

Summer School

Enabling Technologies for Industrial IoT 2026



UNIVERSITÀ
DI PISA



DIPARTIMENTO DI
INGEGNERIA
DELL'INFORMAZIONE



Group GALILEI

Summer School Enabling Technologies for Industrial IoT
6 ECTS (European Credit Transfer System)

16 July - 23 July 2026 Lessons- Theory (in presence* and remote)**
24 July - 14 September 2026 Project work (remote)**

***All lessons in presence 16 - 23 July 2026 at**

Palazzo Della SAPIENZA, AULA VI

Via Curtatone e Montanara 15, 56126, Pisa, Italia

****Remote mode available via Microsoft TEAMS Virtual Room**
(link sent to enrolled students)

Scientific Coordination: Prof. Sergio Saponara
Administrative Coordination: Dr. ssa Sara Andrenucci

**Lecturers from
University of Pisa and University of Kiel**

All students will receive a certificate of attendance at the end of the course.

In addition, for all students that pass the exam, a 6 ECTS exam will be also registered and they will receive also a certificate of exam passed.

During the period 24/07/2026-14/09/2026 Prof. Sergio Saponara will assist the students via MS TEAMS for the project work part of the lessons.

The exam will consist in completing a technical report ("the project work"), starting from one of the subjects of the course and integrated with data and infos from student experience.

The project homework will be assigned the 23/07/2025 lesson.

If the technical report is completed and submitted within 30/08/2026 the 6 ECTS exam will be registered within 31/08/2026.

If the technical report is completed and submitted after 30/08/2026 but within 30/09/2026 the 6 ECTS exam will be registered within 1/10/2026

The technical report will be analyzed by a committee with President Prof. Sergio Saponara

For info: sergio.saponara@unipi.it

16 - 23 July 2026 Lessons (in presence* and remote)**

Palazzo della Sapienza, AULA VI

L1, Thursday 16 July 2026, 8.00 – 18.00

8.00 – 10.00 Prof. S. Saponara

8.00 – 9.30 Student arrival and Summer School Welcoming

9.30 – 10.00 Introduction and syllabus of the Summer School (course structure, subjects of the lessons, final exam, teaching material)

10.00 – 11.30 Prof. L. Klinkenbusch

Electromagnetic propagation issues for Industrial IoT

11.30 – 13.00 Prof. G. Manara

Antennas for communications in industrial scenarios

13.00 – 14.30 Break

14.30 – 18.00 Prof. S. Saponara

Integrated circuits/architectures for communications: from industrial IoT to Edge and Cloud

L2, Friday 17 July 2026, 9.00 – 18.30

HPC (High Performance Computing) Day

9.00 – 13.30 Prof. S. Saponara

New trends in HPC: the European Processor Initiative and Digital Autonomy with RISC-V

13.30 – 14.30 Break

14.30 – 16.30 Prof. S. Genovesi

Sensing and Localization Using RF: from Agritech to Robotics

16.30 – 18.30 Prof. S. Saponara

New trends in the Internet of Vehicles

Saturday 18 July 2026, 8.30-13.30 (optional participation)

Social and cultural event (Prof. G. Lettieri and Prof. S. Saponara, 8.30-13.30: 8-

.30-11.00 Group Fibonacci and 11.00-13.30 Group Galilei)

Guided tour at the MUSEO DEL CALCOLO

Cultural-Scientific event at Museo degli Strumenti per il Calcolo-

<https://www.msc.sma.unipi.it/> - Via Nicola Pisano 25, Area dei Vecchi Macelli - 56126 Pisa

L3, Monday 20 July 2026, 9.00 – 18.00

RFIDay: RF Identification and Beyond

09.00 – 11.00 Prof. A. Michel

Introduction to the RFIDay and IEEE Council on RFID (CRFID)

RFID technology: objectives, basic principles, applications, challenges and demo

11.00 – 13.00 Prof. G. Iannaccone

RFID circuit & system components

13.00 - 14.00 Break

14.00 – 16.00 Prof. F. Costa

Battery-free sensing using RFID

16.00 – 18.00 Prof. A. Buffi

UHF RFID Localization in IIoT: Principles and Applications

L4, Tuesday 21 July 2026, 9.00 – 18.30

9.00 – 11.00 Prof. A. Monorchio

Electromagnetic Information Security for IoT devices

11.00 - 13.00 Prof. S. Saponara

Integrated circuits and architectures for Industrial IoT applications: remote sensing aspects Part 1

13.00 – 14.30 Break

14.30 - 18.30 Prof. S. Giordano

Networking protocols and architectures for IIoT and Cyber Physical Systems

L5, Wednesday 22 July 2025, 9.00 – 18.30

9.00 – 11.00 Prof. M. Macucci

Ultra-low power circuits and quantum computing paradigms

11.00 - 13.00 Prof. S. Saponara

Integrated circuits and architectures for Industrial IoT applications: remote sensing aspects, Part 2

13.00 - 14.30 Break

14.30 – 16.30 Prof. G. Anastasi

New networking & computing paradigms for the future industrial IoT"

16.30 – 18.30 Prof. E. Mingozzi

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

L6, Thursday 23 July 2026, 9.00 – 19.00

9.00 – 11.00 Prof. C. Vallati

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

11.00 – 13.00 Prof. E. Mingozi

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

13.00 – 14.00 Break

14.00 – 19.00 Prof. S. Saponara

Final exercises and projects assignments

24 July - 30 August 2026 Lessons-Project work (remote)**

During the period 25/07/2025-30/08/2025 Prof. Sergio Saponara, Prof. E. Mingozi will assist the students via MS TEAMS for the IoT project work part of the lessons.

Map of **Palazzo La Sapienza in RED**, **University Restaurant (Mensa Martiri) in Yellow**, **Museo del Calcolo in Orange**



