ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA

IBES PhD Programme
Kick-off meeting
Cycle 38

14/11/2022

13.00 – Room 5.5

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

OUR ALMA MATER IN NUMBERS

University of Bologna

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

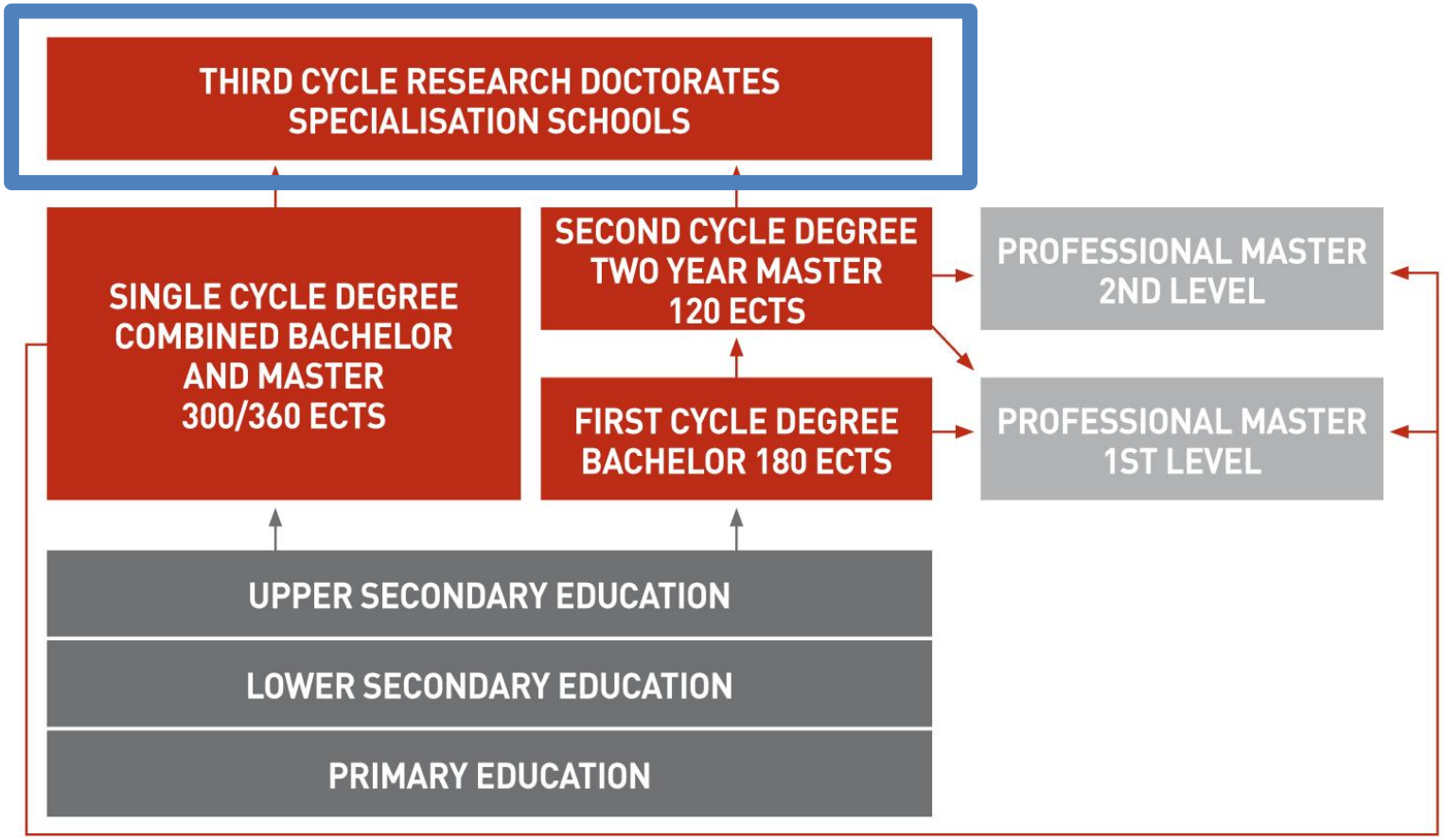
MAGNA CHARTA
UNIVERSITATUM

CONFIRMS THE ESSENTIAL ROLE OF THE UNIVERSITY IN CONTEMPORARY SOCIETY

ANATOMICAL THEATRE 1653

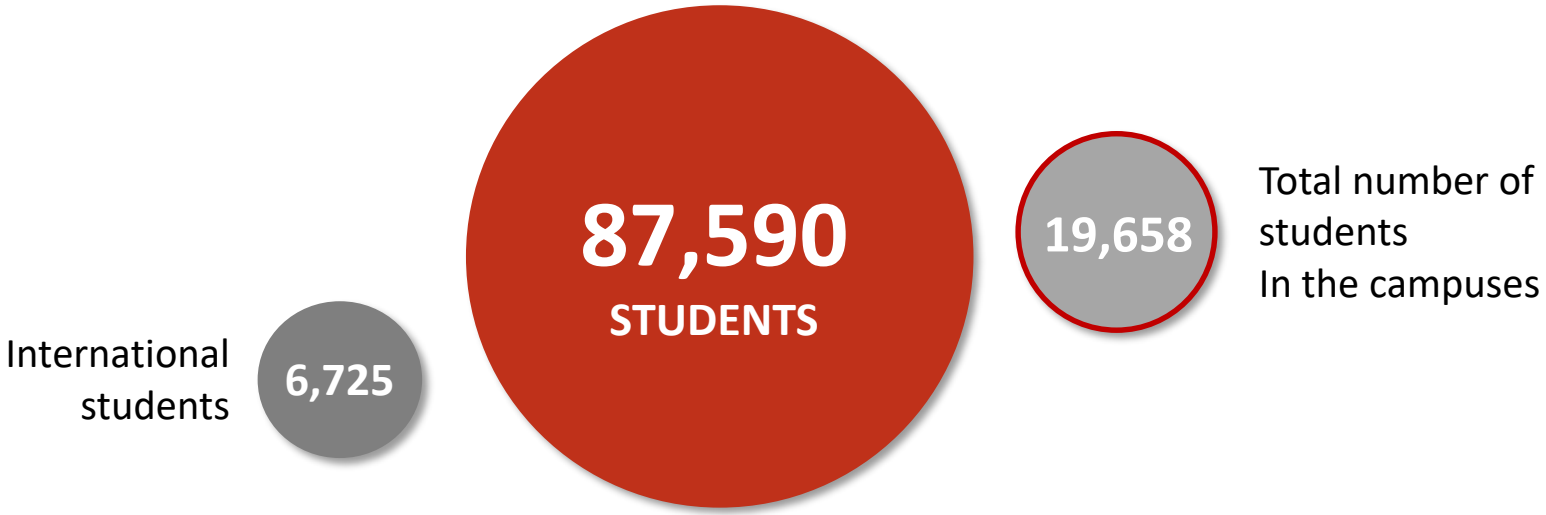
ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA

Italian University System



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

our Alma Mater in numbers



Students enrolled in third cycle and vocational training (a.y. 2019/2020):

- PhD candidates: 1,631
- Students in specialisation schools: 295
  (data on medical specialization Schools are not included)
