

PERSONAL INFORMATION	Francesco Liberati
WORK EXPERIENCE	
1 Mar 2020–Present	Contract Professor in Cyber-physical Systems
	Sapienza University of Rome, Department of Computer Science Via Salaria, 113, 00198 Rome (Italy) <u>https://www.di.uniroma1.it/en</u>
	Course "System and Control Methods for Cyber-Physical Security", taught in English, at the second year of the Master of Science in Cyber-Physical Security. I teach 3 course credits out of 6.
1 Mar 2020–Present	Research Fellow in Cyber-physical Systems
	Sapienza University of Rome, Department of Computer, Control, and Management Engineering "Antonio Ruberti" Via Ariosto, 25, 00185 Rome (Italy) https://www.dis.uniroma1.it/en
1 Jan 2019–31 Dec 2019	Postdoctoral Research Fellow in Automatic Control
	Sapienza University of Rome, Department of Computer, Control, and Management Engineering "Antonio Ruberti", Rome (Italy)
	Title of the research grant: "Design and development of advanced algorithms for resource managment and control in smart networks and cyber-physical systems".
	From 16 Jan. 2019 to 31 Mar. 2019 I was visiting researcher at the Université libre de Bruxelles, Department of Automatic Control (https://saas.ulb.ac.be/), where I carried out research in optimal control and cyber-physical system modeling.
1 May 2017–31 Dec 2018	Project Manager H2020 Energy Research
	The Innovation and Networks Executive Agency (INEA), European Commission Chaussée de Wavre 910, B-1040 Brussels (Belgium) https://ec.europa.eu/inea/en
	I managed a portfolio of large H2020 research and innovation international multi-beneficiary projects, in the fields of Smart Grids and Smart Cities and Communities.
8 Feb 2010–Present	Researcher and Project Manager in European Projects
	Consortium for the Research in Automation and Telecommunication (CRAT) Via Giovanni Nicotera, 29, 00195 Rome (Italy) https://www.crat.eu/
	Researcher and Project Manager in H2020 and FP7 European projects, mainly in the fields of Smart Grids, ICT, Security and Telecommunication.
2 May 2015–1 May 2017	Researcher in Automatic Control eCampus University Via Isimbardi, 10, 22060 Rome and Milan (Italy) https://www.uniecampus.it/

### Nov 2011-16 Mar 2015

## PhD in Systems Engineering

Sapienza University of Rome, Rome (Italy)

I classified first in the competition.

Activities and duties:

- Research in advanced control systems applied to smart grid, ICT, telecommunication, security and critical infrastructure protection sectors;
- I specialized in optimal control, model predictive control, reinforcement learning;
- I carried out research in several EU funded international projects;
- Scientific communication and dissemination activities.

# 1 Jan 2015–30 Nov 2015 Research Engineer

Applied Research to Technologies (Ares2t) Via Cristoforo Colombo, 440, 00145 Rome (Italy) https://www.ares2t.com

- From 1 Jan. 2015 to 30 Apr. 2015: I worked in a Joint Research Center (JRC) project to implement in MATLAB an advanced vehicle positioning system based on a combination of Extended Kalman Filtering and Particle Filtering. Drafting of the final report. <u>Link to report</u>;
- From 8 Jun. 2015 to 30 Nov. 2015: I worked in the <u>EU ChargeAdvisor project</u>, where I designed and developed an algorithm for controlling the recharge of Electric Vehicles. I developed the control algorithm and I contributed to the integration and testing in the Enel X operational Electro Mobility Management systems. I heavely contributed to the drafting of the ChargeAdvisor proposal.

Part time work: around 25% of workload in the mentioned periods.

## 1 Feb 2013–30 Apr 2017 Re

# Researcher in EU Projects

Sapienza University of Rome, Department of Computer, Control, and Management Engineering "Antonio Ruberti", Rome (Italy)

I worked in a EU-funded project on electromobility.

1 Jan 2019–Present

### Consultancy

Self-employed, Rome (Italy)

- Expert evaluator for regional-financed research projects (POR FESR 2014-2020);
- Expert evaluator of PhD project proposals;
- Consultancy for EU project proposals.

### EDUCATION AND TRAINING

1 Nov 2011-31 Oct 2014

## PhD in Systems Engineering

Sapienza University of Rome, Rome (Italy)

Thesis: Model Predictive Control-based Demand Response in Smart Grids.

- Research in Automatic Control applied to Smart Grid, ICT, cybersecurity and critical infrastructure protection problems;

- Participation in several European research projects;

- Drafting of scientific publications.

Official length of the studies: 3 years. Graduated on 16 Mar. 2015.

26/01/2021

EQF level 8



Curriculum vitae

Obtained qualification: "Dottore di Ricerca" in INGEGNERIA DEI SISTEMI [DOTT] (27° ciclo).

#### 2009-11 Oct 2011 Master's Degree in Systems Engineering ("laurea magistrale" - [LM FQF level 7 (DM 270/04) - ORDIN. 2010])

Sapienza University of Rome, Rome (Italy)

Final grade 110/110 cum laude, average exam grade 30/30 (12 exams).

