Environmnental stresses in a scleractinian coral-dinoflagellate symbiosis: a genomics approach

Fact Sheet

Project Information

ESCOR

Grant agreement ID: 220532

Project closed

Start date
1 September 2008

End date
31 August 2011

Funded under
Specific programme "People" implementing the Seventh Framework Programme of the European Community for research, technological development and demonstration activities (2007 to 2013)

Total cost
€ 230 256,08

EU contribution
€ 230 256,08

Coordinated by
UNIVERSITE PIERRE ET MARIE CURIE - PARIS 6
France

This project is featured in...

Objective

The continued development of M. Pernice as an independent researcher in marine science ultimately depends on his building a strong scientific background and a network of colleagues who are both international in representation and have multidisciplinary expertise. Pursuing a fellowship with an Outgoing phase in the Centre for Marine Studies (Australia) and Return phase in the UMR 5178 (France) offers the unique opportunity to create such a synergy between the experience in research on both climate change and symbiosis. The great success of corals as ecosystem engineers lie in their extraordinary ecology and physiology that is based on a mutualistic symbiosis between a photosynthetic dinoflagellate algae (zooxanthellae) and the anthozoan animal host. Within the last several decades, scleractinarian corals have been affected by the phenomenon of mass coral bleaching, caused by the breakdown of the symbiosis between the cnidarian host and the photosynthetic symbiont and undergo a continuous global degradation in relation to global climate change. For the first time, this project proposes to specify the effects of elevated temperature and ultraviolet light on the transcriptome of the symbiotic complex between the coral Acropora millepora and the zooxanthellae Symbiodinium sp. The effects of environmental stress on both host and symbiont genes' expression will be characterised by using cDNA microarray, RT-PCR and Fluorescent In Situ Hybridization technics. By facilitating a multidisciplinary integrated approach (Climate change, Marine sciences, Physiology, Genomics) of the study of the marine organisms and their ecosystems, this study will enhance considerably the scientific excellence of the fellow at an international level. The postdoctoral training delivered by this project will ensure that a promising young European researcher is supported and develops futher technical skills and experience to study the impact of global climate change on coral reef ecosystems.

Fields of science (EuroSciVoc)

natural sciences > biological sciences > **genetics**

natural sciences > biological sciences > ecology > **ecosystems**

natural sciences > biological sciences > biological behavioural sciences > ethology > **biological interactions**

natural sciences > earth and related environmental sciences > **oceanography**

natural sciences > earth and related environmental sciences > atmospheric sciences > climatology > **climatic changes**

Keywords

Climate change | Coral reefs | Genomics | Marine sciences | Physiology | Symbiosis

Programme(s)

FP7-PEOPLE - Specific programme "People" implementing the Seventh Framework Programme of the European Community for research, technological development and demonstration activities (2007 to 2013)

Topic(s)

PEOPLE-2007-4-1.IOF - Marie Curie Action: "International Outgoing Fellowships for Career Development"

Call for proposal

FP7-PEOPLE-2007-4-1-IOF
See other projects for this call

Funding Scheme

MC-IOF - International Outgoing Fellowships (IOF)

Coordinator

UNIVERSITE PIERRE ET MARIE CURIE - PARIS 6

EU contribution

€ 230 256,08

Total cost

No data

Address

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Activity type

Higher or Secondary Education Establishments

Links

Contact the organisation Website
Participation in EU R&I programmes
HORIZON collaboration network

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