- Students in professional master's programmes: 1,680
- Students in postgraduate/lifelong learning programmes: 717

Programme catalogue

232 DEGREE PROGRAMMES

93 First cycle degree programmes

125 Second cycle degree programmes

14 Single cycle degree programmes

of which **84** international

171 THIRD CYCLE PROGRAMMES

48 PhD/ Doctoral programmes

53 Specialization School

86 Professional Master's programme

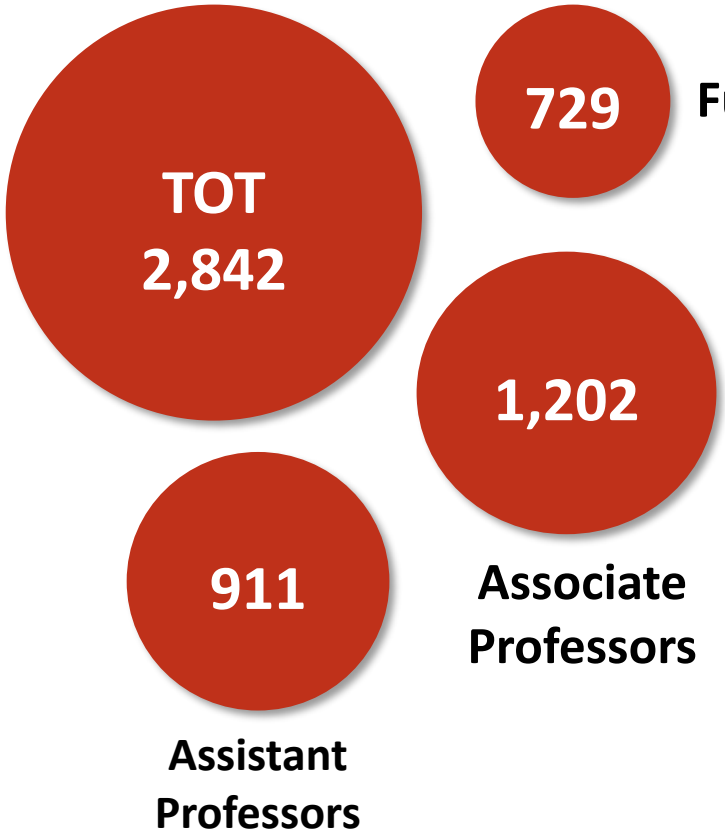
of which **18** international

1,631 PHD STUDENTS

of which **273** international

ALMA MATER STUDIORUM UNIVERSITÀ DI BOLOGNA

Teaching staff



2019 APPLICATION CALL PROCEDURES COMPLETED OR IN PROGRESS

464

COMPETITIVE FINANCING

- **306** UE H2020 research projects, which create a network of more than 2,600 partners, including over 1,250 in the private sector. 50 projects financed by the Interreg, Life 2014-2020, Creative Europe and COST programmes.

