



ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA

IBES PhD Programme Kick-off meeting Cycle 39

15/11/2023

9.15 – Room 3.6

Department of Electrical, Electronic, and
Information Engineering “Guglielmo Marconi” DEI



WELCOME ON BOARD



OUR ALMA MATER IN NUMBERS

Constituent Principles

The primary goals of the University are teaching and research, two inseparable activities aimed at pursuing critical knowledge open to dialogue and interaction between cultures, respecting the freedom of science and teaching.

Given its long-standing identity as a place of general studies, the University acknowledges the equal dignity and opportunities of all branches of learning that assure scientific and educational capital.

University Statute, Constituent Principles, Art. 1 para. 1, 3



University of Bologna

Multi-campus

- Bologna (DEI)
- Cesena Campus (DEI)
- Forlì Campus
- Ravenna Campus
- Rimini Campus
- Representación en la República Argentina



ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA

University of Bologna

1088

STUDIUM
IN BOLOGNA

IT IS THE OLDEST UNIVERSITY IN THE
WESTERN WORLD



ARCHIGINNASIO

1988

MAGNA CHARTA
UNIVERSITATUM

CONFIRMS THE ESSENTIAL ROLE OF THE
UNIVERSITY IN CONTEMPORARY SOCIETY

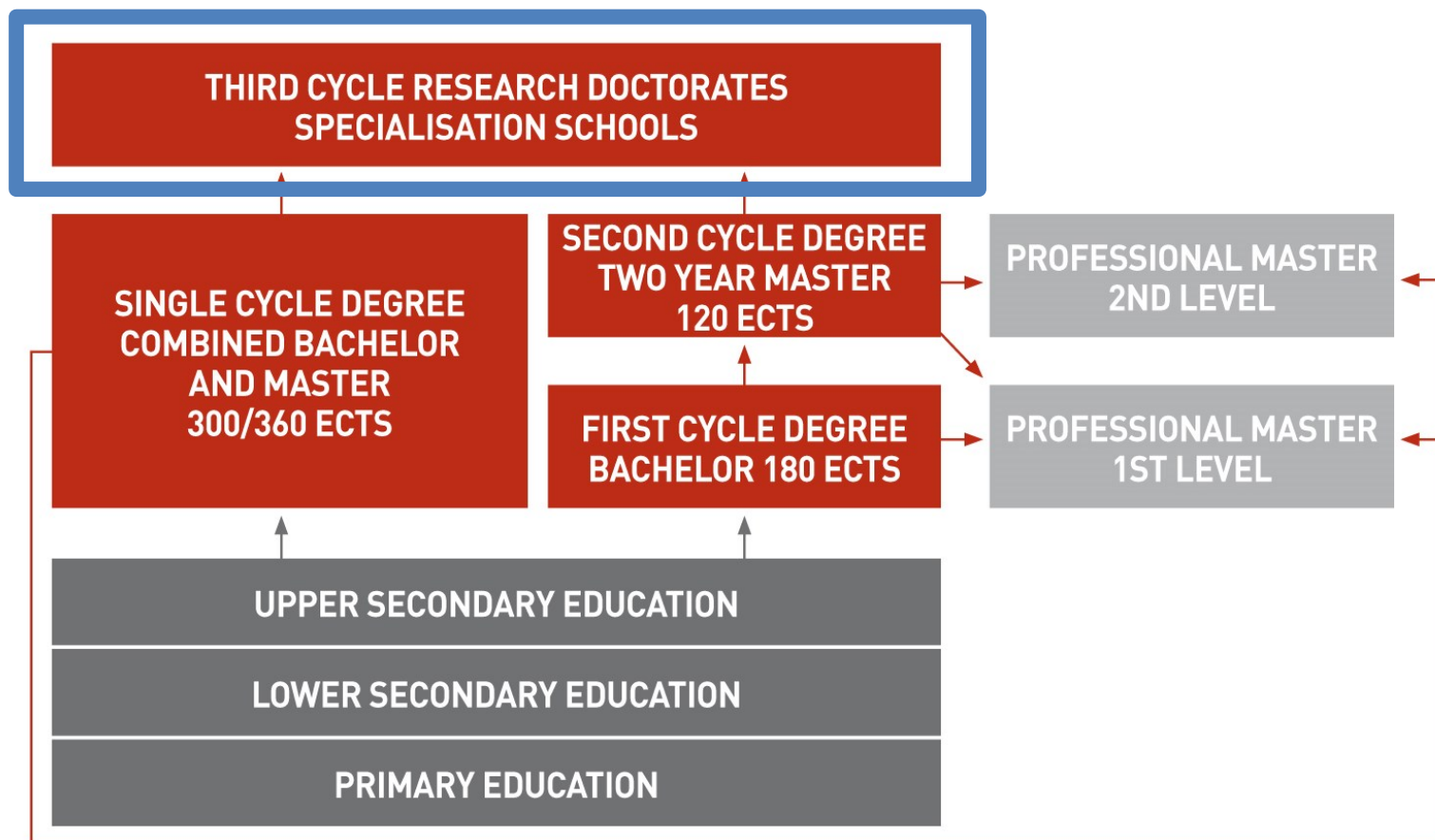


ANATOMICAL THEATRE 1653



ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA

Italian University System



ECTS= EUROPEAN CREDIT TRANSFER SYSTEM.

1 CREDIT= 25 HOURS STUDENT WORKLOAD (CLASSES, INDIVIDUAL STUDY, EXAMS, ETC.)



ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA

our Alma Mater in numbers

- More than 93,000 students (7630 international students)
- 1821 grants for PhD positions in the last 3 years
- 252 degree programmes
- 48 PhD/ Doctoral programmes
- 3122 Professors and 3105 members of the professional staff
- Many funded research projects (EU, national or regional funding, NRRP)
- 31 Departments; 11 of them have been selected as Departments of excellence by the Italian Ministry of Universities and Research (MUR)





OUR DEPARTMENT

The Department of Electrical, Electronic, and Information Engineering «Guglielmo Marconi» (DEI)