Thesis: Control of residential intelligent appliances, electric energy storage systems and distributed generation for demand side management in smart grids.

### Official length of the studies: 2 years.

Qualification obtained: master's degree and title of "dottore magistrale" in INGEGNERIA DEI SISTEMI [LM - Ordin. 2010] (classe LM-25), Faculty of INGEGNERIA DELL'INFORMAZIONE, INFORMÁTICA E STATISTICA.

#### 2006-10 Nov 2009 Bachelor's Degree in Systems Engineering ("laurea di primo livello" EQF level 6 - [L (DM 509/99) - ORDIN. 2002])

Sapienza University of Rome, Rome (Italy)

Final grade 110/110 cum laude, average exam grade 29/30 (32 exams).

Thesis: Bayesian Networks-based approach for Critical Infrastructures interdependence analysis.

### Official length of the studies: 3 years.

Qualification obtained: bachelor's degree and title of "dottore" in INGEGNERIAAUTOMATICAE DEI SISTEMI DI AUTOMAZIONE [L-509 - Ordin. 2002] (classe 9), Faculty of INGEGNERIA.

### PERSONAL SKILLS

#### Mother tongue(s) Italian

### Foreign language(s

guage(s)	UNDERSTANDING		SPEAKING		WRITING	
	Listening	Reading	Spoken interaction	Spoken production		
English	C1	C1	C1	C1	C1	
Spanish	C1	B2	B2	B2	A2	
Chinese	A1	A1	A1	A1	A1	
French	A1	A1	A1	A1	A1	

Levels: A1 and A2: Basic user - B1 and B2: Independent user - C1 and C2: Proficient user Common European Framework of Reference for Languages - Self-assessment grid

Organisational / managerial skills

I am Senior Project manager with proven experience in the management of research projects in the security, smart grids and ICT domains.

Job-related skills

**Editorial Activities:** 

- Guest Editor, Electronics (ISSN 2079-9292), Special Issue on "Cyber-Physical Security in Smart Grids: System Analysis and Control Design".
- Editorial Board member, Smart Cities (ISSN 2624-6511);
- Topic Editor, Electronics (ISSN 2079-9292), for the topics of smart grids, cyber-physical systems, critical infrastructure protection;
- Associate Editor for Contributed Papers to The 2020 IEEE PES Innovative Smart Grid Technologies Europe (ISGT-Europe), The Hague, 25-28 October 2020. https://ieee-isgteurope.org/.

Peer review activities: I am/have been peer-reviewer for several scientific journals and conferences.

**Invited Speaker** at the "5<sup>th</sup> International Congress on Energy Efficiency and Energy Related Materials" (ENEFM2019), 2019, where I give a lecture on control methods for smart charging of electric vehicles.

## Digital skills

115	SELF-ASSESSMENT					
	Information processing	Communication	Content creation	Safety	Problem- solving	
	Proficient user	Proficient user	Proficient user	Independent user	Proficient user	

## Digital skills - Self-assessment grid

- Excellent command of the Microsoft Office suite, Windows and Linux operative systems;
- Excellent command of the LaTeX typesetting system (e.g., for scientific publications);
- Excellent command of MATLAB, Julia technical computing language;
- Good knowledge of C++, Java, Prolog, Python.

### Driving licence B

## ADDITIONAL INFORMATION

Certifications	<ul> <li>PM<sup>2</sup> Project Management Methodology. Certificate ID: C - 0 662;</li> </ul>
	<ul> <li>Machine Learning by Stanford University on Coursera, grade 100/100. Certificate ID: T2WZSZP5T92S;</li> </ul>
	<ul> <li>Introduction to Operations Management by University of Pennsylvania on Coursera, grade 100/100. Certificate ID: ZPU5WM2VH2.</li> </ul>
Presentations	I have presented the outcomes of my research at many conferences, including: IEEE Mediterranean Conference on Control and Automation Conferences MED2011, MED2012, MED2013, MED2014; IEEE Conference on Decision and Control CDC2013, CDC2019; NASA/ESA Conference on Adaptive Hardware and Systems (AHS-NASA/ESA14); Nordic Edge Expo 2018 Smart City Conference.
Teaching	I have been responsible for the following courses: "System and Control Methods for Cyber-Physical" (Sapienza University), "Advanced Control Systems" and "Analysis and Modeling of Systems" (eCampues University), Engineering faculty.
	I have taught several lessons at the Engineering Faculty of the Sapienza University of Rome, in the following courses: "Automatic Control", "Automation", "Network Control Handling", "Control of Communication and Energy Networks", "Control of Autonomous Multi-Agent Systems".
Citations	<ul> <li>Link to Google Scholar profile;</li> <li>Link to Scopus profile.</li> </ul>

Hobbies Art and archeology, reading, running, trading.

## Francesco Liberati

Rome, 26/01/2021