- **130** PRIN 2017 projects financed by MIUR, including 40 coordinated nationally by the University (1st equal in terms of number of projects; 17% funding success rate for projects presented by the University as national coordinator).

- **214** research projects financed by Emilia-Romagna in the context of the 2014-2020 PORFESR call
  - 50 PhD positions financed
  - 76 post-doc positions financed

PhD Scholarships and post-graduate fellowships

1,261 Phd candidates (A.Y. 2017/2018 UP TO 31.08.2018)

1,143 Fellows (up to 31.08.2018)

allocated to the funding of PhD student scholarships in the 36th cycle (>250) **€ 15 MLN**

direct funding from the structures and external bodies for 120 scholarships **€ 7 MLN**

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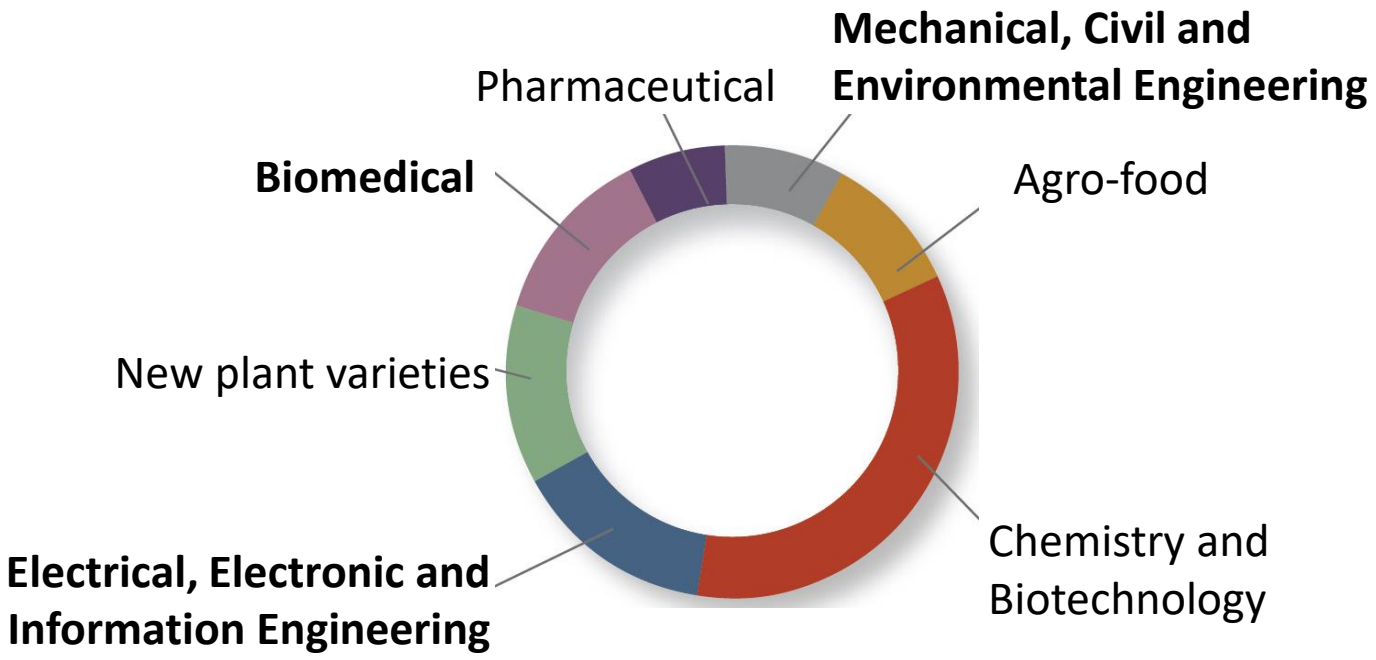
Scientific production

- The University has systematically monitored its scientific production since 1997. Records were computerised in 1999 and are updated freely by professors and research fellows via input to dedicated software written by Cineca: the Institutional Repository (IR) module of the IRIS suite gathers the data on scientific production at the University and allows full-text management of the contributions on an open-access basis.

- **The number of scientific contributions in the 3-year period 2017-2019 was stable and very large:**

2017	2018	2019
10,750	10,546	10,344

Patents and Licenses



OUR DEPARTMENT

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

Structures

- DEPARTMENTS
- SCHOOLS
- RESEARCH AND TRAINING CENTRES
- HISTORICAL ARCHIVE
- MUSEUMS
- ISTITUTO DI STUDI SUPERIORI
- UNIVERSITY LANGUAGE CENTRE
- LIBRARIES

DEI Department

- Develops and transfers knowledge in Electrical Electronic, and Information Technology.
- Provides a broad spectrum of in-depth knowledge together with strong synergy for professional and personal growth of students and researchers
- www.dei.unibo.it
- FB: DEI.University.Bologna/

