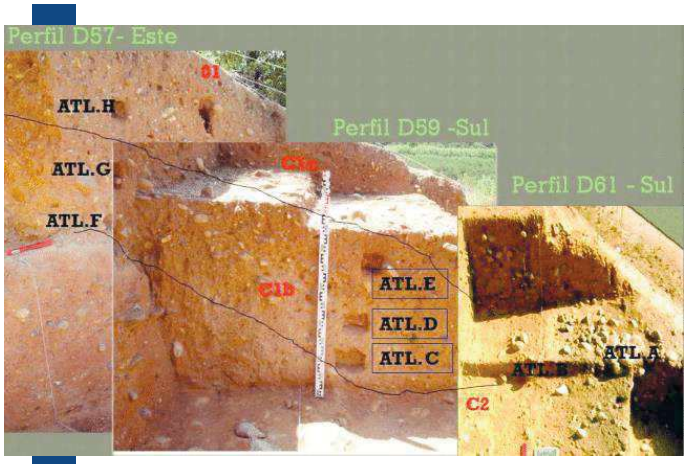

ERASMUS MUNDUS MASTER IN QUATERNARY AND PREHISTORY

MESTRADO EM ARQUEOLOGIA PRÉ-HISTÓRICA E ARTE RUPESTRE – INTERNATIONAL MASTER QUATERNARY AND PREHISTORY

A GUIDE TO STUDENTS – 2023-2024

MAPHAR – IMQP 2024-2025

INSTITUTO POLITÉCNICO DE TOMAR
www.ipt.pt

Cover photos, from top to bottom, and left to right: Stratigraphic sequencing of Quaternary terraces of the Tagus basin – site of Ribeira da Ponte da Pedra, Vila Nova da Barquinha; excavation of Neolithic layers of Gruta do Cadaval cave, Tomar; rock art of the Tagus basin – Ocreza valley, Mação; Megalithic passage grave Anta 1 de Val da Lage, Tomar.

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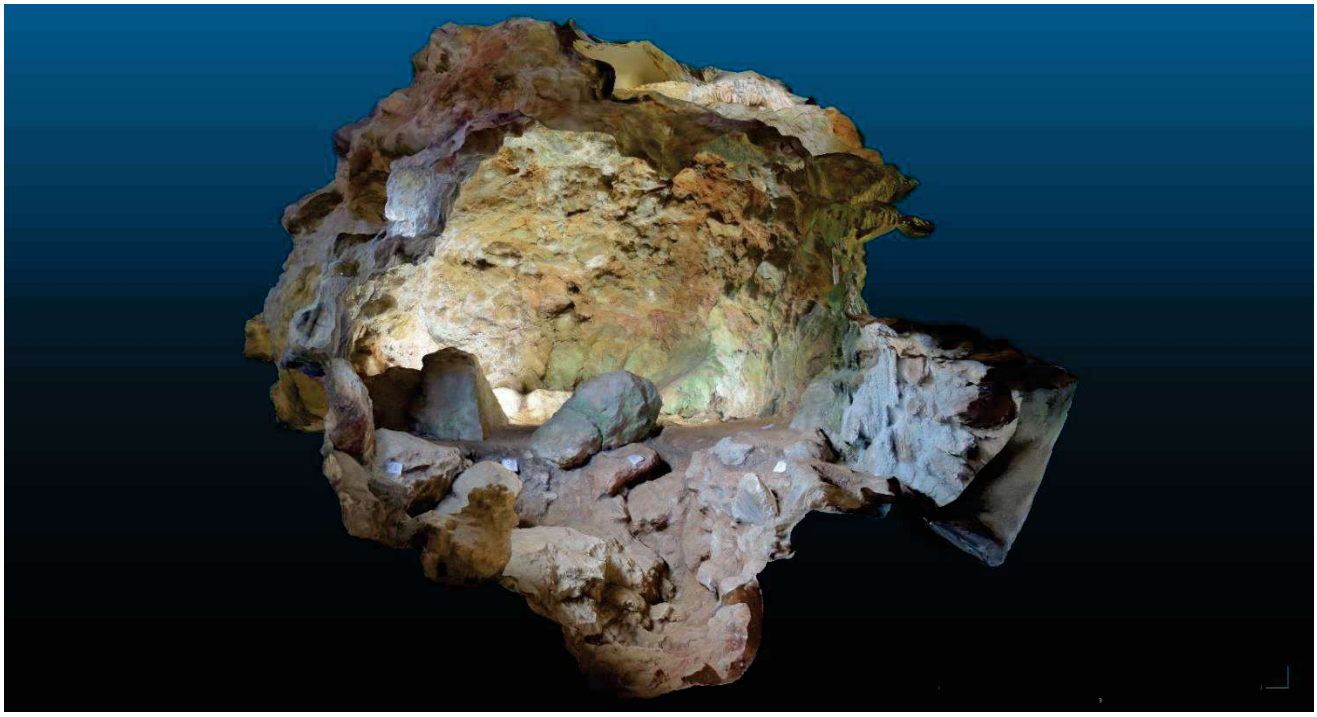


3D reconstruction of Gruta do Cadaval cave, Tomar.

WELCOME ADDRESS

Dear student,

You are now starting a journey at the research and education Centre for Polytechnic Studies of Mação, where we hope you'll find not only new knowledge, but the experience of putting it in action, through research multidisciplinary projects, in which you will be invited to collaborate.

The project of this Master programme is part of a wider strategic cluster of avenues, which include research, socialization of knowledge and a strong international dimension.

Prehistory does not exist within any national boundaries. In order to understand the scope of prehistoric research, it is fundamental to learn the basic language and methodologies of the various sciences that make of this a cross disciplinary field of studies: Earth sciences, which allow us to understand the fundamental physical geographic constraints of humans performances, but also their sequencing in time; Life sciences, which allow us o deepen the understating of the contextual key variables that were, in each moment of the past, a fundamental reference for human strategies; Humanities, which structure our main research questions, on how and when our ancestors performed specific activities, but which also allow us to approach the delicate questions related to why and what for they did so, making full use of archaeology and history, but also of anthropology or philosophy.

We hope you will enjoy this journey at least as much as we do!

The course coordination:

Luiz Oosterbeek

Pierluigi Rosina

Silvério Figueiredo

Slate plaque, megalithic context, Mação.

