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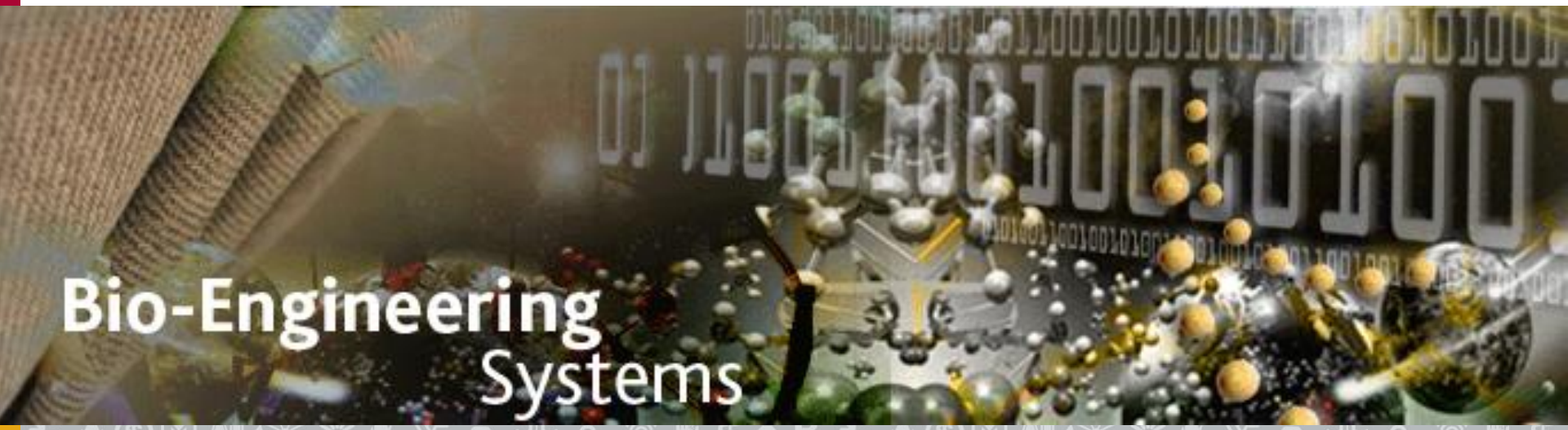
MIT Portugal



at MIT Portugal Program

Massachusetts Institute of Technology

FACULDADE DE CIÊNCIAS E TECNOLOGIA
UNIVERSIDADE NOVA DE LISBOA

TÉCNICO LISBOA

Universidade do Minho
Escola de Engenharia

CNC
CENTER FOR NEUROSCIENCE AND CELL BIOLOGY
UNIVERSITY OF COIMBRA, PORTUGAL

What is the MIT Portugal Program?

A large-scale international collaboration involving MIT and government, academia, and industry in Portugal to develop education and research programs related to engineering systems.

The high-level partnership represents a strategic commitment by the Portuguese government to Science, Technology, and Higher Education that leverages MIT's experience in order to strengthen the country's knowledge base through an investment in human capital and institution building.

MIT Portugal

Which Institutions are Involved?

Eight institutions and 14 research centers

- University of Minho/School of Engineering
- New University of Lisbon/Faculty of Sciences and Technology
- Technical University of Lisbon/IST
- University of Coimbra

- University of Porto/Faculty of Engineering
- University of Lisbon/Faculty of Sciences
- Technical University of Lisbon/ISEG
- ISCTE

MIT Portugal

Program Components

Education

World-class education programs in:

- **Bio-Engineering Systems**
- **Sustainable Energy Systems**
- **Engineering Design & Advanced Manufacturing**
- **Transportation Systems**

Research

Portuguese universities are collaborating with MIT faculty in program-affiliated research initiatives, in an effort to stimulate R&D within the industrial sector

Industry

The MIT Portugal Affiliates Program seeks to engage key partners in industry, foundation and private association sectors to reinforce Portugal's scientific and technological capacity in partnership with MIT

MIT connection

Most PhD students will spend 12-18 months research at MIT
MIT faculty provide extensive lecturing in Portugal
MIT faculty co-advisor on PhD dissertation committee

MIT Portugal

Bio-Engineering Systems

GOALS

- Educate a new generation of leaders in bioengineering technical innovation through inter-institutional post graduate training and research opportunities
- Create new knowledge through research and development
- Promote industrial, health-care and environmental biotechnology education and research that makes it possible for the creation of new start-ups and to implement new models of interaction between universities and enterprises, government, and society

EDUCATIONAL PROGRAMS

A **PhD Program** and **Advanced Study Course** (Executive Master) to prepare students to:

- Master fundamental understanding of physical, chemical and biological engineering, computational systems, and (bio)medical technologies
- Understand the innovation path to translate academic research to practice
- Creatively solve complex problems and demonstrate innovative systems thinking to provide leadership in academia, industry, and government

MIT Portugal

Bio-Engineering Systems

RESEARCH

- Bioengineering Systems: Innovation, Management & Policy
- Bioprocess Engineering
- Stem Cell Engineering
- Computational Biosystems & Synthetic Biology
- Biomedical Devices & Technologies: Human and robotic collaboration and human brain interfaces
- Nanobiotechnology, Biomaterials

Bio-Engineering Systems

PhD and Advanced Study programs

PhD:

- 4 years
- ~1 year of classes in either modular-intensive format
- All materials, lectures and activities in English
- Entering class of ~ 20, distributed among Portuguese institutions
- Teaching by Portuguese and MIT faculty (in person and distance learning)
- Most students do 12-18 months research at MIT and have MIT co-advisor

Advanced Study program (Executive Master):

- 1 year program mostly for professionals
- Comparable to first year of PhD lectures plus additional activities

Bio-Engineering Systems

Education

Courses:

Core modules (mandatory)

- Introduction to Technical Innovation
- Bioprocess Engineering
- Cell & Tissue Engineering
- Computational Biosystems Science & Engineering

Elective Modules (choose 2)

- Principles and Practice of Drug Development
- Nanobiotechnology and Biomaterials
- Biomedical Devices and Technologies
- Neuroscience

\+ Lab Rotations
Leadership Development
Innovation-Teams Project

MIT Portugal

Bio-Engineering Systems

Integration to the Program

Some representative activities and resources:

Team-building and leadership trips

Pre-term modules

Research workshops with MIT students and faculty

Social networking and collaboration across focus areas

Industry connections and internship opportunities

MIT Portugal

Bio-Engineering Systems

Admissions and scholarships

PhD:

- Integrated Masters or MSc required
- **Students in final year of integrated masters may apply now**

- Deadline to apply for PhD: March 31, 2013
- PhD: response by Apr. 15, 2013, or earlier for top candidates
- PhD: automatic consideration for scholarships

Executive Master:

Deadline to apply: June 15, 2013

www.mitportugal.org

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