- More than 140 Professors and Researchers
- 30 internal research laboratories
- 3 Inter-departmental research centers:
 - ARCES
 - CIRI ICT
 - CIRI HST
- External research centers associated:
 - CNIT
 - CNR
 - NITEL
 - ELMO
- 2 PhD Programmes:
 - ET-IT – Electronics, Telecommunications and Information Technologies Engineering
 - IBES – Biomedical, Electrical and Systems Engineering

Bologna



Cesena





IBES PhD Programme

IBES History and Scope

- IBES is the merging of three previously independent programmes:
 - Ingegneria dei Sistemi, later Automatica e Ricerca Operativa
 - Ingegneria Biomedica
 - Ingegneria Elettrica
 - all started from 1° Cycle (1983)
- “IBES” Alumni is a large and highly successful community including a large number of permanent academic staff and researchers employed in public and private industries worldwide
- Large number of students: >15 enrolled every year (>50% from external funds)
- Large number of potential PhD advisors (“IBES” disciplines are >60% of DEI staff)
- Wide scope and interdisciplinary nature
 - Automatic & Operations Research
 - Bioengineering
 - Electrical engineering
- Web site <https://phd.unibo.it/ibes/en>
- Email dei-phd-ibes@unibo.it



IBES PhD Program: our numbers

➤ **3 Curriculum:**

- Automatic Control and Operations Research (ARO)
- Biomedical Engineering (BIO)
- Electrical Engineering (EE)

➤ **65 Enrolled PhD Students**

- **17 in Cycle 39**
- 19 in Cycle 38
- 21 in Cycle 37
- 8 in Cycle 36 (+8 already graduates)

❑ **22** Professors are **members of the IBES PhD program Board**

❑ **1 PhD Coordinator** and **3 Curriculum Advisors**

❑ **1 PhD Manager**



IBES PhD Programme: contacts

- Coordinator: prof. **Michele Monaci** (michele.monaci@unibo.it)
- PhD Manager: dott.ssa **Francesca Lazzaretti** (dei-phd-ibes@unibo.it)
- Curriculum Advisors
 - ARO → prof. **Alessandro Macchelli** (alessandro.macchelli@unibo.it)
 - BIO → prof. **Stefano Severi** (stefano.severi@unibo.it)
 - EE → prof. **Luca Zarri** (luca.zarri2@unibo.it)

N.B.: official communications take place only through the **institution email address** (name.surname@unibo.it).