THE SCOPE OF THE MASTER PROGRAMME

The definition of education strategies for prehistory and archaeology education, beyond a short-term unsustainable market approach, must be considered under this multi-layered context, dominated by epistemological divides, cognitive decay, conflicting understandings of the social role of archaeology, new legal frameworks and shifting paradigms.

Humanities often tend to be understood as “interpretation of the world” and “curiosities”, … and curiosities may be discarded in times of shortage. The undergoing changes generated new social need and require new responses. While social sciences must focus on convergence and equity when dealing with social issues (since they find their social role in the process of globalisation of society…and this explains the social acceptance of social sciences), humanities must find their usefulness for the enhancement of diversity within a multi-centres world. This means they must go beyond the academia and intervene through practical applications from and for globalization, beyond nations and segregation, portraying moral diversity and converging towards ethics common grounds by intervening in landscape management. In fact, landscape management becomes, in a century that will be marked by a fast re-design of territories and territorial competition, a crucial stage for humanities knowledge to be applied in order to monitor and manage various disruption tensions.

Within this, humanities education clustered around territories understanding and conceptual strengthening, will become more relevant not only to prevent ruptures (violence, forced mobility, war) but mainly to enable governance of increasingly culturally diverse regions: globalisation of societies (merging with global economy and environment) will reinforce cultural diversity and potentiate cultural divides, xenophobia and conflicts. Notions of space, time and causality ate to be built in society through daily praxis, having the territory as the stage of such praxis. Knowing that all our knowledge is human and focused on humans, philosophy, history, philology, anthropology… they all relate to causality, space, time, communication, continuity through change, convergence within diversity.

It is in this sense that humanities are not a section of social sciences and that they are needed as cement for all knowledge and behaviour. They are about understanding how different and even opposed avenues may converge towards single common results, and this is precisely the issue currently in stake in the planet: how can different interests, when

considered from the point of view of economy or society, converge? Understanding humans as a link involving society (humans' organisations), environment (humans' context) and economics (human behaviour) enables to understand humanities as a set of expertise for integrated landscape management for sustainable development. A new role for the Humanities is, then, to build critical conceptual capacities, promoting new integrated landscape management plans that value these issues, but also to give coherence to the tripod of sustainability, to bridge the gap with other sciences to rephrase the dichotomy between economics and culture and to promote the didactics of dilemmas and of convergence within diversity.

The specific relevance of archaeology in such a programme for humanities is twofold. On one hand its expertise in assessing adaptation mechanisms, economy-environment balances, techniques and technology. On the other hand, it offers an interdisciplinary approach that goes beyond humanities, involving social and natural sciences when addressing those topics. In fact, archaeology provides in-depth understanding of the relation between resources and needs, between techniques and energy, or between knowledge and territory. This is how it looks into the past, e.g., when discussing the emergence of space dominance by early hunters, the role space and time notions in the conquest of symmetry, or when assessing the Mediterranean transitions into farming relating resources, climate and human social dynamics.

Archaeological research offers to contemporary society, hence, an integrated insight into past landscapes and their human dynamics, contributing to disseminate awareness of adaptation mechanisms and of the need to value all levels of information.

The Polytechnic Institute of Tomar offers two Master level courses: one on Prehistoric Archaeology and Rock Art (MAPHAR) and another one in Archaeological Techniques (MTA). While the first is primarily research oriented, the second also considers a professionally oriented profile, even if research remains relevant. Both programmes are articulated with Erasmus Plus (formerly Erasmus Mundus) master programmes: Quaternary and Prehistory (IMQP, for MAPHAR) and Dynamics of Cultural Landscapes, Heritage, Memory and Conflicts (DYCLAM, for MTA), the later having a more professional-technical focus, bridging with Cultural Landscapes Management.

The programme MAPHAR is structured into five areas of training: Prehistory (including Prehistoric Art), Palaeoanthropology, Quaternary Geology (including Palaeoecology), Methods and Techniques (recording,

analytical and data processing methods, including GIS) and Museography and Didactics (Cultural Heritage Management). Students obtain a fundamental understanding in the five areas, being requested to deepen at least two of those, by choosing from a wide range of optional courses. They will also participate in field work in main prehistoric sites, attend laboratory training, learn to prepare essays and papers and complete a Master thesis (evidencing the capacity to formulate a relevant research question, characterise its context and the state of the art, chose appropriate methods, undertake necessarily analysis and draw conclusions on the recorded and analysed data). If students wish to complete the European IMQP, apart from the National diploma, they will complete at least a third of the credits in a second university of the consortium: Universitá degli Studi di Ferrara, Muséum national d'Histoire Naturelle or Universitat Rovira I Virgili, Tarragona.

Neolithic vessel from Gruta do Cadaval, Tomar

Megalithic passage grave Anta da Foz do Rio Frio, Mação.

THE STRUCTURE OF THE PROGRAMME

The standard structure of a Master itinerary for a student is the following:

- Between 63 and 72 ECTS in taught courses
    - 30 ECTS in compulsory courses (identified bellow, in the section of lectures).
    - A minimum of 33 and a maximum of 42 ECTS in optional courses
- 8 ECTS in field and laboratory work
- A maximum of 9 ECTS in activities that may be pre-agreed with the course board and validated (e.g. articles in scientific journals, papers in conferences,…)

MAPHAR students participating in the International Master Quaternary and Prehistory will have a mechanism of automatic validation of courses (see relevant section, bellow).

MAPHAR students are selected according to a grid that replicates the criteria of the international selection, within the scope of the Erasmus Plus Masters. International mobility is defined according to the students' final specialization interests, aiming to complement their training in class in certain subjects, and the eventual co-tutelage of final research.

The Master, due to its European dimension, is permanently subject to a double evaluation process. In addition to the quality assessment carried out within the scope of the IPT, Master's students evaluate all lectures weekly, as well as aspects related to global resources, workload and others. This assessment is communicated annually in detail to the European agency that coordinates the Erasmus Mundus program and to external academic evaluators.

Concerning relations with other entities, MAPHAR builds on two fundamental dimensions. One of a scientific nature, essentially managed though the Geosciences Centre of the Coimbra University, of which the IPT is one of the four associated higher education institutions (this scientific dimension involving partnerships with institutions from more than 60 countries, including Portugal, Spain, Brazil, Greece, Angola, Senegal, Namibia, Colombia, United Kingdom or China). The other dimension concerns heritage and is essentially managed through the Museum of Prehistoric Art of Mação, where is based the IPT study Center in which the courses take place. Both are essential for the development of projects that, with the support of the Foundation for Science and Technology, the European Commission or other entities, apply the master's training and the initiation of students to research. On the other hand, the course has a very strong relationship with the business community and the public sector, implemented through projects and in welcoming students in internships. This relationship, which is international due to the range of student recruitment, is fundamental to

the employability of graduates. More than 90% of all students who have completed the Masters are working or have been admitted to doctoral courses.