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

- More than 110 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

Bologna

Cesena

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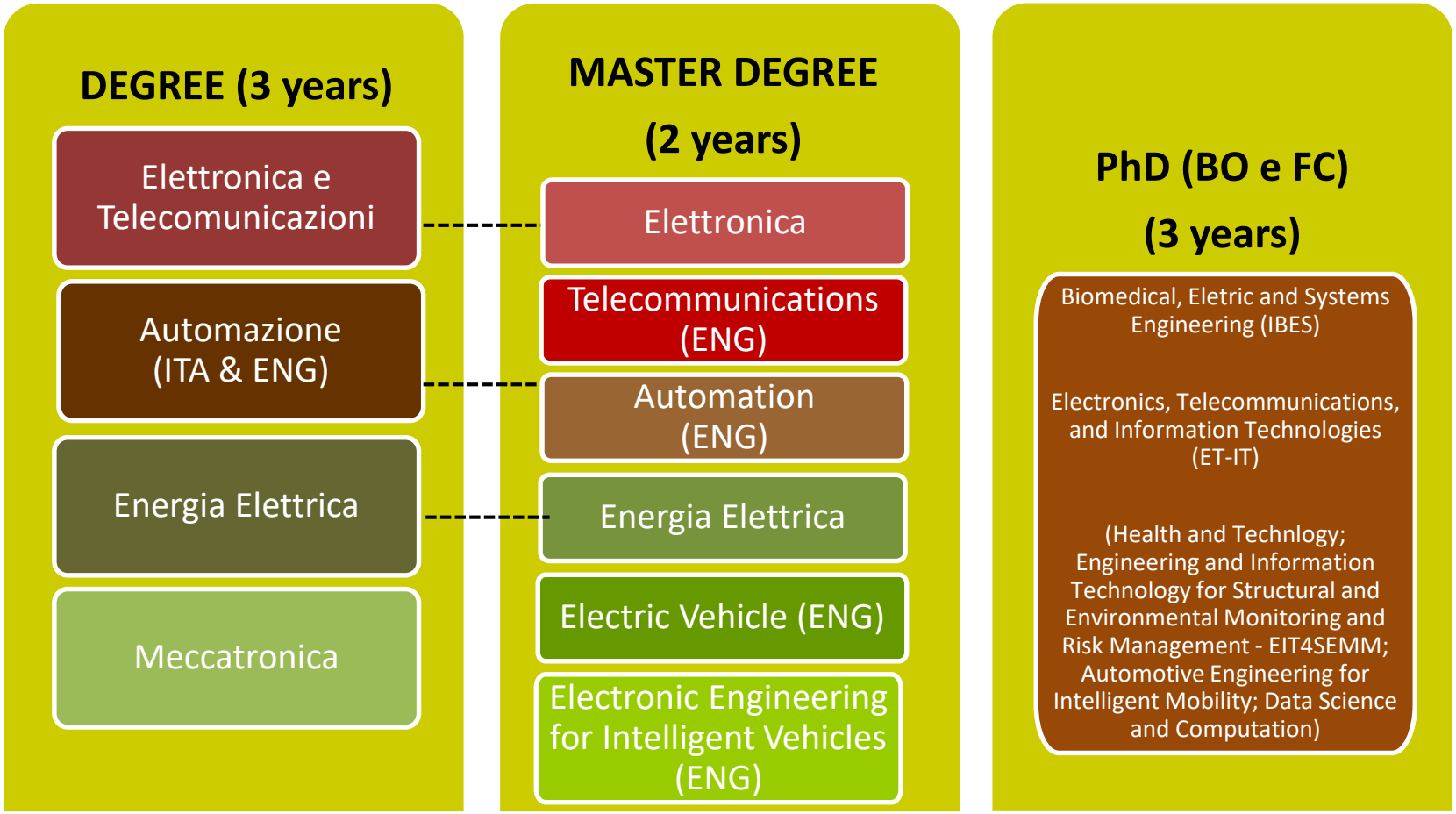
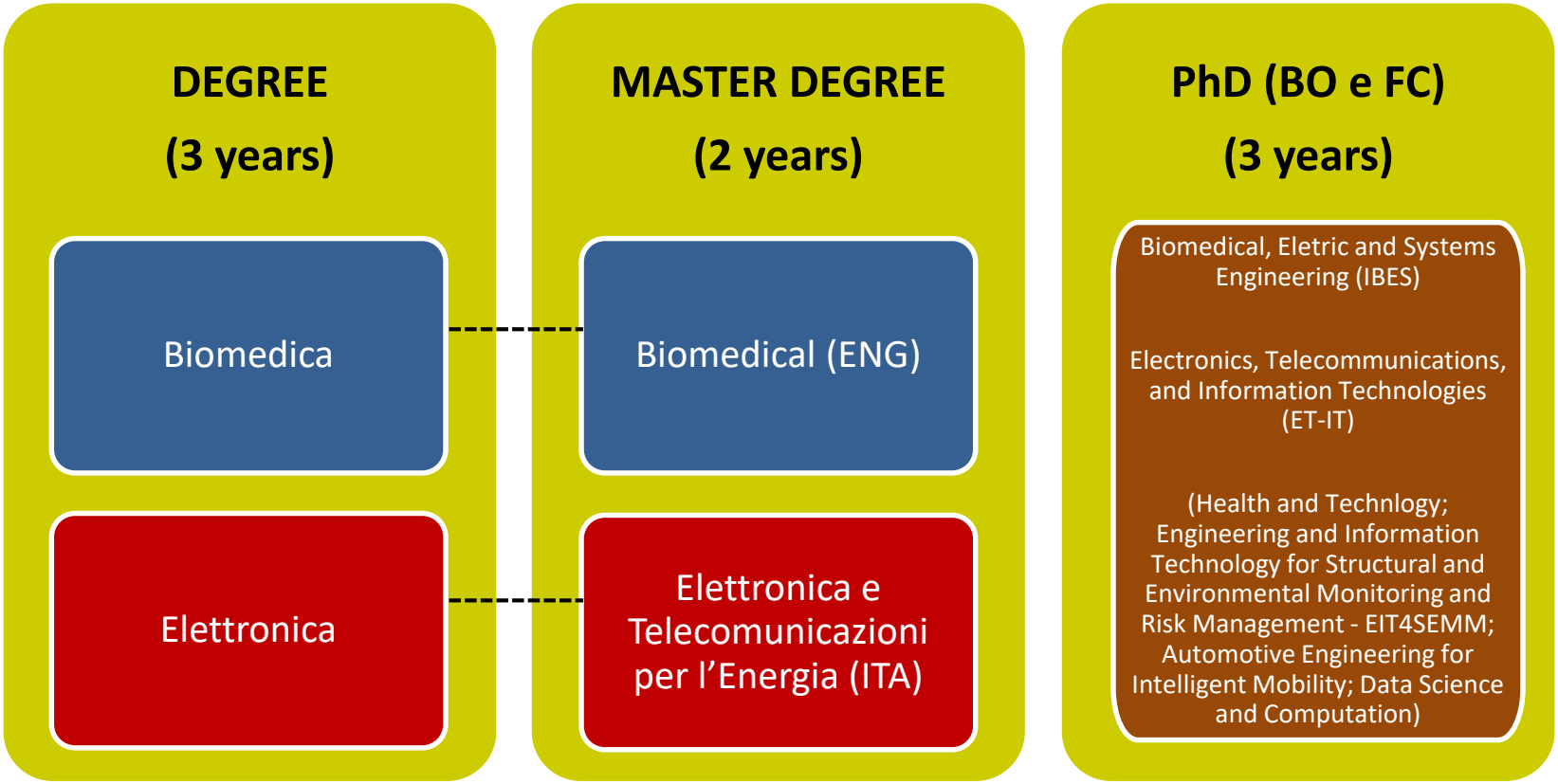
DEI courses -- Bologna



