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ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA
Department of Biological, Geological and Environmental Sciences
Director: Davide Pettener

CoralWarm project coordinators:

Stefano Goffredo and **Giuseppe Falini**, *University of Bologna,* Italy

Zvy Dubinsky, *Bar-Ilan University,* Israel

in collaboration with Master's Degree Course in:

- Biodiversity and Evolution
- Marine Biology
- Analysis and Management of the Environment
- Sciences and Management of Nature
- Geology and Territory
- Bioinformatics

present

CORALS AND CORAL REEFS IN SPACE AND TIME

speakers

Mary Alice Coffroth and Howard Lasker

Department of Geology
Graduate Program in Evolution, Ecology and Behavior
University at Buffalo, USA

University at Buffalo
The State University of New York

Monday, May 5, 2014, 15:00, Department of Biological, Geological and Environmental Sciences, Via F. Selmi 3, 40126 Bologna. Main hall "Comparata"

Hosted by: Stefano Goffredo, *Marine Science Group*, *Department of Biological, Geological and Environmental Sciences*; s.goffredo@unibo.it

Mary Alice Coffroth

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Symbiont acquisition in cnidarian-algal symbioses

The symbiosis between algal symbionts within the genus *Symbiodinium* and corals form the basis of one of the most diverse ecosystems on earth – the coral reef. In the face of extensive reef degradation due to global warming and other anthropogenic effects, understanding the dynamics of this mutualism is critical. Although there is variation in the symbiont type(s) initially acquired by these cnidarian hosts, as the symbiosis develops, specific host-symbiont pairings become apparent in most host species. Knowledge of these dynamics in the ontogeny of these symbioses will enable us to predict the effects of increased sea surface temperatures and other perturbations to the reef ecosystem. In this study, we examined the role of various factors (environment, host genotype, etc.) in the establishment of symbioses in three cnidarian species: a common scleractinian coral (*Orbicella faveolata*), a scyphozoan (*Cassiopea xamachama*) and a common octocoral (*Briareum asbestinum*) to contribute to the understanding of the drivers of this selection.

Howard Lasker

Department of Geology, Graduate Program in Evolution, Ecology and Behavior, University at Buffalo, Buffalo New York, USA

Connectivity of coral reef populations: you can't always get where you want.

Connectivity among populations is scale dependent. The wide distribution of Caribbean reef species demonstrates connectivity but the magnitude and temporal scale of connectivity is dependent on both the organism's life history and oceanographic conditions. The Caribbean octocoral *Antillogorgia elisabethae* broods negatively buoyant larvae on the surface of the colony. Data on recruitment rates and population structure suggest dispersal of <100m. Genetic analyses based on microsatellites demonstrate similar dispersal distances, a pattern of and isolation by distance among contiguous reefs and distinct structure between more isolated reefs. While connectivity reduces genetic isolation among neighboring populations and may be important in metapopulation dynamics, it probably has limited effects on local population dynamics.