The Master's Degree, which has several other double-degree agreements (in Brazil with the Federal University of Santa Maria, but also involving collaborations of professors from several other universities), aims to train new generations of researchers who understand the supra-regional nature of problems in prehistory, who are capable of integrating the sciences and humanities knowledge and methodologies, who master the most advanced techniques applied to research in prehistory and archaeology and who, finally, know how to inscribe research as a core component of knowledge formation in society, implementing new approaches to the management of archaeological heritage that articulate it with the global management of territories.

IPT's two archaeology master's degrees (MAPHAR and MTA) respond to different needs, from the perspective of the dynamics of today's society, but have a fundamental identity that lies in the notions that all higher education must be eminently constructive and not merely reproductive of knowledge, that archaeology is especially useful in society as a way of interrogating the real and that it is fundamental to value the evolution of techniques, contextualizing them in environmental transformations and relating them to cultural dynamics, over time.

In this way, both masters refuse the illusion that the immediate agendas must determine the formation for research and professional work in archaeology and prehistory, which is not contradictory with the intervention in contemporary society (for example in the context of patrimonial conflicts) as long as this assumes the reconsideration of cyclical themes in a medium- and long-term logic.

Luiz Oosterbeek

Chalcolithic Halberd, Mação.

THE MASTER COURSE SEEN FROM THE PERSPECTIVE OF FORMER STUDENTS

Studying Prehistory in Mação

After completing my Bachelor of science degree in Archaeology and Geography at the University of Ibadan, Nigeria in 2015. I joined the International Master in Quaternary and Prehistory (IMQP) programme after winning the famous Erasmus Mundus scholarship in 2017 with IPT, Instituto Politécnico de Tomar (Portugal) as my first hosting institution and attended Universitat Rovira i Virgili, Tarragona , Spain for my mobility studies.

As a first-year student of the IPT, I had my initial classes in Mação, a place that has been designated by the UNESCO as a member of the UNESCO Network of Learning Cities. The opportunity to study prehistory in Mação has been a tremendous one, impacted and contributed in a great way to my understanding of Prehistory studies. Even though I have a strong interest in sciences, the study of prehistory and related topics has immensely improved my understanding in the application of geosciences to study Archaeological context. This consequently enabled me to bridge the geosciences data with the prehistoric research driving questions in my subsequent research works.

The excellent planning of the Master programme, the efficient and effective academic collaboration with other Universities and Research Centres across Europe and other continents of the world, availability of teachers who are top researchers in their respective fields, presence of students across the world and opportunities for sharing experiences with leading thinkers in the prehistoric studies in the “world of Archaeology” has also provided a global perspective for my understanding of Archaeology and prehistory. The combination of all of these, helped me in carrying out my master thesis in Micromorphology, a research work that we successfully carried out leveraging on the academic links that exist within the research framework which involved institutions like the Instituto Terra e Memória, Mação, (Portugal), Instituto Politécnico de Tomar (Portugal), Universitat Rovira i Virgili, Tarragona (Spain) and Institut Català de Paleoecologia Humana i Evolució Social, (IPHES) Tarragona, (Spain).

Also, the course with its international nature, its multidisciplinary approach, cross-cultural training, its high level of scientific support, its

theoretical foundation, methodological and practical exercises has been very crucial and adequately prepared me to begin my Doctoral studies at the University of Coimbra, Portugal.

The Master as whole, gave me an important opportunity not only to increase my knowledge towards the development of my studies but also in terms of extra-curricular activities, it further equipped my curriculum *vitae* through my deliberate and active participation in the Erasmus Mundus Students and Alumni Association (EMA) and her activities.

In all, I can proudly say, that having the opportunity to study in this master programme has been one of the best choices I have ever made and one that is greatly impacting my career as a Geoarchaeologist.

Opeyemi Adewumi
Nigerian
(IMQP, Erasmus Mundus Scholarship Recipient, 2017-2019)

The MAPHAR study experience

My experience as a master's student at the Prehistoric Archeology and Rock Art programme of the Polytechnic Institute of Tomar, Portugal, was nothing less than enriching, both in terms of professional and personal training. The curriculum of the programme introduces us to the most diverse sub-areas of Archaeology through the courses available. This diversity allows us to prepare ourselves for the multiple situations that we may encounter in our professional context and offers possibilities for the choice of our specialization.

In addition, the programme provides the opportunity for academic mobility to one of the universities that have an agreement with the Master. These are the Università Degli Studi di Ferrara (Italy), Universitat Rovira i Virgili di Tarragona (Spain) and Muséum National D'Histoire Naturelle de Paris (France). I did mobility at the Università di Ferrara, in Italy. The choice was made based on the disciplines that were lacking in my academic career and in order that I could get closer to the area in which I would like to specialize, bioarchaeology. The experience of living in a new country was great, as I had the opportunity to get to know a new culture, a new country, new people, learn a new language, insert myself in new methods of learning and evaluation and thus, between mistakes and

successes, obtain an International Erasmus Mundus Master' degree in Quaternary and Archaeology.

Besides all the learning provided by MAPHAR and its competent staff, the personal experience I had during the two years of the course was very rewarding. I met people from the most different regions of the planet and from the most diverse cultural, political and social contexts, and with this I had the opportunity to learn a little more about the plurality of the world, putting otherness into practice. The contact with what is different is what, in my opinion, makes us grow, since it offers us the possibility to see the world with other eyes, to adapt to the new situations and to think about a better future, adapted to everyone.