DEI courses -- 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: 12-18 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 Program Structure

Training

- Through Research
  - Supervised research
  - On-premises
- Training courses
  - Master Courses
  - PhD Courses
  - Schools and Workshops
  - Seminars

Evaluation

- Daily cooperation with the supervisor
- 1st and 2nd year → Yearly report and presentation
- 3rd year → Yearly report and presentation for defense admission

PhD Defense

- Committee of at least 3 members
- Typically, in April/May

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IBES Life

An IBES PhD Student shall

- make research
- submit papers to international scientific journals/conferences
- improve inter-personal relationships (DEI is a vast resource of knowledge)
- keep an open-door approach
- write a nice PhD thesis

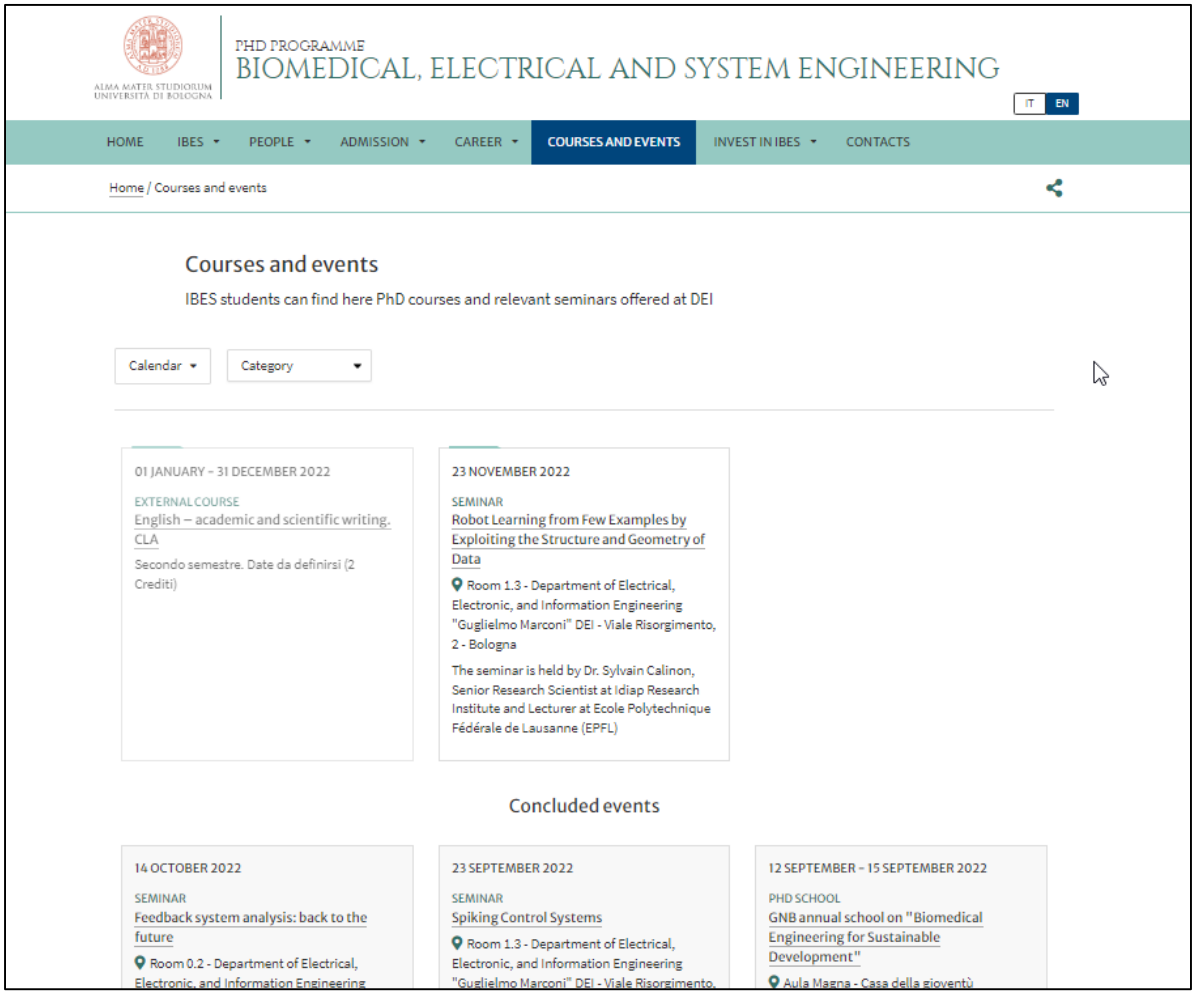
IBES rules: PhD career

For being admitted to the final exam, an IBES PhD Student shall

- attend IBES courses associated with her/his curriculum
- spend a research period abroad (min 3 months)
- attend at least 1 Summer School or 1 National/International School, whose topic is close to her/his own research topic
- present at least one paper at an international conference on a topic related to her/his research topic
- publish at least one article on an international journal on a topic related to her/his research topic
- comply with the specific requirements for each curricula

IBES Teaching Activities

Type https://phd.unibo.it/ibes/en/agenda for updates and details



General rules: travelling > 1 month

a. Before	1. Collect the **supervisor approval letter** and the **invitation letter** 2. Fill the **authorization request form** 3. Send them to dei-phd-ibes@unibo.it Once authorized: 1. fill the request for the increase of the scholarship form (further info in the following slide) 2. send it to udottricerca@unibo.it
b. During	If you are planning to stay abroad longer, the PhD Board must authorize the extension of the period. Fill the specific request form and send it to dei-phd-ibes@unibo.it
c. After	Submit your **credit recognition request** to dei-phd-ibes@unibo.it

Further info at: **https://phd.unibo.it/ibes/en/career**/internship-abroad

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General rules: mobility funding

If you plan to stay abroad:

- less than 1 month, your supervisor can fund your stay.

- between 1 and 12 months, you are eligible for a 50% increase of your PhD scholarship.

Furthermore, every year in May and November you can apply for the Marco Polo Programme, which offers mobility scholarships to promote research activities abroad for young UNIBO researchers and PhD students

General rules: 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 PhD Board before signing the contract.

Further info at:
https://phd.unibo.it/ibes/en/career/working-while-attending-the-phd

General rules: 10% budget for research activities

PhD Students are eligible for a specific budget, called “10% budget”, which is dedicated to cover travel expenses related to research periods and participation to courses/congresses in Italy and abroad.

