DIPARTIMENTO DI CHIMICA, BIOLOGIA E BIOTECNOLOGIE
Università degli Studi di Perugia

Via Elce di Sotto 8 - 06123 Perugia, Italy
Direzione: + 39 075 585 5634
Segreteria Amministrativa: + 39 075 585 5504/5505 - Fax 5624
Segreteria Didattica: + 39 075 585 5633/5643

AVVISO DI SEMINARIO

Lunedì 18 Ottobre 2021 alle ore 15:00
Aula 1 ex edifici biologici del Dipartimento di Chimica, Biologia e Biotecnologie
Ursula Scharler
della University of KwaZulu-Natal (UKZN), Durban, South Africa.
<scharler@ukzn.ac.za>
terrà un seminario dal titolo:

Extreme events shape biotic assemblages in South African estuaries

Estuaries are, by their nature, very variable environments. They connect rivers to the sea, and depending on their morphology provide more, or less, extreme aquatic environments to their biota. Estuaries with complete salinity gradients (0-35) typically feature also a gradient of their physico-chemical environment, and thus provide different niches to their biota. Typical estuarine species occupy the entire gradient, and the communities are enriched with marine taxa near the estuarine inlet to the sea, and with freshwater taxa near the head of the estuary near its river.
South Africa is subject to seasonal variability of rainfall and changes on interannual (2-8 years), quasi-decadal (8-13 years) and inter-decadal (15-28 years) timescales, as well as directly by el Niño events. This shapes the riverine flow and thus the freshwater contribution to estuaries which in turn determines the extent of the salinity gradient together with tidal intrusion. When an estuary is closed off from the sea, which occurs during the low rainfall season or during drought periods, estuaries can turn more or less saline, depending on morphology and riverine connection. Prolonged droughts thus turn estuaries into freshwater lagoons or hypersaline bodies of water, with usually dramatic changes in the physico-chemical state and thus their biotic assemblages. The consequences are changes in biodiversity, biomass or productivity. This talk illustrates some of the changes in estuaries and presents the necessary mitigation measures during, and outside, of extreme events to preserve estuarine ecosystems.

Tutti gli interessati sono invitati a partecipare

Dr Alessandro Ludovisi

DIPARTIMENTO DI CHIMICA, BIOLOGIA E BIOTECNOLOGIE
Università degli Studi di Perugia

Via Elce di Sotto 8 - 06123 Perugia, Italy
Direzione: + 39 075 585 5634
Segreteria Amministrativa: + 39 075 585 5504/5505 - Fax 5624
Segreteria Didattica: + 39 075 585 5633/5643

UM Scharler biography:

Ursula Scharler is Professor at the School of Life Sciences, University of KwaZulu-Natal (UKZN), in Durban, South Africa. Her main fields of research are systems analysis and ecosystem modelling on estuarine, marine and socio-economic systems with a focus on variability, resilience, extinctions and hierarchical scales, and how knowledge on natural ecosystems can be used to structure economic systems. Her ecological research concentrates on climate and human infrastructure effects on South African estuaries and nearshore marine environments. She enjoys collaborations in South Africa, Europe, the USA, Australia, India and China. Teaching activities include courses on estuarine and marine biology, statistics for biologists, ecosystem modelling and supervision of MSc and PhD research projects.

Ursula serves several journals in an editorial capacity which are *Ecological Modelling*, *Environmental Research Letters*, *Community Ecology* and *Frontiers of Marine Science*. She has been involved in works of reference and book projects, including the *Encyclopedia of Ecology* (Elsevier), *Treatise of Estuarine and Coastal Sciences* (Elsevier), *Handbook of Global Change* (Springer) and *Aquatic Food Webs* (OUP). Further she contributes advisory to the South African governmental response to the COVID crisis, and chairs the South African National Member Organisation committee to the International Institute of Systems Analysis (IIASA) in Laxenburg, Austria.