Isabella Brandão de Queiroz
Brazilian
(MAPHAR, 2018-2020)

Evaluation of my participation in the Master

I am Appolinaire KAJI, of Cameroonian nationality, former student of the Master program in (IMQP/MAPHAR). I am a museum curator and practice my profession permanently in Cameroon. I enrolled in the master's degree in (IMQP/MAPHAR) with a degree in the history of civilization and I came out with significant knowledge in archeology and in rock art. If Today I intervene professionally in the inventory, documentation or conservation of some elements of the archaeological heritage in Cameroon, it is thanks to the expertise acquired in the field of prehistory during my training in (IMQP /MAPHAR) in Portugal. Allow me to summarize my training in this Master by the thought of René Descartes: "*Cogito ergo sum*", to say that it shaped and enriched my thoughts and knowledge on prehistory and allowed me to become a different person socially and professionally. I will allow myself to appreciate with satisfaction the rather rich contents of the programs of the theoretical and practical courses given during the training. This master, which welcomes all nationalities, gives the opportunity to appreciate the potential of teaching that promotes research in a context of respect for human and cultural diversity. Thanks to this diversity, I can now share my thoughts and scientific work on prehistory with teachers, colleagues and former classmates of the master present in Senegal,

Bangladesh, Brazil, Angola, Namibia, France, Portugal, Belgium etc… the support of students in the process of obtaining a visa and renewal of stay for foreign students admitted to the master's program, testifies to the professionalism of the institutional authorities in charge of training This professionalism has been more evident over the past three years marked by the global health context of COVID 19. The defenses of theses remotely by foreign students during this period of the COVID 19 pandemic simply provide information on the resilience capacities of the institutions in charge of the Master's program in (IMQP/MAPHAR). Finally, allow me to salute the cordiality, dedication and multilingualism of the teachers who value and promote the international character of the Master in (IMQP / MAPHAR).

Appolinaire KAJI
Cameroonian
(MAPHAR, 2021-2023)

Master in Prehistoric Archaeology and Rock Art and the IMQP framework

In 2020 I was selected with a scholarship fully funded by the European Commission (EMJMD) to join the International Master in Quaternary & Prehistory (IMQP) which is organized by four universities; Università Degli Studi di Ferrara (Italy), Universitat Rovira i Virgili di Tarragona (Spain) and Muséum National D'Histoire Naturelle de Paris (France).

The joint master covers a wide spectrum on the current knowledge on prehistory offering a variety of modules, theoretical and practical, with updated methodologies and techniques. Each of the partner universities stands out in particular specialties. In the Portuguese case of the Instituto Politécnico de Tomar (IPT) which was my hosting institution, as the title of the national degree “Mestrado em Arqueologia Pré-Histórica e Arte Rupestre” suggests, one of the main assets is the study of rock art, a field often unrepresented or neglected in other archaeological departments’ module cores. The master thrives at this domain offering theoretical and methodological classes on the subject, accompanied by empirical field trips, surveys and experimentation.

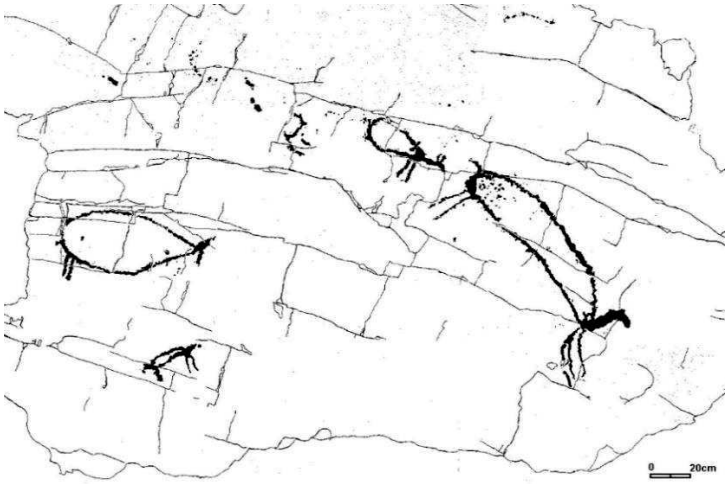
Other available classes provide a good introduction in human prehistory (lithic technology, bioarchaeology, geology etc.), museography and cultural heritage management that are precious to understand the human past and make proper science communication to the wider public. The classes highlight the necessity of multidisciplinarity for the prehistoric studies, while the multilingual academic environment encourages the individual to learn more than one foreign language.

With that mindset the master maintains a fine international network of collaborating institutions and experts that can be beneficial for further training during the master program, optimally related to the thesis, or for future research after the graduation. For example, based on my interests I did my mobility Universitat Rovira i Virgili (URV) and I focused on available modules like spatial analysis and zooarchaeology, investigating how these could be used in favour of the rock art studies.

Among the main strengths of the program is the accessibility on unpublished archaeological material that can be potentially used for a master thesis or article publications. The option to publish articles and present in conferences was warmly supported by the Professors throughout the period of my studies and certainly boosted my career path.

Overall, this exceptional master equipped me with essential methodological tools for conducting prehistoric research and allowed me to pursue further academic studies on my main topic of interest, prehistoric rock art, having a strong background based on the opportunity of working with specialists of that field.

Dionysios Danelatos
Greek
(MAPHAR, 2021-2023)



Neolithic engravings of the Ocreza valley, Mação.

ARRIVING FROM LISBON AIRPORT AND HEADING TO MAÇÃO

At the airport

On exiting the main hall, head right to take the Metro.

For that you have to leave the airport.

Metro

You will go down a staircase. Then in the hallway, on the left, you will find the ticket machines.

(It's not complicated but it's a little twisted).

To take the metro, you must acquire a rechargeable card (50 cts). The machine will ask if you already have a card.

After selecting the purchase of the card, select the number of tickets you want (one is enough).

You pay and you will receive your card with a loaded ticket.

PLEASE NOTE, you need 1 card per person. Otherwise, there is a counter with staff, where you can head at.

Then go through the metro gates. If you travel in group and have a lot of suitcases, pass one of you first, then pass the suitcases over the porticoes. If you travel alone, make sure to pass the baggage first.

At the airport station there is only one metro line. So, on one side it is only the terminus and you must take the other side, with the metro in the direction S. Sebastião station. Then exit at Oriente station (3rd station from the airport).

Oriente train station

To exit the metro, you must use your card to go through the porticoes, after climbing a few stairs. Once passing the porticoes, take the stairs (yes, yes, … again). You will arrive in the Hall.

Take the escalators, again. You will arrive outside.

Then take the stairs on your right (you will learn to enjoy the stairs). You will arrive in the hall of the train station. Head towards counter 13, at the back. Normally this is the counter for regional trains.

At the counter, request 1 ticket for Alvega / Ortiga (the train station closer to Mação).

