



# Alessandro Flamini

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## ● WORK EXPERIENCE

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### SAPIENZA UNIVERSITY OF ROME – ROME, ITALY

**Department** DIAEE- Dipartimento di Ingegneria Astronautica, Elettrica, Energetica

#### **PH.D. STUDENT** – 01/01/2022 – CURRENT

- Energy monitoring
- Digital Twin
- IoT
- Building Automation
- Domotics

### D.R.E.A.M. S.R.L. – ROME, ITALY

**Email** [ingegneria@dream-energy.it](mailto:ingegneria@dream-energy.it) | **Website** <https://www.dream-energy.it/>

#### **TECHNICAL CONSULTANT** – 01/01/2023 – CURRENT

- Digital Twin developer
- Building Automation systems designer
- Domotics system designer
- Energy monitoring platform developer

### D.R.E.A.M. S.R.L. – ROMA, ITALY

#### **ACTIVE PARTNER** – 03/2025 – CURRENT

## ● EDUCATION AND TRAINING

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25/09/2024 – 30/10/2024 Rome, Italy

### **ACADEMY STUDI TECNICI MECCANICI** Schneider Electric

01/2024

### **KNX BASIC** KNX Association

Design, commision, diagnose smart home and building automation solutions based on KNX

02/2023 Rome, Italy

### **ECOSTRUXURE POWER MONITORING EXPERT** Schneider Electric

10/2021

### **MASTER'S DEGREE IN ENERGY ENGINEERING** Sapienza University of Rome

28/04/2020 Rome, Italy

### **PROGETTAZIONE DI UN IMPIANTO DI CABLAGGIO STRUTTURATO PER GLI EDIFICI COMMERCIALI**

Schneider Electric

21/04/2020 Rome, Italy

### **LA TECNOLOGIA BUS PER IL CONTROLLO DEGLI EDIFICI** Schneider Electric

2012 – 2016 Rome, Italy

### **BACHELOR'S DEGREE IN ENERGY ENGINEERING** Sapienza University of Rome

## ● LANGUAGE SKILLS

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Mother tongue(s): **ITALIAN**

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
<b>ENGLISH</b>	B2	B2	B2	B2	B2

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

## SKILLS

Microsoft Office | C/C++ for Microcontrollers | Python language | KNX ETS6 | AutoCad 2D -3D | 3D Modeling: Fusion 360 | BIM modeling: Revit | Bim design: Edificius, Termus, Solaris, Primus

## PROJECTS

05/2024 – 10/2024

### **SCADA for distributed power monitoring**

Development of an open-source platform that manages IoT devices data coming from a distributed residential monitoring of power systems and allowing sharing of anonymous data with other research institutions

09/2023 – CURRENT

### **Digital Twin for experimental microgrid**

Development of a smart platform able to manage the experimental microgrid S.A.P.I.E.N.T.E. of reaseach center "ENEA Casaccia" using the "Digital Twin" technology to implement demand side management and demand response strategies.

02/2023 – 01/2024

### **Technical consultant for BACS development of hotel's HVAC system**

Development of a Building Automation System able to manage the hotel HVAC system and rooms HVAC of "Rome Cavalieri, a Waldorf Astoria Hotel", including techincal inspections, project development and implementation of technical documents.

04/2023 – 10/2023

### **Feasibility study of an industrial smart city**

Feasibility study of an industrial smart city located in Saudi Arabia with the collaboration of "Technip Energies". In particular, an estimation of electricity consumption and PV production of a residential district based on available area, number and type of residents

01/2023 – 07/2023

### **Technical consultant for research center ENEA Casaccia**

Technical advice and feasibility study for the implementation of automation logics able to manage energy and power flows inside the experimental microgrid S.A.P.I.E.N.T.E. of research center "ENEA Casaccia".

11/2022 – 01/2023

### **SCADA development for Sapienza - DIAEE department**

Design and development of a SCADA open-source platform for LAMBDA laboratory of DIAEE department. The goal is to monitor and manage energy of the pre-existing microgrid. Custom dashboards have been developed and differentiated according to user's privileges. Also secure communication protocols and creation of users with different privileges have been finalized.

### **Technical manager of Energy Holter platform**

Maintenance and management of the Energy Holter commercial building energy monitoring platform, including system integration activities, adding new systems, and data analysis

## PUBLICATIONS

### **[Energy Mobile Hub \(EMH\) for Optimizing Distribution Grid and Disaster Recovery in Emergency](#)**

[\*\*A Real Smart Digital Current Simulator Prototype for BESS Power Management\*\*](#)

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[\*\*A Prototype of Smart Clock and Load Consumption Buzzer: PowerAlert\*\*](#)

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[\*\*Distributed Monitoring System \(DMS\) Evaluation with Level of Coverage \(LOC\) Implementation\*\*](#)

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[\*\*Electrical Safety Enhanced With BIM, SCADA and Digital Twin Integration: A Case Study of a MV-LV Substation\*\*](#)

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[\*\*Capacitive Behavior of Electrical Power Systems with Distributed Nonlinear Loads\*\*](#)

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[\*\*Smart Digital Current Simulator \(SDCS\) for BESS Power Management\*\*](#)

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[\*\*Physical and Virtual Energy Community: A Comparison with a Load-Demand Profiles Generator Tool \(PGT\)\*\*](#)

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[\*\*Electrical Load Profiles for Residential Buildings: Enhanced Bottom-Up Model \(EBM\)\*\*](#)

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[\*\*Power Electronic Converters Enabling the Power Sharing Solution in LVDC Smart Grids for the new Energy Communities\*\*](#)

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[\*\*Fault Analysis in a Residential DC Microgrid\*\*](#)

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[\*\*E-Parking project design: grid and photovoltaic integration for electric vehicles charging systems\*\*](#)

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[\*\*A Prototype of Low-Cost Home Automation System for Energy Savings and Living Comfort\*\*](#)

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[\*\*Building Information Modeling and Supervisory Control and Data Acquisition Integration: The Lambda Lab Digital Twin\*\*](#)

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[\*\*Microgrids Models for the Aggregation of End-Users in Energy Communities\*\*](#)

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[\*\*Designing a Home Automation System Low-Cost for Energy Savings And Living Comfort\*\*](#)

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[\*\*"LED-HBES" High Efficiency Lighting Systems: a Case Study of an University Historical Building\*\*](#)

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[\*\*A Case Study of a Renovation of a Historical University Department: The Nearly Zero-Energy Refurbished Buildings\*\*](#)

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[\*\*BIM and SCADA integration: the Dynamic Digital Twin\*\*](#)

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[\*\*Nearly Zero-Energy Refurbished Buildings \(nZERBs\): A Case Study of an Historical University Departement\*\*](#)

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## Electrical Systems for Public Lighting with High Energy Efficiency and High Technological Content

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### **CONFERENCES AND SEMINARS**

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06/2024 Rome

#### **IEEE EEEIC 2024**

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Organization member and technical contact.

05/2024 Las Vegas

#### **IEEE I&CPS 2024**

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Paper author

11/2023 Nashville

#### **IEEE IAS Annual Meeting**

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Paper author

10/2023 Rome

#### **AEIT International Annual Conference**

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Organization member and technical contact.

06/2023 Madrid

#### **IEEE EEEIC 2023**

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Organizaion member, paper author and technical contact

10/2022 Detroit

#### **IEEE IAS Annual Meeting**

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Paper author

06/2022 Prague

#### **IEEE EEEIC 2022**

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Organizaion member and technical contact

05/2022 Las Vegas

#### **IEEE ICPS 2022**

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Paper author

10/2021

#### **"IEEE EEEIC 2021**

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Paper author