

2018 FRESKO Summer school

Foraminiferal Research Consortium



Living benthic foraminifera in coastal environments Integrated Experimental Approaches



10th - 15th of June 2018
LPG, Angers University (France)

Description:

The 2nd edition of the FRESKO Summer School will address a wide array of innovative interdisciplinary research tools used in coastal foraminiferal studies. The summer school offers a combination of theoretical and practical sessions and a field excursion.

The topics covered focuses on foraminiferal biology, ecology and the biogeochemical functioning of coastal environments. The main goal of this edition is to familiarize the participants with multidisciplinary experimental and field-based tools to study highly complex coastal environments, focusing on the role of foraminifera in biogeochemical cycles.

Sunday, June 10 th , 2018 (17:00-20:00): Welcome speech, course presentation & ice breaker party		
Monday, June 11 th	8:30-12:00	Lecture: Overview of biological aspects of foraminifera Generalization - What is a foraminifer? (J. Bernhard, WHOI, USA) Reproduction and life cycle (H. Nomaki, JAMSTEC, Japan / M. Schweizer, LPG, University of Angers, France) Trophic mechanisms (H. Nomaki, JAMSTEC, Japan) Other physiological functions: growth, locomotion... (P. Nardelli / T. Jauffrais, LPG, University of Angers, France)
	13:30-17:30	Lecture: Coastal benthic foraminifera: habitats and ecology Methods to study living foraminifera (J. Bernhard, WHOI, USA) Ecology and microhabitat (F. Jorissen, LPG, University of Angers, France) Mudflat functions (B. Jesus, MMS Nantes) & Foraminiferal distribution in transitional environments (E. Geslin, LPG, University of Angers, France) Field trip presentation (H. Howa, LPG, University of Angers, France)
Tuesday, June 12 th	5:30-12:30	Field trip, Bay of Bourgneuf (La Couplasse) (French Atlantic coast): Sampling cores / Functioning of Bourgneuf Bay
	14:00-18:00	Practical courses in groups - Group A: Core sampling preparation – CTG labelling – Sieving - Group B: Living foraminifera – Respiration rates - Group C: Sediment geochemistry – O ₂ profiling
Wednesday June 13 th	8:30-12:00	Lecture: Characterisation of the foraminiferal microhabitats: Early diagenesis Early diagenesis (E. Metzger, LPG, University of Angers, France & N. Risgaard-Petersen, University of Aarhus, Denmark) Intertidal environments (E. Metzger, LPG, University of Angers, France)
	14:00-18:00	Practical courses in groups - Group C: Core sampling preparation – CTG labelling – Sieving - Group A: Living foraminifera – Respiration rates - Group B: Sediment geochemistry – O ₂ profiling
	18:30-20:00 Social event	
Thursday, June 14 th	8:30-12:00	Practical courses in groups - Group B: Core sampling preparation – CTG labelling – Sieving - Group C: Living foraminifera – Respiration rates - Group A: Sediment geochemistry – O ₂ profiling
	14:00-18:00	Lecture: Metabolism and molecular biology - Molecular biology and DNA barcoding (M. Schweizer, LPG, University of Angers, France) - Microaerophilic metabolism (Endo/ectosymbionts, deep kleptoplasty) (J. Bernhard, WHOI, USA) - Heterotrophic anaerobic metabolism (denitrification) (N. Risgaard-Petersen, University of Aarhus, Denmark) - Mixotrophic metabolism (T. Jauffrais / E. Geslin, LPG, University of Angers, France)
Friday, June 15 th	8:30-12:00	Synthesis of practical courses (Personal work by group) - Data analysis and interpretation - Demonstration of Imaging PAM (B. Jesus, MMS Nantes)
	14:00-18:00	Presentation by group and open discussion