Check the screens to see the train's departure time and platform. Before taking the escalator to the platform, electronically validate your ticket at the terminals. The train direction will be “Castelo Branco” (Alvega / Ortiga is a train stop, in the middle of that itinerary).

Please note: If your train is not direct, the first destination will be: Entroncamento, where you will have to change to another (heading to Castelo Branco). When purchasing the ticket, ask for which train you should take, and if it is direct or if you need to commute at Entroncamento.

Please inform us of your time of arrival to Alvega / Ortiga so that someone can be there to meet you on your first arrival.

Mobility in Mação

We will meet you at the train station upon your first arrival. However, you are obviously free to move away on other occasions, and for that you must organize your local travels.

To reach Lisbon, Oporto and other destinations (including Tomar, for instance), you need to first go from Mação either to the trains station of Alvega/Ortiga or to the bus station of Abrantes. To reach these you may either take a taxi or get a ToD.

Mação is served by a weekly bus to Lisbon but, all through the week, by a system of Transport on Demand (ToD – “Transporte a Pedido”). This allows for anyone to book by phone (800209226), until 3.00pm of the day before a travel is needed, to book a public on demand transportation. To use this service you need to register here. Once you do this, you may also book your needed travel in the website https://transporteapedido.mediotejo.pt/Reservas/Account/Login

TRANSPORTE
A PEDIDO
MÉDIO TEJO
COMUNIDADE INTERMUNICIPAL

THE POLYTECHNIC INSTITUTE OF TOMAR

The Polytechnic Institute of Tomar (IPT) is a public polytechnic higher education institution with an educational offer in a wide range of areas such as Art, Archaeology, Heritage, Engineering, Management, Technologies, Design, Communication, that are designed so as to provide the students with a comprehensive educational background.

The IPT also aims at promoting access to knowledge for the benefit of individuals and society through teaching and research actions and actively participating in the construction of a European Learning and Research Area and of a model for regional development based on the production, innovation and enhancement of scientific and technological knowledge. With over 40 years of experience and an educational offer including more than 20 Bachelor's degrees and several Post-graduations and Master's degrees, IPT has managed to face the regional challenges.

Main campus of IPT, Tomar.

Therefore, the IPT strives to acquire innovative dynamic tools through partnerships with enterprises and other organisms as well as hold modern well-equipped laboratories in its interest areas. Qualified and committed professionals involved in various research projects, both at national and international level, is another asset of our organization.

The IPT and its Schools of Technology and Management, and its several regional centres, is a factor driving the development of the surrounding region, with a strong international presence. Among these, CEPMA, the Centre for Polytechnic Studies of Mação, will be your main reference space, operating in close articulation with the research-oriented Instituto Terra e Memória and with the Museum of Prehistoric Art of Mação.

Anta do Penedo Gordo (Gavião).

THE RESEARCH CENTRE AT MAÇÃO

IPT's archaeological research, through ITM, is focused in prehistoric and protohistoric contexts in Europe (with ongoing projects in Portugal and Spain), but also leading projects in Africa and Latin America.

The ITM (Instituto Terra e Memória - Earth and Memory Institute) is a research NGO, established under public law to pursue research, post-graduate education and advanced professional training in archaeology, rock art, cultural heritage management and integrated landscape management for sustainable development. ITM has been established by two research NGOs, one public higher education institute and a municipality, and it is open to individual membership. Today, other universities and private companies are also members of ITM. The Polytechnic Institute of Tomar and the Municipality of Mação are among its main relevant members.

ITM focuses its attention on projects across the Atlantic and is involved in ongoing research projects in rock art in Portugal, Spain, Italy, Greece, Senegal, Angola, Tanzania, Ethiopia, Brazil and Costa Rica. It inherited the expertise of over 25 years of research and management projects led by its founding members, namely with the support of the European Commission and various public and private entities. It is a member of the Geosciences Centre of the University of Coimbra, coordinating, with IPT, its Quaternary and Human Adaptations cluster.

Research is affiliated to the Quaternary and Prehistory group of the Geosciences Centre (CGEO, unit 73 of the research centres network of the Portuguese Foundation for Science and Technology), that involves over 100 researchers, including over 20 PhDs.

The scope of CGEO, from its foundation in 1975, has been to build from the identification of geological resources into their use and within the cultural context of societal options in their regard. From 2013, CGEO re-structured this vision, in line with sustainability concerns, reinforcing the Quaternary research component and strengthening its relations with R&D units, companies, international science bodies and UNESCO. CGEO understands technology as the core of human adaptations, energy as the basic requirement for the transformation of raw materials, and sociocultural dynamics as the framework for facing dilemmas. Cultures are embedded with knowledge on resources, techniques and socioeconomic matrices for regulating access to both. The focus of CGEO is in this tripod,

together with heritage, since this raises awareness of the relevance of resources and technology, biding together the three dimensions, as IYGU demonstrated.

The first dimension converges into three major issues: Stratigraphy, Basin Analysis and Geoconservation. The second dimension, Geotechnology, includes activities based on a strong relation between geosciences research and the knowledge transference to engineering and society.

The core of research on human adaptations throughout the quaternary, the third dimension, is to assess human transitions, focusing on the relation between resources, their transformation, the related logistics, the social access to knowledge and products and the cultural understandings of all these processes. Geosciences (geoarchaeology, dating, etc.) seat as the backbone of such a research strategy that builds into paleotechnology, paleoeconomy, paleoecology and paleoethnology, these allowing for then bridging with contemporary concerns on landscape management and sustainability.

Hence, CGEO integrates researchers from several higher education institutions who are active in a wide range of domains: Exact and Natural Sciences (namely Earth and Environment Sciences, Paleontology, Geochemistry, Climate research and Energetic Resources); Engineering and Technology (in particular, in Environmental Engineering, Geological Engineering and Geotechnics); and Humanities (mainly focused on History, Archeology and Cultural Landscape management). These converge into three avenues.

Within this strategy, CGEO is in charge of two UNESCO chairs (Geo-Parks, Sustainable Development and Healthy Lifestyles; Integrated Landscape Management), engages with several PhD and Master programs, has a relevant activity on Portugal and other Portuguese speaking countries, plays a major role in UNESCO programs (World Humanities Conference, Geo-Parks network, International Geoscience Programme, Sustainability Science steering committee) and undertakes projects in over 20 countries from 4 continents.

Instituto Terra e Memória research centre, Mação.

