Ph.D. PROGRAMME ICT
DEPARTMENT OF ENGINEERING
UNIVERSITÀ DI PALERMO – CYCLE 40

EDUCATIONAL OFFER

Code	Title of the Course	Lecturer(s)	Contact Coordinator	N° hours	ECTS (CFU)
I.1	Mathematical tools for signal representation and optimization: Beyond Fourier transforms	**Prof. Fabio Bagarello** *(University of Palermo)*	*fabio.bagarello@unipa.it*	**15**	**2**
I.2	Variational analysis and optimization	**Prof. Antonella Nastasi** *(University of Palermo)*	*antonella.nastasi@unipa.it*	**12**	**2**
I.3	Biomedical signal analysis: heart rate variability assessment	**Prof. Riccardo Pernice** *(University of Palermo)*	*riccardo.pernice@unipa.it*	**10**	**1**
I.4	Biomedical signal analysis: Reconstructing Complex System Dynamics from Time Series Analysis	**Prof. Yuri Antonacci** *(University of Palermo)*	*yuri.antonacci@unipa.it*	**10**	**1**
I.5	Fundamentals of Big Data	**Prof. Simona Rombo** *(University of Palermo)*	*simonaester.rombo@unipa.it*	**6**	**1**
I.6	Numerical simulations and applications: Finite element analysis	**Prof. Andrea Tognazzi** *(University of Palermo)*	*andrea.tognazzi@unipa.it*	**20**	**3**
I.7	Numerical simulations and applications: Labview	**Prof. Valentina Cosentino** *(University of Palermo)*	*valentina.cosentino@unipa.it*	**15**	**2**

I.8	Electronics for the Space: Mm-wave and THz technology	**Prof. Alessandro Busacca** **Prof. Salvatore Stivala** *(University of Palermo)*	*alessandro.busacca@unipa.it*	**10**	**1**
I.9	Emerging network technologies	**Prof. Ilenia Tinnirello** **Prof. Daniele Croce** **Prof. Stefano Mangione** *(University of Palermo)*	*ilenia.tinnirello@unipa.it*	**20**	**3**
I.10	Deep learning applications for the analysis of biomedical data	**Prof. Salvatore Contino** *(University of Palermo)*	*salvatore.contino01@unipa.it*	**12**	**2**
I.11	Privacy-Preserving Techniques for Data Analysis	**Prof. Vincenzo Agate** *(University of Palermo)*	*vincenzo.agate@unipa.it*	**12**	**2**
I.12	Machine Learning Techniques based on FPGA	**Prof. Gianluigi Chiarello** *(University of Palermo)*	*gianluigi.chiarello@unipa.it*	**12**	**2**
I.13	Introduction to embedded system design based on SoC	**Prof. Gianluigi Chiarello** *(University of Palermo)*	*gianluigi.chiarello@unipa.it*	**21**	**3**
I.14	Two-dimensional semiconductor	**Prof. Antonio Lombardo** *(University College London, UK)*	*a.lombardo@ucl.ac.uk*	**6**	**1**
I.15	Navigation and Control of Unmanned Aerial Vehicles (UAVs): a comprehensive approach.	**Prof. Kimon Valavanis** *(University of Denver, US)*	*kimon.valavanis@du.edu*	**10**	**1**
I.16	Qubit and entanglement: theory and applications	**Prof. Rosario Lo Franco** *(University of Palermo)*	*rosario.lofranco@unipa.it*	**6**	**1**
I.17	Advanced material investigations by Electron Microscopy: theoretical and experimental hints	**Prof. Simona Boninelli** *(IMM – CNR, Catania)*	*simona.boninelli@ct.infn.it*	**12**	**2**

I.18	Computer-Aided Design of electronic circuits and systems	**Prof. Daniele Sciré** *(University of Palermo)*	*daniele.scire@unipa.it*	**12**	**2**
I.19	Machine learning techniques for cyber threat detection in distributed systems	**Prof. Federico Concone** *(University of Palermo)*	*federico.concone@unipa.it*	**12**	**2**
I.20	Robot Consciousness	**Prof. Antonio Chella** *(University of Palermo)*	*antonio.chella@unipa.it*	**12**	**2**
I.21	Quantum Devices and Circuits for metrology	**Prof. Emanuele Enrico** **Dr. Luca Fasolo** *(Istituto Nazionale di Ricerca Metrologica)*	*e.enrico@inrim.it*	**6**	**1**
I.22	Microwave Quantum Sensing for target detection	**Prof. Patrizia Livreri** *(University of Palermo)*	*patrizia.livreri@unipa.it*	**10**	**1**
I.23	Microwave and Millimeter-waves Solid State Power Amplifiers: Design, Fabrication, and Characterization	**Prof. Patrizia Livreri** *(University of Palermo)*	*patrizia.livreri@unipa.it*	**20**	**3**