AzSS - Azores Summer School

in

Marine Island (Palaeo)Biogeography

The AzSS – Azores Summer School follows the need and ambition to create a complete, high-quality multidisciplinary course on **Marine Island (Palaeo)Biogeography**, gathering internationally recognized experts to present state-of-the-art knowledge in diverse areas. Over the past two decades, multidisciplinary studies on recent and fossil coastal marine Macaronesian taxa have culminated in the publication of an in depth marine biogeographic theory, contributing to a better understanding of the evolutionary processes and patterns in marine groups inhabiting these remote regions.

The first edition of the AzSS will be held at Santa Maria Island (Azores Archipelago, Portugal) from 6 to 19 of August, 2021, aiming to grow in the next years into the most complete and unique course on Marine Island (Palaeo)Biogeography worldwide. This is a unique opportunity to enhance proliferous discussions on island ontogeny, global marine biodiversity patterns, and island marine biogeography among enthusiastic researchers. For 12 days, participants will experience life at the oldest island of the Azores and be able to observe in loco the results of more than 20 years of fieldwork at Santa Maria. The AzSS 2021 integrates lectures, symposia, and field trips, benefiting from the extraordinary geological diversity of the island and expertise of the invited lecturers. The course, conducted by a panel of international senior scientists, widely recognised on their fields of expertise and vibrant early-career researchers, will address multiple areas of knowledge, such as the geological evolution of islands, study of past organisms and environments, statistical analyses of collected data, evolutionary processes and patterns, and will finish with the historical and contemporary forces shaping the marine biodiversity in remote volcanic oceanic archipelagos. The main goal of the AzSS is to provide the participants outstanding tools and unconventional knowledge from several research areas which, puzzled together, will allow for interpretation of large and fine-scale marine biogeographic processes and patterns in these extraordinary insular systems.

Venue:

The Azores Summer School in Marine Island (Palaeo)Biogeography will be held at **Santa Maria Hotel** - https://www.hotel-santamaria.pt/ - located nearby Vila do Porto, Santa Maria Island, in the Azores Archipelago, PORTUGAL (Fig. 1). Santa Maria has daily connections with mainland

Portugal (via Ponta Delgada airport in São Miguel Island) by SATA Air Açores, TAP air Portugal and Ryanair. There is also one direct flight connection from Lisbon at Saturday.
This 4-star Hotel is located at a walking distance of just 900 m from the airport and at 3km from Vila do Porto (Fig. 2).

Figure 1. Airport and location of Hotel Santa Maria, and Vila do Porto town, in Santa Maria Island. Azores Archipelago.

Figure 2. How to get to the Hotel Santa Maria, located at just 900 m walking distance (5€ taxi) from the airport.

Session Schedule - Time table of the AzSS – Azores Summer School in Marine Island (Palaeo)Biogeography

Week 1

	Friday (6 August) **day 1**	**Saturday, 7 August** **day 2**	**Sunday, 8 August** **day 3**	**Monday, 9 August** **day 4**	**Tuesday, 10 August** **day 5**	**Wednesday, 11 August** **day 6**	**Thursday, 12 August** **day 7**
AM 9:00-11:00		Tectonics ***João Duarte***	Seamounts and sediments around the Azores islands ***Neil Mitchell***	Submarine morphology of ocean island volcanoes ***Rui Quartau***	Formation and geological evolution of ancient seamounts and oceanic islands ***David Buchs***	Paleoceanography & Paleoclimate ***Antje Voelker***	Visit to the geologic and biological highlights of Santa Maria Island
AM 11:15-13:15		Seamounts: ecology and biodiversity ***Telmo Morato***	Seamounts and sediments around the Azores islands ***Neil Mitchell***	Submarine morphology of ocean island volcanoes ***Rui Quartau***	The stratigraphy of the Anthropocene ***Jan Zalasiewicz***	Taphonomy ***Alfred Uchman***	
13:15-14:30		Lunch	Lunch	Lunch	Lunch	Lunch	
PM 14:30-16:30	Arrival and Registration	Extinction and extirpation: the impact of glacial/interglacial cycles ***Sérgio Ávila***	Island Volcanism ***Adriano Pimentel***	Applied geochemistry and dating methods ***Sidney Hemming***	Geodiversity and Geoheritage ***José Brilha***	Ichnology ***Alfred Uchman***	
PM 16:45-17:45		Dispersal in the marine realm: evolutionary consequences ***Sérgio Ávila***	Island Volcanism ***Adriano Pimentel***	Applied geochemistry and dating methods ***Sidney Hemming***	Geodiversity and Geoheritage ***José Brilha***	Ichnology ***Alfred Uchman***	
	Dinner: free choice						
Evening Program	20:00-21:30 WELCOME PARTY Introduction and Social Networking						

