



Faculty of Telecommunication, Informatics and
Biomedical Engineering.

Center for Neurosciences Studies, Images and Signal Processing (CENPIS)
Doctoral Program in Biomedical Engineering

Santiago de Cuba, May 13, 2019.

CALL FOR OPENING OF THE 2019 EDITION (SECOND EDITION)

The Doctoral Committee of the Biomedical Engineering Program at the *Universidad de Oriente* (UO), invites professionals interested in their doctoral training to enter the Second Edition of this Program, which will begin on September 30, 2019.

Bearing in mind that the current fundamental challenge of universities is to generate qualitative changes in their faculties and, in general, in graduates, this call aims to strengthen and accelerate the training of university professors and researchers at the highest scientific level in the field of medical technologies.

The Doctoral Program in Biomedical Engineering responds to the line of research of the *Universidad de Oriente* called: "Development and application of technologies and services for the improvement of human health". The research lines of the program are:

- Line 1: Design of biomedical technologies
- Line 2: Analysis of biosignals and biosystems using methods and computational tools
- Line 3: Medical imaging and computer vision systems
- Line 4: Electromagnetic field: Characterization and applications to medicine

Graduates of the PhD program in Biomedical Engineering will be able to generate innovative knowledge to develop technologies, products, tools, methods and methodologies relevant to the health sector (human, animal, plant, environmental) showing ethical and humanistic competences and values. In addition, they will be able to: a) design and execute experiments, from the identification of problems to the interpretation of results; b) Critically analyse the results and data with advanced tools; c) make decisions with scientific criteria and with critical thinking in their practice as a researcher, following the legal provisions, ethics and official regulations; d) to teach Biomedical Engineering (and other related careers) at the undergraduate and graduate levels; e) act as scientific leaders in research teams/projects, develop and innovate biomedical technologies, and f) publish scientific and technological results in national and international books, journals and conferences.

ENTRY REQUIREMENTS

Those interested should deliver, from 8:30 a.m. to 12:00 m, in the Commission of Scientific Degrees of UO (to: Luz Belkis Vaillant Kindelan, luz.belkis@uo.edu.cu) the following documents:

- Personal letter to program coordinator, explaining the reasons for requesting enrolment in the doctorate. Optionally, the candidate can place the research line of interest to develop the research.
- Legalized (authenticated) photocopy of the university and master's degree (if applicable). If the title has been issued abroad, it must be duly legalized until the instance of the Cuban consulate in the corresponding country.
- Curriculum Vitae, emphasizing its academic, scientific and technological trajectory in areas related to the doctoral program of Biomedical Engineering.
- Photocopy of the identity card and passport for foreigners.
- Letter of authorization and commitment to support the work centre.
- Two photos.
- Personal data model (only the PERSONAL DATA PATH section)

DURATION OF THE PROGRAM: The Edition is scheduled for four years, which includes the period of essential theoretical-methodological training in Biomedical Engineering, the research training of the applicant and the preparation, pre-defence and defence of the thesis.

NUMBER OF VACANCIES: 10

ACTIVITIES CALENDAR

With a view to starting Doctorate activities in October of 2018, the calendar of activities foresees:

1. Dissemination of the Call: **from May 13 to 31, 2019.**
2. Receipt of the documentation of the interested parties (in the Office of Commission for Scientific Degrees of UO, Julio Antonio Mella Campus): **from June 3, 2019 to June 14, 2019.**
3. Entrance exams: **from June 18 to 28, 2019**, from 8:30 am to 12:30 pm (in the CENPIS graduate classroom, Julio Antonio Mella Campus). In the case of the residents abroad, the exams can be done in this same period by videoconference (previous coordination of the candidate with the doctorate committee) or in person **before September 30, 2019** (except from July 8 to August 26, 2019).

- Preliminary Draft Doctoral Research: **June 18, 2019**
- Mathematics: **June 19, 2019**
- English: **June 21, 2019**
- Programming: **June 25, 2019**
- Electric Circuits: **June 28, 2019**

The Doctoral Committee will check the knowledge in English language (understanding of scientific literature and original technique in English), basic concepts of: (a) mathematics (differential and integral calculus, linear algebra), (b) structured programming in C language (structure of a program, types of data, most used functions: flow control, data input/output, working with files) and electrical circuits (networks theorems in DC and AC, in the latter case: with and without dependent sources). This last exam is not compulsory, but students who do not have basic knowledge must pass a preparatory course on basic elements of Electric Circuits and Electronics. Each candidate must present his PhD research project (WORD or PDF document in free format with no more than 2 pages) where the candidate describes what he/she would like to do in the doctoral research.

4. Definition and publication of registration: **from July 1 to 5, 2019.**
5. Realization of official registration for the approved candidates: **from July 8 to 12, 2019**, from 8:30 a.m. to 12:00 m, in Commission of Scientific Degrees of UO, Julio A. Mella Campus.
6. Meeting of approved candidates with the doctorate committee and supervisors: **September 16, 2019**, 2:00 pm (CENPIS postgraduate classroom).
7. Start of academic activities: **September 30, 2019**, 8:30 a.m. (CENPIS postgraduate classroom).

NOTE: In the case of candidates residing outside of Cuba, the delivery of documentation may be extended **until September 23, 2019** (one week before the official start of the program's official activities). Once the student begins the doctoral studies, he/she must accumulate a minimum period of stay in Cuba equal to one year, within the four total years.

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