A holistic vision of culture is shared by all the members of CGEO, who aim continuing to pursue interdisciplinary approaches in their daily investigation and development activities, under the aim of the Foundation for Science and Technology.

Five main contributions of CGEO members, in the recent past, were: 1)participation in the international steering committee and coordination of Iberian actions of the International Year of Global Understanding (IYGU); 2)participation in the steering committees of UNESCO projects on Geo-Parks, International Geoscience Programme (IGP), Landscape Management (APHELEIA) and Sustainability Science (SuS), including two UNESCO chairs; 3)enlarge resources exploration, in academic research on sedimentary basins and collaborative projects with the oil industry; 4) deepen engineering geology use of natural materials, management of the geological environment and multi risk assessment; 5) full multidisciplinary review of the Neolithic process in the Tagus basin, including the elaboration of the rock art integral corpus and within comparative approaches.

CGEO is also the basis of the European APHELEIA strategic partnership, coordinated by IPT, with UNESCO from 2016 and from 2018 with a UNESCO chair. Together with the collaboration with the IGP, it integrated the steering committee of UNESCO's project on Sustainability Science and actively collaborates with it in the preparation of the new UNESCO programme, BRIDGES.

In the study of transition into food production in the Tagus basin, studies (including PhD projects) demonstrated, as previously assumed from stratigraphy of karstic deposits, that vegetation cover decay preceded first farming activities, the adaptation of different groups being related to dry episodes of 8.2 and 7.6 ka. Taphonomy studies demonstrated the role of animals in the accumulation of organic remains in human burials, while combination of raw materials provenance studies (ceramics, lithics, construction materials, pigments) and eco-bio-anthropological analysis (including DNA) evidenced two settlement networks, on each side of the basin, as a matrix of herders, foragers and, later, early farmers. The rock art complex corpus and chronology has been revised and comparative approaches to transition processes in Brazil and Angola have been assessed. Research improved methodologies, including design of new software (EU project HANPAS), knowledge dissemination tools and models on anthropological dynamics in relation to resources (EU project GESTART).

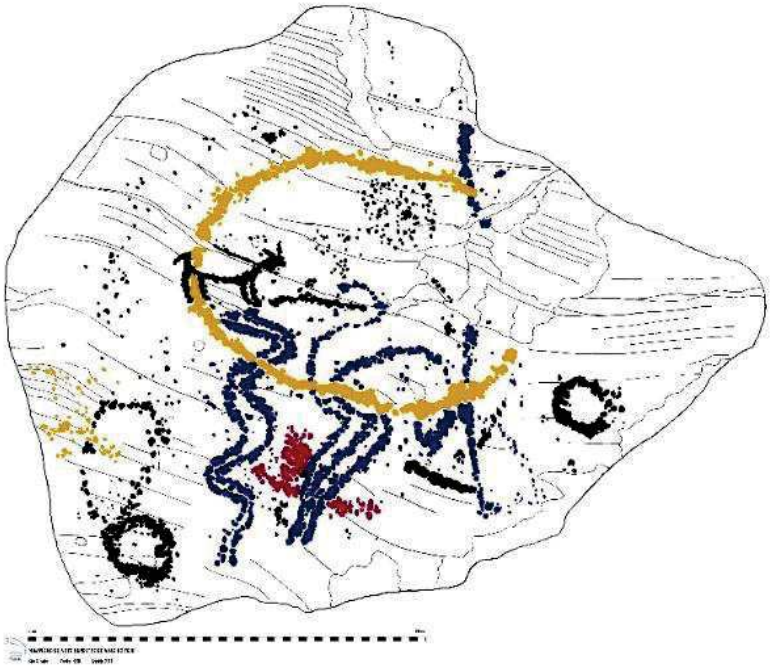
Museum of Prehistoric Art of Mação

Major contributions in Quaternary studies include: new model of geoarchaeological interpretation of the "terra preta" deposits formation and significance, in Brazil; new model on the Guarani expansion in Brazil, based on ceramics technological analysis; corpus of rock art, models of human transitions and heritage management in Angola (Ebo; Tchitundo-Hulo), Namibia (Omandumba; Twyfelfontein) and Tanzania (Olduvai) for world heritage; full revision of Tagus basin and Badajoz province rock art, with new models on chronology and significance; identification of organic elements in rock art pigments in Ethiopia; full database of rock art upper palaeolithic hand stencils from South Europe and dissemination of knowledge through a film; new model on hillforts and geomorphology in the Tagus basin; discovery of prehistoric rock art in Alvaiázere; first survey of the Biluut Petroglyph Complex in Mongolia; underwater work on two shipwrecks in Santa Catarina (Brazil); archaeological first surveys; establishment of the monitoring system of Paul de Boquilobo Reserve ecosystem; definition and implementation of new model of landscape management based, recognized as a major contribution by UNESCO (en.unesco.org/sites/default/files/sus_casestudies.pdf).

Objectives set by CGEO build on the achievements from the previous stage. CGEO has obtained research recognition and impact in the clusters, including on heritage evaluation and management. Its members have contributed and will continue to participate in international steering committees on fossil energy, integrated science of sustainability and quaternary studies. Global objectives, until 2022, are: I) pursue the interaction with international bodies to further foster collaborative projects engaging earth and human sciences, from fundamental research (e.g., the "Global History of Humankind" project) to wide social awareness of science (in line with "IYGU") and through tools that may face societal challenges through smooth transformation of humans behavior and life quality (e.g. the Geoparks program or the Geotechnology solutions). II) promote establishment of territory-based projects of participative science and geoheritage, in partnership with public authorities and private and other local stakeholders, enhancing and spreading ongoing partnerships within the projects of geoparks and APHELEIA. III) stress dimensions transversal to all clusters (stratigraphy, risks assessment, technologies, heritage), namely through publishing in strong impact basis (journals, but also books and proceedings and attracting post-doc researchers). The 3 global objectives will be fully achieved due to the specific objectives of each research cluster.