Session Schedule - Time table of the AzSS – Azores Summer School in Marine Island (Palaeo)Biogeography

Week 2

	Friday, 13 August **day 8**	**Saturday, 14 August** **day 9**	**Sunday, 15 August** **day 10**	**Monday, 16 August** **day 11**	**Tuesday, 17 August** **day 12**	**Wednesday, 18 August** **day 13**	**Thursday, 19 August** **day 14**
AM 9:00-11:00	Palaeoecology of rocky shores ***Markes E. Johnson***	Fossil Echinodermata ***Patrícia Madeira***	Biogeography: patterns and processes ***Sérgio Ávila***	Palaeontology: Concepts and methods ***Adán Pérez-García***	Geological evolution of oceanic islands ***Ricardo Ramalho***	Marine (palaeo)biogeography ***Sérgio Ávila***	Visit to the palaeontological highlights of Santa Maria Island
AM 11:15-13:15	Palaeoecology of rocky shores ***Markes E. Johnson***	Fossil Vertebrates ***Adán Pérez-García***	Biogeography: patterns and processes ***Sérgio Ávila***	Sedimentary geology ***Michael Rasser***	Geological evolution of oceanic islands ***Ricardo Ramalho***	Marine (palaeo)biogeography ***Sérgio Ávila***	
13:15-14:30	Lunch	Lunch	Lunch	Lunch	Lunch	Lunch	
PM 14:30-16:30	Fossil Rhodoliths ***Ana Cristina Rebelo*** Fossil Bryozoa ***Björn Berning***	Statistical applications for biological field data ***Pedro Monterroso***	Speciation in the marine realm ***Rita Castilho***	Sedimentary geology ***Michael Rasser***	Marine (palaeo)biogeography ***Sérgio Ávila***	Marine (palaeo)biogeography ***Sérgio Ávila***	
PM 16:45-18:45	Fossil Mollusca ***Sérgio P. Ávila*** Fossil Crustacea ***Matus Hyzny***	Statistical applications for biological field data ***Pedro Monterroso***	Speciation in the marine realm ***Rita Castilho***	Carbonate sedimentary processes ***Michael Rasser***	Marine (palaeo)biogeography ***Sérgio Ávila***	Marine (palaeo)biogeography ***Sérgio Ávila***	
	Dinner: free choice						
Evening Program					20:00-21:30 AzSS Banquet & Dinner		

IMPORTANT INFORMATION

1. FLAD grants

a) There will be 15 scholarships for BIODIV students (Porto University and Lisbon University) funded by FLAD-Fundação Luso-Americana para o Desenvolvimento, which include all expenses related with the hotel at Santa Maria Island (Azores) – double room at the 4-star Hotel Santa Maria; https://www.hotel-santamaria.pt/ – as well as the cost of the flight from mainland Portugal (Porto or Lisbon) to Santa Maria Island.

b) There will be 6 scholarships for USA students funded by FLAD-Fundação Luso-Americana para o Desenvolvimento, which include all expenses related with the hotel at Santa Maria Island (Azores) – double room at the 4-star Hotel Santa Maria; https://www.hotel-santamaria.pt/ – as well as the cost of the flight from Boston to Santa Maria Island.

Breakfast and coffee-breaks are also included. Please note that lunch and dinner are not included in the FLAD scholarships. The price for lunch at the Hotel Santa Maria will be reduced to 12.50€ for all Azores Summer School 2021 participants.

2. Fees

BIODIV PhD students with a FLAD grant [(1)] : 50€.

USA PhD students with a FLAD grant [(1)] : 50€.

Other PhD/MSc students [(2)] : 650€ with accommodation (double room); flights and meals on their own.

Senior researchers/academic [(2)] : 900€ with accommodation (double room).

Other PhD/MSc students on their own [(3)]: 500€.

Senior researchers/academic on their own [(3)]: 800€.

The fee includes: lectures and lecture notes; coffee breaks; excursions; one-day trip by boat around the island to visit the fossiliferous outcrops, which are best accessible by boat; and welcome reception.

[(1)] **The fee does not include:** lunch and dinner.

[(2)] **The fee does not include:** flights to Santa Maria, lunch and dinner.