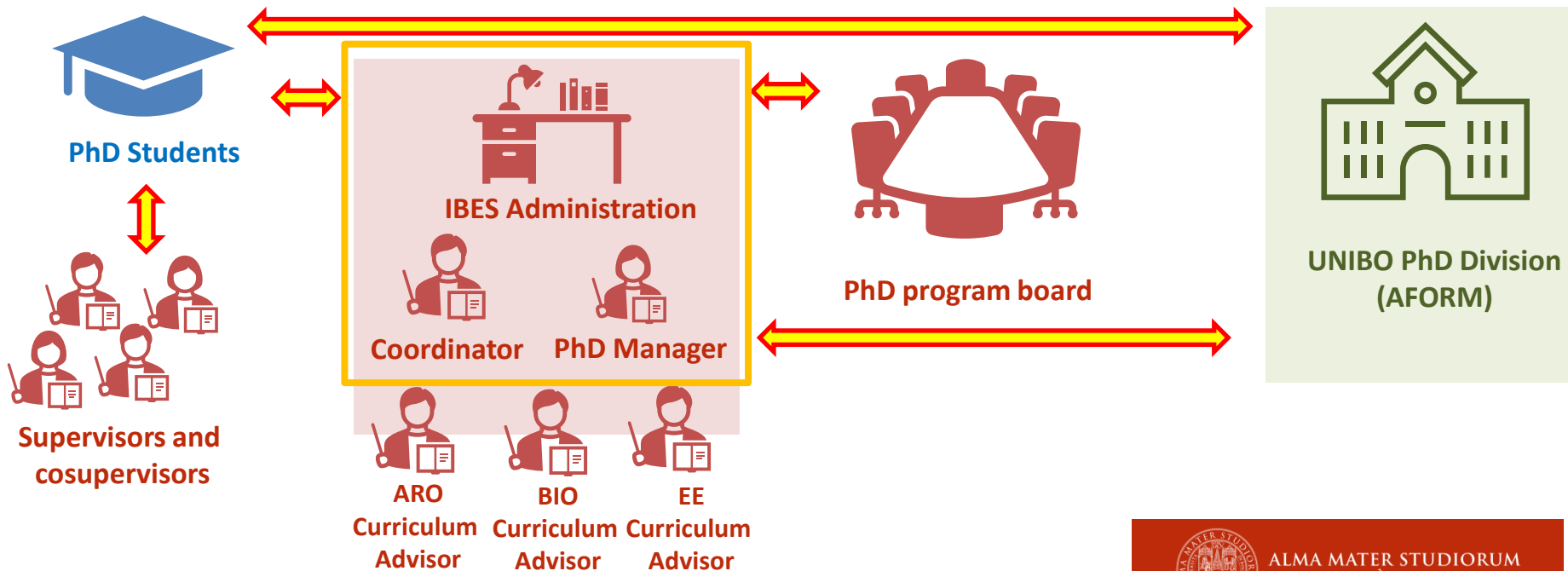


IBES PhD Program: organization structure

When you have a question, first **check the [IBES website](#)**.

If you do not find the answer, **please contact us** (dei-phd-ibes@unibo.it).

Some information can only be provided by the UNIBO PhD Unit. In that case, we may refer you to **AFORM – Corsi e carriere** (aform.udottricerca@unibo.it).



IBES PhD Program: laws and regulations

The rights and obligations of PhD students, as well as the details of all the stages in the PhD career, are outlined in the documents mentioned below.

➤ **UNIBO PhD Handbook** (available in [English](#) and in [Italian](#)).

We strongly recommend you to read it carefully.

- [Ministerial Decree n. 226/2021](#), issued by the Italian Ministry of University and Research (MUR) (**n.b.** available only in Italian)
- [Regolamento in materia di corsi di dottorato](#), issued by UNIBO (**n.b.** available only in Italian).

Moreover, **any decisions by the IBES PhD Board** will be published on the **IBES website** and notified to PhD Students via **UNIBO email**.



Academic requirements



(Besides daily cooperation with the supervisor) **IBES PhD Students must:**

1. attend and successfully complete at least **60 hours** of the **IBES training provided for their curriculum** during their career;
2. carry out a **research period of at least 3 months abroad** ;
3. attend at least **1 Summer School or 1 National/International School**, whose topic is close to their own research topic;
4. present at least **1 paper at an international conference** on a topic related to their research topic
5. publish at least **1 article on an international journal** on a topic related to their research topic;
6. comply with the specific requirements for their curricula (if applicable).



