

Summer School

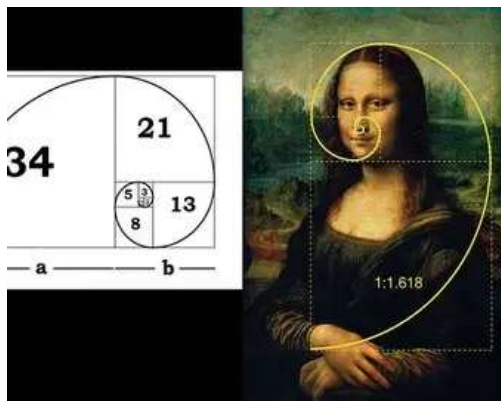
Enabling Technologies for Industrial IoT 2026



UNIVERSITÀ
DI PISA



DIPARTIMENTO DI
INGEGNERIA
DELL'INFORMAZIONE



GROUP FIBONACCI

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 IV

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 IV or MS TEAMS

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 – 13.30 Prof. S. Saponara

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

13.30 – 15.00 Break

15.00 – 16.30 Prof. L. Klinkenbusch

Electromagnetic propagation issues for Industrial IoT

16.30 – 18.00 Prof. G. Manara

Antennas for communications in industrial scenarios

L2, Friday 17 July 2026, 9.00 – 18.30

9.00 - 13.00 Prof. S. Giordano

Networking protocols and architectures for IIoT and Cyber Physical Systems

13.00 – 14.00 Break

14.00 – 16.30 Prof. S. Saponara

New trends in the Internet of Vehicles

16.30 – 18.30 Prof. M. Macucci

Ultra-low power circuits and quantum computing paradigms

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, 11.00-13.30 group Galilei)

Free 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. G. Iannaccone

Introduction to the RFIDay

RFID circuit & system components

11.00 – 13.00 Prof. A. Michel

Introduction to IEEE Council on RFID (CRFID)

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

13.00 - 14.00 Break

14.00 – 16.00 Prof. A. Buffi

UHF RFID Localization in IIoT: Principles and Applications

16.00 – 18.00 Prof. F. Costa

Battery-free sensing using RFID

L4, Tuesday 21 July 2026, 9.00 – 18.30

9.00 - 11.00 Prof. S. Saponara

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

11.00 – 13.00 Prof. G. Anastasi

New networking & computing paradigms for the future industrial IoT"

13.00 – 14.00 Break

HPC (High Performance Computing) Day

14.00 – 18.30 Prof. S. Saponara

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

L5, Wednesday 22 July 2025, 9.00 – 18.30

9.00 - 11.00 Prof. S. Saponara

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

11.00 – 13.00 Prof. A. Monorchio

Electromagnetic Information Security for IoT devices

13.00 - 14.30 Break

14.30 – 16.30 Prof. E. Mingozzi

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

16.30 – 18.30 Prof. A. Motroni

Sensing and Localization Using RF: from Agritech to Robotics

L6, Thursday 23 July 2026, 8.30 – 18.30

8.30 – 13.30 Prof. S. Saponara

Final exercises and projects assignments

13.30 – 14.30 Break

14.30 – 16.30 Prof. C. Vallati

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

16.30 – 18.30 Prof. E. Mingozzi

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

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

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

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