[(3)] **The fee does not include:** flights to Santa Maria, accommodation, lunch and dinner.

3. How to Apply

Registration must be done by filling an application form (see below). Filled Application Forms must be submitted to the following e mails:

Ana Cristina Rebelo, PhD
E-mail: acfurtadorebelo@gmail.com

Lara Baptista, PhD student
E-mail: laracbaptista@hotmail.com

Applicants will be selected and admitted to the Azores Summer School on the basis of a short curriculum vitae which clearly states your background to be sent along with the application form.

We strongly suggest BIODIV applicants and USA students to apply for FLAD grants.

The organisers of the AzSS can accept a maximum of 35 students.
Successful applicants will be notified by e-mail about admission by July 15, 2021.
After this date, applications will be considered only in case the number of accepted students is <35.

Confirmation of acceptance

After receiving the Acceptance Letter, admitted participants will have to confirm their participation by payment of the registration fee by July 25, 2021.
After payment of the registration fee participants will be provided with lecture-related material and pre-course readings. In case of withdrawal after July 30, no registration fee is refunded.

Pre-requisites for application

Research interests in insular ecosystems is a must. A background in Biogeography is desirable but not an impediment.

4. Please bring your swimming suites (sea temperatures range from 22-25 °C).

AzSS pool of instructors

- Adán Pérez-García, National Distance Education University, Spain
- Adriano Pimentel, IVAR, University of the Azores, São Miguel, Portugal
- Alfred Uchman, Jagiellonian University in Kraków, Poland
- Ana Cristina Rebelo, MPB - Marine Palaeontology and Biogeography lab, CIBIO-Açores, Instituto Hidrográfico, Portugal
- Antje Voelker, Centro de Ciências do Mar, Universidade do Algarve, Portugal
- Björn Berning, Oberösterreichisches Landesmuseum, Austria
- David Buchs, School of Earth and Environmental Sciences, Cardiff University, United Kingdom
- Jan Zalasiewicz, University of Leicester, United Kingdom
- João Duarte, Instituto Dom Luiz, Faculdade de Ciências da Universidade de Lisboa, Portugal
- José Brilha, Institute of Earth Sciences, University of Minho, Portugal
- Markes E. Johnson, Williams College, U.S.A.
- Matúš Hyžný, Comenius University in Bratislava, Slovakia
- Michael W. Rasser, Stuttgart State Museum of Natural History, Germany
- Neil Mitchell, Manchester University, United Kingdom
- Patrícia Madeira, MPB - Marine Palaeontology and Biogeography lab, CIBIO-Açores, University of the Azores, São Miguel, Portugal
- Pedro Moterroso, CIBIO/InBIO Laboratório Associado, Universidade do Porto, Portugal
- Ricardo S. Ramalho, Cardiff University, United Kingdom
- Rita Castilho, Centro de Ciências do Mar, Universidade do Algarve, Portugal
- Rui Quartau, Instituto Hidrográfico, Lisboa, Portugal
- Sérgio P. Ávila, MPB - Marine Palaeontology and Biogeography lab, CIBIO-Açores, University of the Azores, São Miguel, Portugal
- Sidney Hemming, Lamont-Doherty Earth Observatory, Columbia University, U.S.A.
- Telmo Morato, OKEANOS, University of the Azores, Faial, Portugal

Application Form to the AzSS - Azores Summer School
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Marine Island (Palaeo)Biogeography

Name:

Nationality:

Scientific Affiliation:

Main scientific research areas (5 keywords):

BIODIV student: YES ◯ NO ◯

USA student: YES ◯ NO ◯

Short CV (1 page)