IBES training activities

- Every year, the IBES PhD Board offers various courses and seminars addressed specifically to PhD Students.
- You can choose the ones that suit your academic needs in order to comply with the academic requirement n.1
*attend and successfully complete at least **60 hours** of the **IBES training provided for your curriculum** during your career*
- The schedule of the training activities for the a.y.2023/2024 will be made available soon [on the specific IBES webpage](#). Further information about each activity will be published also on the [IBES Agenda](#) and sent by email before its start.



IBES training activities

Each training activity enables you to gain attendance hours if you:

- attend it;
- pass the final assessment (when applicable).

When the activity is over, the professor submits to the IBES Admin. Staff the list of those who have attended it and passed the final assessment.

Then, the PhD Manager **registers the number of attendance hours** gained by each PhD Student.



Research stays outside Bologna (in Italy or abroad)

First of all, **you need specific authorization issued by the Coordinator.**

Before starting

1. Collect the [supervisor approval](#) and the [invitation letter](#) by the research institute or industry
2. Fill in and sign the [authorization request form](#)
3. Send them to dei-phd-ibes@unibo.it

During the stay

- If you are planning to prolong your stay, you need the PhD Board authorization. Fill the [specific request form](#) and send it to dei-phd-ibes@unibo.it

Further info at:

<https://phd.unibo.it/ibes/en/career/internship-abroad>



ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA

Mobility funding – 50% increase of the standard PhD scholarship

For periods of study and research abroad you may receive a financial endowment amounting to **50% of the standard PhD scholarship**, regardless how you are funding your PhD.

This cannot be obtained for periods shorter than one continuous month or longer than 12 months (or 18 months if you are in a cotutelle agreement), and in any case not in your country of residence.

In order to ask for this increase please follow the procedure explained on the [UNIBO Intranet](#) (**n.b.** available only in Italian) or contact AFORM – Corsi e carriere (aform.udottricerca@unibo.it).

N.B. This kind of funding is **managed by the UNIBO PhD Prog. Division** (AFORM), not by the Department.



Mobility funding – Marco Polo Programme

The **Marco Polo Programme** offers **mobility scholarships** to promote research activities abroad for young UNIBO researchers and PhD students.

The Programme has **two calls**: one in May and one in November.

To apply for the Marco Polo Programme you need the authorization for spending a research period abroad issued by the Coordinator.

The deadlines and the application procedure are set by the Department Council, not by the IBES PhD Board. Therefore, please **submit your authorization request at least one week before the Marco Polo deadlines**.

N.B. This kind of funding is **managed by the Department**.



Working while attending the PhD

Any time you are planning to accept a job assignment, **no matter if the employer is UNIBO:**

- Collect the [supervisor approval](#)
- Fill in the [authorization request form](#)
- Send them to dei-phd-ibes@unibo.it

Wait for the approval of the Coordinator or the PhD Board before signing the contract.

N.B. Only working activities that are **strictly related** to your research duties can be authorized



Further info at:

<https://phd.unibo.it/ibes/en/career/working-while-attending-the-phd>



ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA

10% budget for funding research

- Starting on the first year, you have access to **a budget that amounts to at least 10% of the standard PhD scholarship**, regardless how your PhD is funded.
- You can use it to **fund your PhD research and training activities** both in Italy and abroad (travels, courses, etc.).
- As soon as your 10% research fund is available, you will receive an email with all the instructions for using it.
- For any further information about the procedure to ask for reimbursement, please contact DEI-Missioni (dei.missioniweb@unibo.it).



10% budget for funding research

How does the 10% budget work?

- If you have been granted a PhD scholarship or an «Assegno di Ricerca» funded by an external institution or by specific National and European Programmes (e.g. NRRP), your 10% budget is set aside in a specific fund, accessible only to the Supervisor and/or the Coordinator, or even to the Student him/herself.
- If you have been granted a PhD scholarship or an «Assegno di Ricerca» funded by UNIBO or the Department, your 10% budget is ensured through your supervisor's research funds. For instance, when your supervisor covers your travel expenses for a conference, you are already utilizing your 10% funds.

