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INCITE- Insect Clock Initial Training Experience

Organisms that inhabit the surface of the Earth have evolved an endogenous 24-hour clock that infiltrates every level of biological organisation from the molecular to the ecological. This biological timer is a critical adaptation to living on a rotating planet with predictable daily and seasonal cycles of light and dark, warmth and cold. The fruitfly *Drosophila melanogaster* has provided the model system by which the highly conserved genetic and molecular basis of animal rhythmicity was initially dissected, winning a Nobel Prize in 2017 to its discoverers. Our network INCITE (INsect Clock Initial Training Experience) will provide state-of-the-art doctoral training to doctoral candidates (DCs) in insect molecular chronobiology using a comparative approach in which the circadian clock will be studied from a variety of perspectives. These will include the recruitment of the clock for i) insect seasonal 'hibernation' or diapause, a critical life-history feature that has important implications for range expansion under global warming, ii) in pollination, ii) in pest control, iv) in optimising the development of insects mass-reared as a protein source for human/animal consumption – a sustainable model for agriculture and vi) in fundamental circadian biology of the model insect, *D. melanogaster*. In addition to their research projects, DCs will be seconded to partners both academic and industrial within the network and be further exposed to a variety of successful well-defined and time-tested courses that supplement those already offered at their local institutions, and will enhance and develop their scientific, entrepreneurial and transferable skills. INCITE will generate highly-trained, mobile and employable graduates that will be welcomed both in academia and industry.

Coordinator: Biologické Centrum Akademie Věd České republiky, veřejná vědecká instituce

Beneficiary: Università degli Studi di Padova

UNIPD Supervisor: Rodolfo Costa

Department: Biomedical Sciences – Institute of Neuroscience (CNR)

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Find out more: <https://cordis.europa.eu/projects/en>