VIU PhD academy GLOBAL CHALLENGES series: WATER

May 8-13, 2017
Venice International University
Isola di San Servolo, Venice

Venice International University

International PhD Academy

Venice International University

Global Challenges Series: WATER

8-13 May, 2017

Scientific coordinator: Prof. Alain Boudou, Université de Bordeaux (France)

Global Challenges Series
This opportunity is open to PhD candidates from the member universities of VIU. Each intensive PhD Academy will focus on a major societal challenge faced by humankind today, which will be addressed via multidisciplinary approaches, involving high-level speakers selected among the VIU member institutions but whose remarks will be adapted to a broad cohort of the VIU community.

A PhD is the highest diploma awarded by Universities in the world, and doctors are naturally expected to take on major responsibilities in their professional life. Apart from the disciplinary scientific skills acquired during a PhD preparation, it is the ability to respond to the requirements of creativity, innovation, project management and the ability to step aside that produce the significant added value of a PhD. Whether they are inside or outside academia, doctors must be able to develop a forward-looking vision of the challenges they have to face.
Nowadays, the world has to face several global world challenges. Increasingly, it will be necessary for PhD students to possess, together with their area of specialization, knowledge of these great challenges to complete and diversify their training and increase their adaptability during their future careers.

In order to help PhD candidates develop a scientific vision of world global issues, the University of Bordeaux (France) and INRS (Québec/Canada) jointly propose a PhD Academy series entitled “Global Challenges Series” aiming at bringing together specialists of issues from academia, the socio-economic world and local government to share different points of view.
The Global Challenges Series is based on a series of International PhD academies in relation to major world societal challenges, using science to solve the problems facing humankind. They will be addressed via multidisciplinary approaches, involving high-level speakers selected among the VIU Member Institutions, whose talks will be adapted to a broad cohort of the VIU community.
The 2017 edition will focus on Water.

The 2017 (1st) edition of the Global Challenges Series will be led by:
- Université de Bordeaux, France
- INRS, Québec/Canada

In partnership with:
- CNR, Italy
- Università Ca' Foscari Venezia, Italy
- Università degli Studi di Padova, Italy
- Università IUAV di Venezia, Italy
- Duke University, USA
- KU Leuven, Belgium
- Université de Lausanne, Switzerland

Description
The first Global Challenge proposed for 2017 relates to the issue of water, addressing different aspects: ecological, eco-toxicological, economical, sociological, cultural, political, juridical, public health, etc.
They will be discussed in abundantly illustrated lectures involving real dialogue among participants, round-tables and concrete indoor/on-site examples:

Water on earth
physicochemical states, inventory at the planetary level, water cycle at different scales.

Ecological approach to the structure and functioning of aquatic systems
concrete examples from freshwater (rivers, lakes, underground waters) and marine systems.

Global warming and effects on water resources
extreme events, expected impacts on human activities linked to water (agriculture, urbanization, transport, tourism, etc.), availability of drinking water resources, health and economic issues.

Pollution of aquatic systems
diversity of sources, emerging contaminants, eco-toxicological mechanisms (systemic approach), impacts on biodiversity and productivity, risks for human health via water and food consumption, cultural and economic issues.

Sustainable management of water resources
monitoring networks, drinking water standards, environmental law, governance of water (e.g. European directives and regulations: WFD, REACH), shortages and conflicts.

Management of industrial, agricultural and urban effluents
restoration strategies against overabundance of nutrients and contaminated sites (heavy metals, organic pollutants) and re-development issues.

The Venice lagoon as a case-study site
history of Venice from the 5th century, ecological characteristics of the lagoon, main causes of dysfunctioning, control and restoration strategies. Main questions about its future.

The city of Venice and its lagoon were one of the most studied environments in the world. This coastal zone (550 km^2) results from complex relations between the physical/biological environment and the socio-economic and cultural issues. Man's interventions have occurred over the centuries.
Several are actually threatening the future of the lagoon, especially through the rising water (e.g. Venice's great flood – acqua alta - in November 1966, which damaged cultural heritage and homes when the level of the lagoon rose 2 meters above its normal level), the positive/negative balance of sediments and the urban and industrial pollution.

Map data ©2017 Google

A number of important national and International programs were set up in the lagoon to analyze the physical, chemical and biological factors that control its functioning and its evolution. The Italian research institutions involved (Ca' Foscari and Padova universities, CNR/ISMAR, CORILA consortium, …) will present the current state of knowledge from an integrated and multidisciplinary point of view, conscious of the environmental fragility and accelerated evolution forced by man-driven activities that characterize Venice and its lagoon.

Methodology
Several types of activities will be offered: conferences (lectures), round-tables/discussions involving humanities experts and social scientists, visits to laboratories (indoor and outdoor experiments, specific equipment), the MOSE project - system of mobile barriers for the defense of the lagoon from floods, monitoring networks on the drainage basin and the lagoon, water treatment plants.

Level of students and suitable fields of study
PhD students will be recruited, emphasizing the diversity of curriculum, from areas ranging from the humanities and social sciences to science and technology sectors, including health. Open to candidates from all the VIU Member Institutions.

The final program will be available on the VIU website from February 1, 2017.

Applications
February 7 – 28, 2017
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 a photo.

viu PhD academy

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