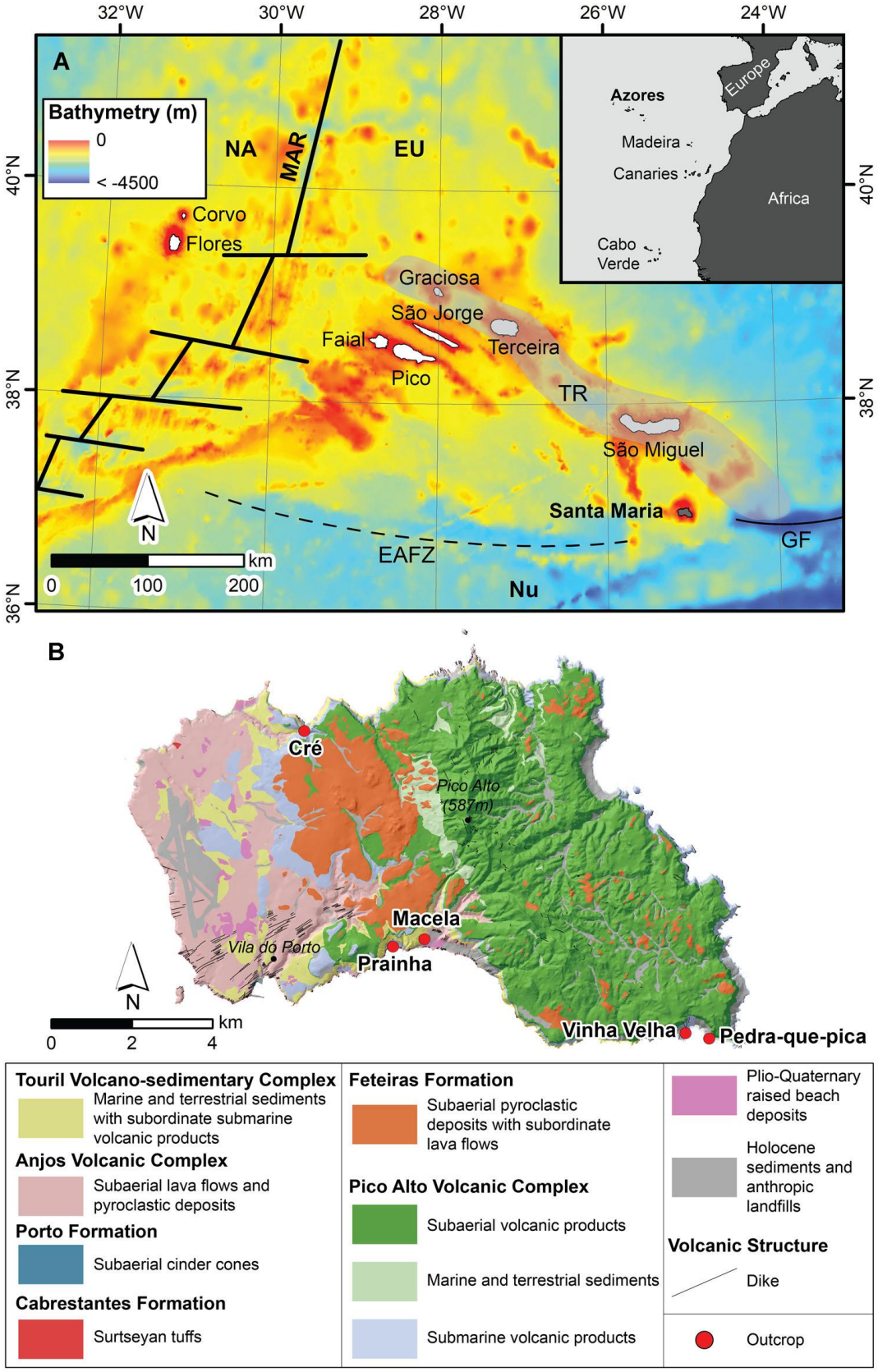
E-mail:

Mobile phone:

For further information, please contact:

Ana Cristina Rebelo, MSc, PhD
E-mail: acfurtadorebelo@gmail.com

Lara Baptista, MSc, PhD student
E-mail: laracbaptista@hotmail.com



Location maps. A: location of the Azores Archipelago within the NE Atlantic (insert) and Santa Maria within the Azores Archipelago. NA – North American plate; EU – Eurasian plate; Nu – Nubian (African) plate; MAR – Mid-Atlantic Ridge; TR – Terceira Rift; EAFZ – East Azores Fracture Zone; GF – Gloria Fault. Bathymetry extracted from GEBCO 2019 (https://www.gebco.net/data_and_products/gridded_bathymetry_data/); coastline delimitation from the Portuguese Hydrographic Institute free data (https://www.hidrografico.pt/op/33). B: Geological map of Santa Maria Island modified from Serralheiro et al. (1987) and Ramalho et al., (2017), with the location of some of the best-studied fossiliferous outcrops. Underlying digital elevation model from the 1:5000 scale digital altimetric database.

Sponsors

Governo dos Açores

FLAD
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DEVELOPMENT FOUNDATION

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SANTA MARIA

Dalberto Pombo
CENTRO DE INTERPRETAÇÃO AMBIENTAL

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Viagens e Turismo