



UNIVERSITÀ DI PISA



Summer School Enabling Technologies for Industrial IoT

8 - 15 September 2020

Microsoft TEAMS Virtual Room

*50h front-lessons, 6 ECTS**

Scientific Coordination: Prof. Sergio Saponara

Administrative Coordination: Dr. Sara Adrenucci, Dr. Rosanna Le Rose

the exam will consist in completing a technical report on one of the subject f the course assigned the last day of the course and to be completed within 1 week after the course

Lecturers from University of Pisa, University of Kiel, University Grenoble Alpes

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L1, Tuesday 8 September, 9.00 – 18.30

Day on Integrated Circuits and Architectures for Industrial IoT Applications

9.00 - 10.30 Prof. S. Saponara, Prof. G. Manara

Introduction and syllabus of the Summer School *Enabling Technologies for Industrial IoT*:
presentation of the course, structure of the lessons, structure of the exam

10.30 - 13.30 Prof. G. Iannaccone

RFID operating principles and basic circuit & system components

13.30 – 14.30 Break

14.30 - 18.30 Prof. S. Saponara

Integrated circuits and architectures for Industrial IoT applications: communication aspects

L2, Wednesday 9 September, 9.00 – 18.30

Day on Basics of Electromagnetics and Sensing ICs

9.00 - 13.00 Prof. S. Saponara

Integrated circuits and architectures for Industrial IoT applications: remote sensing aspects

13.00 – 14.30 Break

14.30 - 16.30 Prof. L. Klinkenbusch

Electromagnetic propagation issues for IIoT

16.30 - 18.30 Prof. G. Manara

Advanced phased arrays for communications and wireless power transfer in industrial scenarios

L3, Thursday 10 September, 9.00 – 18.30

Day on Networking for IoT and Industry 4.0

09.00 - 13.00 Prof. S. Giordano

Networking protocols and architectures for IIoT and Cyber Physical Systems

13.00 – 14.30 Break

14.30-16.30 Prof. E. Mingozzi

Web of Things: architectures, protocols and platforms for IoT applications part I

16.30-18.30 Prof. C. Vallati

Integration of IoT devices into Cloud computing platforms: methods and practical examples

L4, Friday 11 September, 9.00 – 18.30

RFIDay@Summer School

09.00 - 10.00 Prof. P. Nepa

RFID technology for Industry 4.0: trends and issues

10.00 - 11.30 Prof. S. Tedjini

Chipless RFID technology

11.30 –13.00 Dr. A. Michel

Advanced antenna design for RFID devices

13.00 - 14.00 Break

14.00 - 15.30 Dr. F. Costa

RFID for Sensing

15.30 - 17.00 Prof. A. Buffi

Towards self-locating assets with RFID technology

17.00 - 18.30 Prof. S. Genovesi

Additive Manufacturing for chipless RFID tag and sensors

L5, Monday 14 September 9.00 – 18.30

Day on Applications of 4.0 Paradigm to Smart Industry and Smart Transportation

9.00-11.00 Prof. E. Mingozi

Web of Things: architectures, protocols and platforms for IoT applications Part II

11.00-13.00 Prof. G. Anastasi

The 6TiSCH Architecture for Industrial IoT Applications

13.00 - 14.30 Break

14.30-16.30 Prof. A. Monorchio

Electromagnetic Information Security for IoT devices

16.30 – 18.30 Prof. S. Saponara

New trends in the internet of autonomous vehicles

L6, Tuesday 15 September, 9.00 – 18.30

Day on High Performance Computing

9.00 – 11.00 Prof. M. Macucci

Ultra low power circuits and quantum computing paradigms

11.00 – 13.00 Prof. S. Saponara

Embedded High Performance Computing: the challenge of the H2020 European Processor Initiative

13.00 – 14.00 Break

14.00 – 18.30 Prof. S. Saponara, Prof. G. Manara

Assignments of projects for the exam to each candidate