For further information about the 10% budget write to dei-phd-ibes@unibo.it

WELCOME ON BOARD

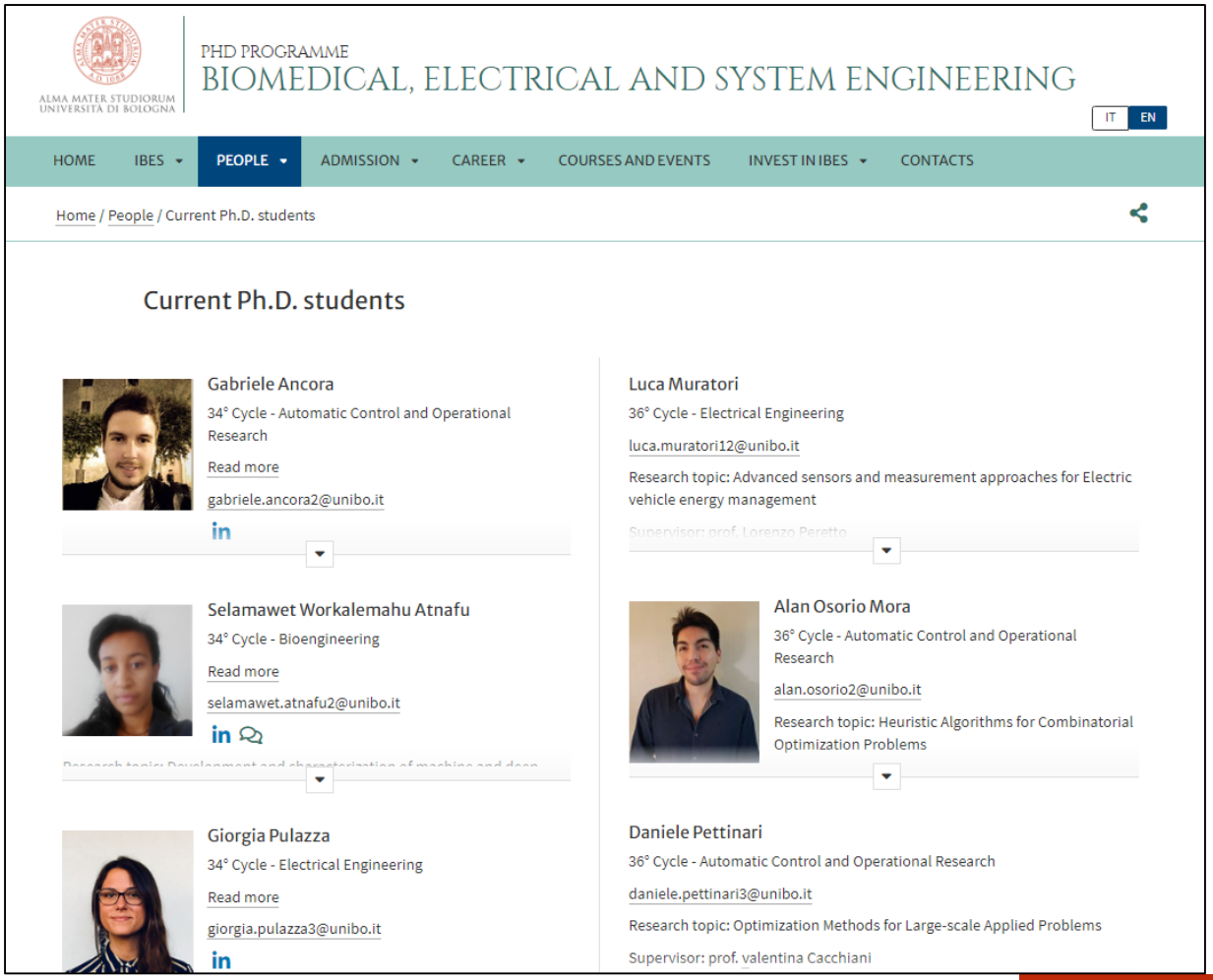
Current IBES Students

- 56 Students
  - 9 coming from outside Italy
  - 22 Curriculum Automatics and Operational Research
  - 11 Curriculum Bioengineering
  - 23 Curriculum Electrical Engineering

- 31^ Cycle: 12 Students
- 32^ Cycle: 8 Students
- 33^ Cycle: 18 Students
- 34^ Cycle: 17 Students
- 35^ Cycle: 16 students
- 36^ Cycle: 15 students
- 37^ Cycle: 21 students
- 38^ Cycle: 20 students

Meet your colleagues: PhD Students 36° and 37° cycle

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



ALMA MATER STUDIORUM
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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
34° Cycle - Automatic Control and Operational Research
Read more
gabriele.ancora2@unibo.it

Selamawet Workalemahu Atnafu
34° Cycle - Bioengineering
Read more
selamawet.atnafu2@unibo.it

Giorgia Pulazza
34° Cycle - Electrical Engineering
Read more
giorgia.pulazza3@unibo.it

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 Structure

Faculty

- Monaci Michele
- Borghetti Alberto
- Cristofolini Andrea
- Giordano Emanuele Domenico
- Grandi Gabriele
- Macchelli Alessandro
- Magosso Elisa
- Malaguti Enrico
- Marconi Lorenzo
- Mazzanti Giovanni
- 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
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3rd floor of the “new-building”
DEI Department
Viale del Risorgimento 2,
Bologna

Unibo - PhD Central Office
udottricerca@unibo.it
Via Zamboni 33, Bologna

IBES Curricula Responsibles

Automatic control and Operational Research

Alessandro Macchelli

alessandro.macchelli@unibo.it

Tel: 051 20 9 3031

Biomedical Engineering

Stefano Severi

stefano.severi@unibo.it

Tel: 0547 339127

Electrical Engineering

Luca Zarri

luca.zarri2@unibo.it

Tel: 051 20 9 3572

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IBES PhD Students 38° cycle (1° call)