N.B. While this is a general rule, there may be specific cases that differ from what has just been mentioned. It is important to adhere to the email notifying the instructions to use it.



Admission to the following year and to the final exam

- After each academic year, the Curriculum Board and the PhD Board assess the research activity and the work carried out by PhD Students and decide about their admission to the following year.


The evaluation generally includes a presentation (← be present!)

- At the end of 3rd year, PhD Students are required to write a thesis and defend it (typically, in April)
- The thesis is evaluated by external examiners who assign a score.
 - If the score is not assigned, the defense is postponed for 6 months so that the thesis can be improved and re-evaluated.
 - If the score is still negative, you cannot proceed any further.
- PhD Students defend their thesis in front of a committee of professors from UNIBO and other research institutions.



Meet your colleagues: PhD Students 37° and 38° cycle

<https://phd.unibo.it/ibes/en/people/current-ph-d-students>



ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA


PHD PROGRAMME
BIOMEDICAL, ELECTRICAL AND SYSTEM ENGINEERING

IT EN


HOME IBES PEOPLE ADMISSION CAREER COURSES AND EVENTS INVEST IN IBES CONTACTS

Home / People / Current Ph.D. students


Current Ph.D. students



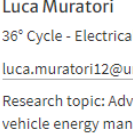
Gabriele Ancora
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Selamawet Workalemahu Atnafu
34° Cycle - Bioengineering
[Read more](#)
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[in](#)



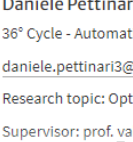
Giorgia Pulazza
34° Cycle - Electrical Engineering
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Luca Muratori
36° Cycle - Electrical Engineering
luca.muratori12@unibo.it
Research topic: Advanced sensors and measurement approaches for Electric vehicle energy management
Supervisor: prof. Lorenzo Peretto



Alan Osorio Mora
36° Cycle - Automatic Control and Operational Research
alan.osorio2@unibo.it
Research topic: Heuristic Algorithms for Combinatorial Optimization Problems



Daniele Pettinari
36° Cycle - Automatic Control and Operational Research
daniele.pettinari3@unibo.it
Research topic: Optimization Methods for Large-scale Applied Problems
Supervisor: prof. valentina Cacchiani



IBES Board

Faculty

- Monaci Michele
- Borghetti Alberto
- Cavallini Andrea
- Cristofolini Andrea
- Giordano Emanuele
Domenico
- Grandi Gabriele
- Macchelli Alessandro
- Magosso Elisa
- Malaguti Enrico
- Marconi Lorenzo
- Melchiorri Claudio
- Notarstefano Giuseppe
- Nucci Carlo Alberto
- Palli Gianluca
- Peretto Lorenzo
- Sandrolini Leonardo
- Severi Stefano
- Tani Angelo
- Traverso Pier Andrea
- Ursino Mauro
- Vigo Daniele
- Zarri Luca

DEI - PhD Support office

Dott.ssa Francesca Lazzaretti

dei-phd-ibes@unibo.it

3rd floor of the “new-building”

DEI Department

Viale del Risorgimento 2,
Bologna

Unibo - PhD Unit

udottricerca@unibo.it

Via Zamboni 33, Bologna



IBES PhD Students 39° cycle (1° call)

Family name	Name	Research topic	Supervisor	Co-supervisor	Curriculum	SSD	Place
ABBAS	MALIK QAMAR	Tecnologie elettriche per una mobilità sostenibile e la transizione ecologica	MICHELE MENGONI	GABRIELE RIZZOLI	Electrical engineering	ING-IND/32	DEI
BALDISSERRI	SARA	High-Voltage Power Converters for Stratospheric Airship Ion Propulsion	MATTIA RICCO	GABRIELE NERETTI e RICCARDO MANDIOLI	Electrical engineering	ING-IND/31	DEI
BRUMALI	RICCARDO	Optimal control and learning of complex and distributed systems	GIUSEPPE NOTARSTEFANO	GUIDO CARNEVALE	Automatic Control and Operations Research	ING-INF/04	DEI
CECCONI	ALESSANDRO	Metodi ed algoritmi per controllo e apprendimento in sistemi autonomi e complessi	MICHELANGELO BIN	LORENZO MARCONI	Automatic Control and Operations Research	ING-INF/04	DEI