The cluster "Quaternary, human adaptations and landscape management" has specific objectives which fall into a matrix of thematic research lines and territories of interest to assess transition processes, within the concerns of the UNESCO chair at IPT. The crossing of these two dimensions leads to project, which allow for converging several themes in a single territory (e.g. the Tagus basin) and several comparative studies of a specific them in different territories (e.g. rock art complexes in relation to socioeconomic changes). The thematic lines are artefacts technologies (lithics, ceramics, metals and organic, with a strong use of experimental archaeology), monuments technologies (prehistoric architectures and beyond), landscape studies (including raw materials economy, paleoenvironmental reconstruction and logistics assessment, also in underwater contexts), rock art (namely in contexts of sociocultural and economic transitions), cultural heritage (fostering the technology dimension of cultural heritage in its relation to geological materials and as expression of adaptive behavior) and integrated landscape management. Main territory-based projects will continue to have the Tagus basin as core focus (intensifying studies on the mountain areas), complemented with projects in Europe (Spanish Extremadura and assessing themes in wider

geographic scales, e.g. on the presence of deer representations in rock art), Africa (primarily Angola and Western Africa), Southern America (primarily in 3 regions of Brazil, but also Colombia and beyond) and Asia (with China). This approach will continue to lead to theoretical and methodological innovations (e.g. on taphonomy), aiming at continuing to improve on models on landscape management, analytical techniques and the theoretical understanding on how the merge of geosciences and humanities may contribute to the debates on sustainability.



Tracing of rock art engravings, Tagus valley.

RESOURCES

Archaeological research at IPT dates back from late 1996, when the decision to establish science focused archaeological research was taken. This led to the setting of a Prehistory Laboratory in 1987 and to a regional complex that is today clustered around the newly established "Instituto Terra e Memória", based in Mação. Resources include:

- a specialised library in Mação (accessible at http://www.bibliotecamacaoitm.pt/);
- laboratories in Tomar (prehistory centre, palaeontology and zooarchaeology, geoarchaeology, chemistry, GIS, conservation, underwater archaeology) and Mação (rock art, lithics, ceramics, experimental archaeology, heritage management, landscape management);
- offices and lecture halls (Tomar, Vila Nova da Barquinha, Mação);
- a centre of research degrees students (Master and PhD) in Mação, associated to the Museum.

Note that IPT students are entitled to Microsoft Office (including from Microsoft Teams) for free, by accessing in www.ipt.pt, logging in with IPT credentials and downloading Office/Teams.

Experimental archaeology to children, in a school and to the general people, in the Archaeopark of Mação

INTRODUCING THE TEACHING STAFF

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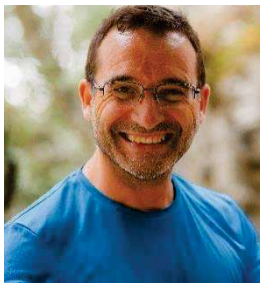	Telmo Pereira	www.cienciavitae.pt/portal/3D1E-491C-AE00

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LECTURES, WORKSHOPS, FIELD WORK AND EVALUATION

1. As aulas decorrem de manhã e de tarde: 9.30h -13.00h / 14.30h – 18.00h. Todas as alterações devem ser acordadas previamente com a direção do Mestrado. O calendário inclui as datas de entrega de trabalhos e de exames.
   Courses run in mornings and afternoons: 9.30 am -1.00 pm / 2.30 pm – 6.00 pm. Any changes must be previously agreed with the Master coordination. The calendar includes the dates of deliveries of essays and exams.
2. As aulas teóricas decorrem em regime presencial e online. As aulas práticas decorrem sempre que possível em regime presencial.
   Theoretical courses run in presence and online. The practical courses run in presence, whenever possible.
3. A avaliação dos módulos obrigatórios é preferencialmente por trabalhos teóricos, podendo envolver dimensão prática e exame. Alguns destes trabalhos integram mais de um módulo. A avaliação dos módulos opcionais é preferencialmente por trabalhos práticos e exame.
   The evaluation of compulsory modules is preferably made through essays, but may also involve practical work and exams. Some of the essays may refer to more than one module. The evaluation of optional modules is preferably made through practical work or exam.
4. A avaliação inclui atividades em aula, trabalhos de grupo interdisciplinares e um exame global. No primeiro bloco de aulas (outubro-janeiro), serão realizados os 3 trabalhos (desenvolvidos ao longo dos 4 meses, em grupo). No segundo bloco de aulas (fevereiro-maio), poderão ser realizados relatórios e artigos que deverão ser entregues entre março e abril, realizando-se um exame, nos mesmos moldes do realizado em janeiro mas referente às unidades curriculares desenvolvidas entre fevereiro e abril.
   Evaluation includes lectureroom activities, interdisciplinary group work and a global exam. In the first block of lectures (October-January), 3 papers will be carried out (developed over the 4 months, in group). In the second block of lectures (February-May), reports and articles can be made to be delivered between March and April, taking an exam, in the same model of the one held in January but referring to the curricular units developed between February and April.
5. Após o exame de maio terão início os trabalhos de campo.

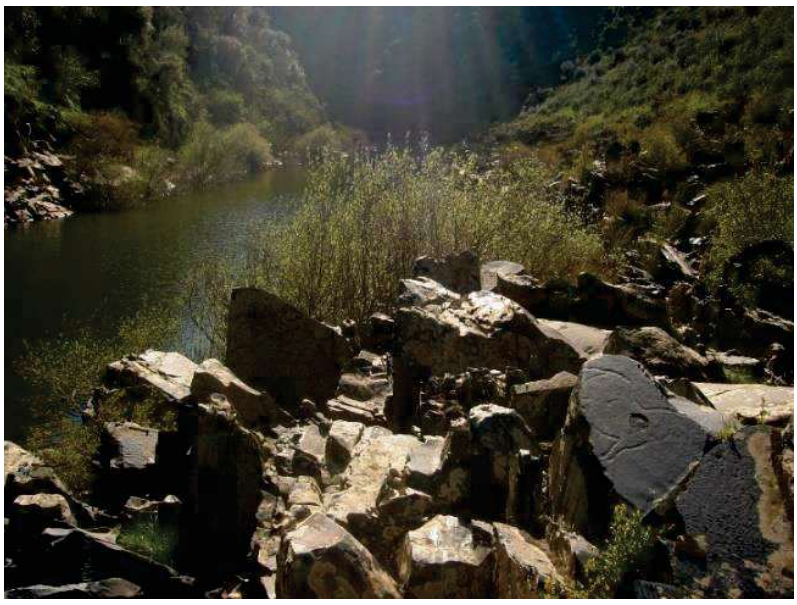
After the May exam, field work will begin.

Mais detalhes sobre a avaliação na secção respetiva, abaixo.

More details on the evaluation in the respective section, bellow.

