

IEIIT-CNR
c/o Università di Bologna,
Viale Risorgimento, 2
40136 - Bologna, Italy
Tel. +39 051 2093540



Genova site

IEIIT-CNR
c/o Area della Ricerca
via De Marini, 6
16149 - Genova, Italy
Tel. +39 010 6475228



Milano site

IEIIT-CNR
c/o Politecnico di Milano,
p.zza Leonardo da Vinci, 32
20133 - Milano, Italy
Tel. +39 02 2399 3589



Padova site

IEIIT-CNR
c/o Università di Padova,
via Gradenigo, 6/B
35131 - Padova, Italy
Tel. +39 049 8277960



Pisa site,

IEIIT-CNR
c/o Università di Pisa,
via Caruso, 16
56122 - Pisa, Italy
Tel. +39 050 2217657



Consiglio Nazionale delle Ricerche



Istituto di Elettronica e di
Ingegneria dell'Informazione
e delle Telecomunicazioni

www.ieiit.cnr.it



www.ieiit.cnr.it
segreteria.direzione@ieiit.cnr.it



National Research Council of Italy



The Institute activities are organized into seven Research Groups. Although its researchers are located in different IEIIT sites, the use of advanced communication technologies make their interaction seamless.

Applied Electromagnetics & Electronic Devices

- Electromagnetic field analysis
- Microwave antennas and feed systems
- Design of waveguide passive components
- Frequency Selective Surfaces, Dielectric Radomes
- Microwave measurements up to 110 GHz
- Micro-nano electronic devices and MEMS
- Electronic circuits for sensor interfacing
- Noise study and measurement in electronic devices
- Power electronic converters and amplifiers
- Vertical cavity surface emitting lasers
- Radar measurements
- Tropospheric propagation
- Retrieval of atmospheric parameters

Engineering for Health and Wellbeing

- EMF Exposure and Risk Assessment
- Medical Applications of EMF
- Cognitive System Modeling
- Home Computer Interaction for Rehabilitation
- Computer Vision and Image Processing
- Bioreactors/Artificial Tissues for Tissue Engineering
- Intelligent Caregiver Robots
- Growing up Robots
- Roboethics
- Biological System Modeling
- Natural Language Processing
- Smart Personalized Hearing Systems

Computer Engineering & Networks

- Industrial local area networks
- Communication protocols for automation
- Industrial Ethernet
- Fieldbuses. Hybrid (wired/wireless) networks
- Industrial communication systems
- Real-time communications for factory applications
- High-precision distributed clock synchronization
- Safe communications and safety protocols
- Security of industrial networks & critical infrastructures
- Real-time operating systems
- Embedded systems

Decision Support Methods and Models

- Multi attribute analysis techniques
- Planning and management of transport systems
- Structuring and organizing public decision process
- Methods for extracting knowledge from data
- Rule generation and statistical analysis of data
- Optimal control and reliability analysis
- Parallel computing on Graphics Processing Units
- Heterogeneous high performance computing
- QoS provisioning for Grid and Cloud platform
- Model checking techniques
- Parallel computing based on formal language theory

Network Security

- Wireless (Assessment, Valuation & Testing)
- Denial of Service attacks & Slow DoS Attacks
- Intrusion Detection and Prevention Systems
- Attacks Distribution (Botnet)
- Penetration testing
- Information & Computer Forensics (DFIR)
- Post-Mortem Analysis (PMA)
- Wiretapping
- Fringe Security (Intrusion Detection System, Firewall)
- Network monitoring
- Hacking techniques

Systems & Control Technologies

- Control of uncertain and complex systems
- Randomized algorithms and probabilistic methods
- System modeling, identification and estimation
- Computational methods for systems and control
- Systems biology and biomedical engineering
- Food production and supply chain systems
- Design of multivehicle systems
- Networked control systems
- Sliding-mode control design
- Mathematics of information and coding theory

Wireless Communication Systems

- Information theory and channel evaluation
- MIMO channel estimation and systems
- Wireless and wired channel modeling
- Phase noise channels
- Software Defined Radio algorithms
- Heterogeneous wireless networks
- Localization techniques for WSN
- Industrial wireless sensor networks
- Wireless cooperative networks
- Analysis of mobile data records
- Vehicular networks