IBES PhD Students 39° cycle (1° call)

Family name	Name	Research topic	Supervisor	Co-supervisor	Curriculum	SSD	Place
DEMIAN	DAVIDE	Isolamento elettrico per moduli elettronici di potenza e macchine elettriche utilizzati in sistemi di trazione a 1200 V	ANDREA CAVALLINI	PAOLO SERI	Electrical engineering	ING-IND/33	DEI
GRIMALDI	FRANCESCO	Wireless Sensing and communication capabilities inside a Leadcooled Fast Reactor Core	LORENZO MARCONI	PETER COCHRAN	Automatic Control and Operations Research	ING-INF/04	DEI/Newcleo
LUBRANO	MYRIAM	Neuromotor characterization of motor task in prosthetic subjects	SILVIA FANTOZZI	CRISTIANO CUPPINI	Biomedical engineering	ING-INF/06	DEI
PELLE	SILVANA	Applicazioni della bioingegneria nell'ambito del servizio sanitario nazionale, finalizzate a favorire lo sviluppo e/o selezione e/o adozione di nuove tecnologie - Metodi avanzati per lo studio di sistemi neurologici	MAURO URSINO	ELISA MAGOSSO	Biomedical engineering	ING-INF/06	DEI

IBES PhD Students 39° cycle (1° call)

Family name	Name	Research topic	Supervisor	Co-supervisor	Curriculum	SSD	Place
RAGAZZI	FABIO	Modelli di Scarica a Corona per Applicazioni Aeronautiche	ARTURO POPOLI	ANDREA CRISTOFOLINI	Electrical engineering	ING-IND/31	DEI
ROSETTI	ALICE	Distributed optimization for multi-drone decision making	GIUSEPPE NOTARSTEFANO	FABRIZIO SCHIANO	Automatic Control and Operations Research	ING-INF/04	DEI/Leonardo
SABERGHARAMALEKI	MONA	Sviluppo di algoritmi ibridi model-based e data-driven per la manipolazione robotica di oggetti deformabili e sconosciuti	GIANLUCA PALLI	CLAUDIO MELCHIORRI	Automatic Control and Operations Research	ING-INF/04	DEI



IBES PhD Students 39° cycle (CSC call)

Family name	Name	Research topic	Supervisor	Co-supervisor	Curriculum	SSD	Place
GENG	JIAYI	High power switching mode isolated power converters based on wide-bandgap devices	MATTIA RICCO	RICCARDO MANDIOLI	Electrical engineering	ING-IND/31	DEI
JIN	JIZHU	Research of the Nondestructive Aging Tests of LV Cables of NPPS	DAVIDE FABIANI		Electrical engineering	ING-IND/33	DEI



IBES PhD Students 39° cycle (2° call)

Family name	Name	Research topic	Supervisor	Co-supervisor	Curriculum	SSD	Place
GUARDA	FILIPPO	Innovative navigation methodologies for standalone and in fleet AMR	GIANLUCA PALLI	CLAUDIO MELCHIORRI e GABRIELE FABBRI	Automatic Control and Operations Research	ING-INF/04	DEI/G.D.
HASSABALLAH	POULA GHALEB AYAD	Brain-machine interface and virtual reality for assisted walking and powered mobility: innovative technologies for neurorehabilitation	LORENZO CHIARI	MARCO PIRINI e SILVIA ORLANDI	Biomedical engineering	ING-INF/06	DEI/Khymeia
MARCACCINI	KEVIN	Brain-machine interface and virtual reality for assisted walking and powered mobility: innovative technologies for neurorehabilitation	LORENZO CHIARI	MARCO PIRINI e SILVIA ORLANDI	Biomedical engineering	ING-INF/06	DEI/AUSL
TAHIR	WAQAR	Algoritmo di controllo innovativo per motori a riluttanza	CLAUDIO ROSSI	MASSIMILIANO FRANCHINI	Electrical engineering	ING-IND/32	DEI



Contacts

PhD Manager

Dott.ssa Francesca Lazzaretti

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DEI Department - Viale del Risorgimento, 2 – Bologna

Coordinator

Prof. Michele Monaci

michele.monaci@unibo.it

