



**VIU
PhD
academy
GLOBAL
CHALLENGES
INITIATIVES:
SUSTAINABLE
energy**

**July 9-13, 2018
Venice International University
Isola di San Servolo, Venice**

International PhD Academy

Venice International
University

Sustainable Energy

9 – 13 July, 2018

Scientific coordinator:

Prof. Ana C. Tavares,
Institut National de la
Recherche Scientifique
(Canada)

Global Challenges Initiatives

Energy need and consumption in our modern lives are constantly increasing and the search for reliable alternatives to the current energy production and storage technologies is intensifying. Economic prosperity, quality of life, health and our well-being, in general, are directly correlated with the availability of affordable energy. Yet, negative impacts of the production and use of conventional energy sources on the environment, and on the health of individuals, become increasingly evident with every day. Addressing this challenge to produce clean cost-effective renewable energy, will most likely require breakthroughs in materials science and nanotechnology.

The goal of this Academy is to facilitate several forums for learning, discussion and exchanging ideas to address the challenging issues in Renewable Energy. More specifically, the activities will cover: i) production, integration and utilization of renewable energy; ii) state of the art of electrochemical devices for production, storage and utilization of electrical energy; iii) recent advances in synthesis and characterization of related materials and their energy applications; as well as iv) soft skills development. These activities are particularly aimed to expose PhD candidates to the challenges in Renewable Energy. Equipped with this knowledge, participants will become ambassadors and defenders of technologies for sustainable development in their environment.

This PhD Academy will be led by:

- INRS, Québec/Canada (Prof. Ana Tavares)
- University of Rome "Tor Vergata" (Prof. Stefano Cordiner)
- Boston College, USA (Prof. Dunwei Wang)
- University of Bordeaux, France (Dr Laurence Croguennec)

Description

The second of the VIU Global Challenges Initiatives relates to different aspects of Renewable Energy use, production and integration, as well as challenges associated with Materials Science and Nanotechnology. The topics will be discussed in abundantly illustrated lectures involving dialogue among scholars from Canadian, Italian, French and US universities.

Seminars, oral and poster presentations, a soft skills session are among the activities of the school.

Topics

Energy

- General overview: integration of different modes, role of transportation, energy efficiency
- Utilization of energy (Distributed Generation, smart grids, integration of renewables).
- Production of energy (biomasses, wind, geothermal, etc.).

Electrochemical devices

- Electrochemical production and Energy storage (Fuel Cells, Batteries, PV)
- Electrochemical conversion of chemicals to add-value products (electrolyzers)

Materials

- Chemical and Physical synthesis of nanostructured materials and thin films.
- Advanced characterization

Development of soft skills

- eg. Science communication, presentation skills

Learning outcomes for participants:

After attending this PhD Academy, participants will be familiar with:

- energy challenges facing humanity
- interdisciplinary approaches to complex problems;
- enabling knowledge exchange;
- working in group settings;
- debating and targeting consensus.

Level of students and suitable fields of study

This PhD academy is offered to PhD students, Post-doc in Natural sciences & Technology or any other discipline related to Renewable Energy. Open to candidates from all the VIU Member Institutions.

Financial support is available to successful candidates from the Member Universities to

support international travel and accommodation costs. Students from VIU member universities do not have to pay any fees.

Applications from excellent external candidates will be considered and evaluated, although these candidates will pay fees and are not eligible for financial support.

The final program will be available on the VIU website.

Applications

March 2 – April 2, 2018 via the VIU website.

Applicants must submit the application form, a letter of motivation – which should include a brief description of the candidate's PhD research project, a curriculum vitae and an abstract of the poster.

PhD Students in EU universities may be eligible for Erasmus+ funding. Refer to international offices in home universities or contact VIU Erasmus office: erasmus@univiu.org.

Dates

The PhD Academy will take place over 5 days, July 9-13, 2018.

VIU International PhD Academies

Venice International University holds two International PhD Academies each year. They are intensive training opportunities open to PhD candidates from the member universities of VIU.

A PhD is the highest diploma awarded by universities in the world, and PhDs are naturally expected to take on major responsibilities in their professional life. Apart from the disciplinary scientific skills acquired during doctoral study and research, it is the ability to respond to the requirements of creativity, innovation and project management, that produce the significant added value of a doctoral degree.

Whether they will work within or outside academia, PhDs must be able to develop a forward-looking vision of the challenges they have to face. The interdisciplinary approach of all VIU activities is adopted also in the PhD Academy, where the participants have the opportunity to meet their peers from all over the world, and to tackle transversal topics.

Location

The campus of Venice International University is located on the island of San Servolo, in Venice.



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