Family name	Name	Research topic	Supervisor	Co-supervisor	Curriculum	SSD	Place
BARONCINI	SIMONE	Learning-driven optimal control of autonomous systems under uncertainty and dynamic environments	GIUSEPPE NOTARSTEFANO	ALESSANDRO MACCHELLI	Automatic Control and Operations Research	ING-INF/04	DEI
BETTI	CHRISTIAN	Modelling of Instruments transformers for digital twin applications in modern electric power network	ALESSANDRO MINGOTTI	LORENZO PERETTO	Electrical engineering	ING-INF/07	DEI
GOVONI	ANDREA	Manipolazione Robotica di Oggetti Deformabili	GIANLUCA PALLI	CLAUDIO MELCHIORRI	Automatic Control and Operations Research	ING-INF/04	DEI
MONTI	MELISSA	A multimodal study of the development of perceptual abilities in ASD	CRISTIANO CUPPINI	ELISA MAGOSSO e SOPHIE MOLHOLM	Biomedical engineering	ING-INF/06	DEI

IBES PhD Students 38° cycle (1° call)

Family name	Name	Research topic	Supervisor	Co-supervisor	Curriculum	SSD	Place
NEGRI	VIRGINIA	AI-based distributed measurements architecture in electrical power systems	ROBERTO TINARELLI	LORENZO PERETTO	Electrical engineering	ING-INF/07	DEI
PITTALA	LOHITH KUMAR	Development of dual and/or multi active bridge configurations and control	GABRIELE GRANDI	MATTIA RICCO	Electrical engineering	ING-IND/31	DEI
SICBALDI	MARCELLO	Wearable Systems for Monitoring and Analyzing Physiological Signals in older subjects	LORENZO CHIARI	ALESSANDRO SILVANI (DIBINEM) e LUCA PALMERINI (DEI)	Biomedical engineering	ING-INF/06	DEI

IBES PhD Students 38° cycle (PNRR call)

Family name	Name	Research topic	Supervisor	Co-supervisor	Curriculum	SSD	Place
ALINEZHAD	LIDA	Machine learning and radiomics for cardiac adipose tissue quantification	CRISTIANA CORSI	FRANCESCO MAFFESANTI e STEFANO SEVERI	Biomedical engineering	ING-INF/06	DEI/Maria Cecilia Hospital
ANJUM	SAEED	Development of mixed model-based and data-driven methods for robotic manipulation of unknown and deformable objects	GIANLUCA PALLI	CLAUDIO MELCHIORRI	Automatic Control and Operations Research	ING-INF/04	DEI
EUSEBI	ANDREA	Analysis and design of hybrid optimization and AI approaches for clinical research at "IRCCS Azienda Ospedaliero-Universitaria di Bologna"	ENRICO MALAGUTI	PAOLO TUBERTINI	Automatic Control and Operations Research	MAT/09	DEI/IRCCS Azienda Ospedaliero-Universitaria di Bologna
GUDALA	BHAVANA	Large power converter architecture studies and optimization on hardware configuration and control methods	VINCENZO CIRIMELE	GABRIELE GRANDI	Electrical engineering	ING-IND/31	DEI/Energy Technology srl

IBES PhD Students 38° cycle (PNRR call)

Family name	Name	Research topic	Supervisor	Co-supervisor	Curriculum	SSD	Place
	MAHRUKH	Sviluppo di sistemi per la generazione automatica di traiettorie ottime	CLAUDIO MELCHIORRI	GIANLUCA PALLI	Automatic Control and Operations Research	ING-INF/04	DEI/Sacmi
MICHELOTTO	FEDERICO	Optimization algorithms for complex decision systems	MICHELE MONACI	DANIELE VIGO	Automatic Control and Operations Research	MAT/09	DEI
OMODEI	NICOLÒ	Sviluppo di un sistema di raccolta automatica in ambito frutticultura	LORENZO MARCONI	NICOLA MIMMO	Automatic Control and Operations Research	ING-INF/04	DEI/Fields robotics
PEROZZI	MARCO	Sviluppo di un sistema robotizzato per la manifattura di parti in materiale composito	GIANLUCA PALLI	CLAUDIO MELCHIORRI	Automatic Control and Operations Research	ING-INF/04	DEI/Mind srl

IBES PhD Students 38° cycle (PNRR call)

Family name	Name	Research topic	Supervisor	Co-supervisor	Curriculum	SSD	Place
SAMADI KOHNEHSHAHRI	FARSHAD	Machine learning techniques for pattern and biomarker identification in patients with neurological pathologies	RITA STAGNI	ANDREA MERLO	Biomedical engineering	ING-IND/34	DEI/Sol et salus spa
TRAMALONI	ANDREA	Artificial Intelligence Methods for Complex Systems in Medicine and Biology	GIUSEPPE NOTARSTEFANO	ALESSANDRO MACCHELLI	Automatic Control and Operations Research	ING-INF/04	DEI
ZATTONI	LUCA	Analysis and design of hybrid optimization and AI approaches for clinical research at "IRCCS Azienda Ospedaliero-Universitaria di Bologna"	ENRICO MALAGUTI	PAOLO TUBERTINI	Automatic Control and Operations Research	MAT/09	DEI/IRCCS Azienda Ospedaliero-Universitaria di Bologna

Contacts

DEI - PhD Support office

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PhD Programme Director

Prof. Michele Monaci

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