

Neuroendocrine integration leading to behavioural consequences

Overview

Various Neuroscientific mechanisms controlling diverse aspects of biological processes have been of great interest to the scientists all over the globe. Neurosciences is not only a branch of biology but an interdisciplinary science integrating chemical, biological, philosophical and psychological fields to impose a better understanding of nervous control in life activities. As such Neurobiology, a branch of neurosciences, studies cells of the nervous system and the organization of these cells into functional circuits that process information and mediate behavior. This is achieved by studying the interplay of various chemical messengers secreted by the neurons like Neurotransmitters, neurohormones, neuropeptides, catecholamines and other non-proteinaceous entities. Neurobiology also studies how the neurons mediate the communication between the external and the internal environment of the individual and The knowledge of neurobiology has enabled scientists to understand the primary causes of physiology and behaviour of animals.

This course is organized in two modules that should be taken together. The topics include understanding the role of CNS in perceiving the environmental stimuli and translating this information to the peripheral endocrine system, an introduction to the nervous system, emphasizing the structural and functional organization of brain, to understand the interaction between the nervous system and the endocrine system, and their communication including the biological features of the cells involved to gain an insight about the neuroendocrine disorders, To understand the neuro-endocrine control of animal behavior and and techniques employed to study neurobiology such as Visualizing mRNA in brain sections: an introduction to *in situ* hybridization methodology, Neurohistochemistry: to visualise proteins in the brain, *In vivo* hormone analysis will be provided to the participants to gain a better understanding of the field.

Course participants will learn these topics through lectures and hands-on experiments.

Modules	November 21-25, 2016 Maximum Number of participants: 30
Who can attend	<ul style="list-style-type: none">• Student at all levels (BSc/MSc/MPhil/PhD) or Faculty from reputed academic institutions and technical institutions• Professionals from Health Sciences and personnel from related field.
Fees	The participation fees for taking the course is as follows: Students from Savitribai Phule Pune University: No fees Students from Academic Institutions outside Savitribai Phule Pune University : Rs. 1000

The Faculty



Deborah Power is currently the director of the CCMAR-CIMAR Associate Laboratory, Centre of Marine Sciences, University of Algarve, Gambelas, Faro, Portugal. Presently she is the editor in chief for the Journal General and Comparative Endocrinology. A total of 299 publications has been published by her in reputed journals with high impact factor. In 2012 she was appointed honorary doctor at the Faculty of Science, University of Gothenburg. Her research points out that a good knowledge base has been established about fishes and their physiology. She wants to convert this knowledge into information in the field of fish farming like how fish's environment and food can be improved to make them grow better. Her main target is to know how the whole organism reacts to changes in its environment as it is very complex. She is a member of national and international neuroscience organizations such as European society of comparative endocrinology and Neurosciences.

Course Coordinator

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