THE CALENDAR

Outubro - October			Novembro - November		
	9h30-13h00	14h30-18h00		9h30-13h00	14h30-18h00
1			1		
2			2		
3			3		
4			4		
5			5		
6			6		
7			7	Inglês	Português
8			8	Pré-História Europeia	Pré-História Europeia
9			9		
10			10		
11	Gestão do Património Cult.	Gestão do Património Cult.	11		
12			12	Geol. F. Quat Cont.	Geol. F. Quat Cont.
13			13	Geol. F. Quat Cont.	Geol. F. Quat Cont.
14			14	Inglês	Português
15		Apresentação do Mestrado aos alunos	15	Pré-História Europeia	Pré-História Europeia
16	Seminário de Hoimenagem à Dr. Ana Rosa Cruz (Tomar)	Seminário de Hoimenagem à Dr. Ana Rosa Cruz (Tomar)	16		
17	Inglês	Português	17		
18	Pré-História Europeia	Pré-História Europeia	18		
19			19		
20			20		
21			21	Inglês	Português
22			22	Metod. Trabalho Científico	Metod. Trabalho Científico
23	Mét.Escav.R.A. (campo)	Mét.Escav.R.A. (campo)	23		
24	Mét.Escav.R.A. (campo)	Mét.Escav.R.A. (campo)	24		
25	Mét.Escav.R.A. (campo)	Mét.Escav.R.A. (campo)	25		
26	Mét.Escav.R.A. (campo)	Mét.Escav.R.A. (campo)	26		
27	Mét.Escav.R.A. (campo)	Mét.Escav.R.A. (campo)	27	Metod. Trabalho Científico	Metod. Trabalho Científico
28			28	Inglês	Português
29			29	Metod. Trabalho Científico	Metod. Trabalho Científico
30			30		
31	Inglês	Português			



Upper Palaeolithic horse engraving, Ocreza valley, Mação

Dezembro - December			Janeiro - January		
	9h30-13h00	14h30-18h00		9h30-13h00	14h30-18h00
1			1		
2			2		
3	Paleoecol. da Paisag.	Paleoecol. da Paisag.	3		
4	Paleoecol. da Paisag.	Paleoecol. da Paisag.	4		
5	Inglês	Português	5		
6			6		
7			7		
8			8		
9			9	Sistemas de Inf.Geogr.	Sistemas de Inf.Geogr.
10	Paleoecol. da Paisag.	Paleoecol. da Paisag.	10	Geodiv. Patr. Arq.	Estudos Multisensoriais…
11			11		
12	Inglês	Português	12		
13			13	Gestão do Patrim. Cult.	Estudos Multisensoriais…
14			14	Gestão do Patrim. Cult.	Estudos Multisensoriais…
15			15	Museografia	Museografia
16			16	Sistemas de Inf.Geogr.	Sistemas de Inf.Geogr.
17			17		Estudos Multisensoriais…
18			18		
19			19	**22h00 Prazo final de entrega Trabalhos 1, 2, 3**	
20			20	Arte Pré-Histórica	Arte Pré-Histórica
21			21	Arte Pré-Histórica	Arte Pré-Histórica
22			22	Arte Pré-Histórica	Arte Pré-Histórica
23			23	Sistemas de Inf.Geogr.	Sistemas de Inf.Geogr.
24			24	Arte Pré-Histórica	Arte Pré-Histórica
25			25		
26			26		
27			27	Arqueologia Rupestre	Arqueologia Rupestre
28			28	Arqueologia Rupestre	Arqueologia Rupestre
29			29	Arqueologia Rupestre	Arqueologia Rupestre
30			30	Sistemas de Inf.Geogr.	Sistemas de Inf.Geogr.
31			31	Arqueologia Rupestre	Arqueologia Rupestre

The Tagus basin, seen from the Bronze age hillfort Castelo Velho da Zimbreira

Fevereiro - February			Março - March		
	9h30-13h00	14h30-18h00		9h30-13h00	14h30-18h00
1			1		
2			2		
3			3		
4		Geodiv. Patr. Arq.	4		
5	Geomorfologia	Geomorfologia	5		
6	Geomorfologia	Geomorfologia	6		
7	Arte Neolít. Peninsular	Arte Neolítica Peninsular	7	Soc. Caçad. Recolect.	Soc. Caçadores Recolect.
8	Arte Neolít. Peninsular	Arte Neolítica Peninsular	8		
9			9		
10			10		**EXAME 1**
11	Geomorfologia	Geomorfologia	11		
12		Form.Mod.Dep.Antr.	12		
13	Form.Mod.Dep.Antr.	Form.Mod.Dep.Antr.	13	Seminário de GeoArq.	Seminário de GeoArq.
14	Bio-arqu, e Ev. Hum	Bio-arqu, e Ev. Hum	14	Seminário de GeoArq.	Seminário de GeoArq.
15	Bio-arqu, e Ev. Hum	Bio-arqu, e Ev. Hum	15		
16			16		
17	Form.Mod.Dep.Antr.	Form.Mod.Dep.Antr.	17	Seminário de GeoArq.	Seminário de GeoArq.
18	Form.Mod.Dep.Antr.	Tec.e Tipologia Lítica	18	Seminário de GeoArq.	Seminário de GeoArq.
19	Tec.e Tipologia Lítica	Tec.e Tipologia Lítica	19	Seminário de GeoArq.	Seminário de GeoArq.
20	Tec.e Tipologia Lítica	Tec.e Tipologia Lítica	20	Seminário de GeoArq.	Seminário de GeoArq.
21	Bio-arqu, e Ev. Hum	Bio-arqu, e Ev. Hum	21		Arq.Comp.Hum. e GIT
22	Bio-arqu, e Ev. Hum	Bio-arqu, e Ev. Hum	22		
23			23		
24			24		
25		Soc. Caçadores Recolect.	25		
26	Soc. Caçad. Recolect.	Soc. Caçadores Recolect.	26		
27	Mét.Escav.R.A. (equipam)	Mét.Escav.R.A. (equipam)	27		Gestão do Património Cult.
28	Mét.Escav.R.A. (equipam)	Mét.Escav.R.A. (equipam)	28	Gestão do Património Cult.	Gestão do Património Cult.
			29		
			30		
			31		

The new section of the Museum of Mação, at the village of Ortiga

Abril - April			Maio . May		
	9h30-13h00	14h30-18h00		9h30-13h00	14h30-18h00
1			1		
2	APHELEIA - AGIT	APHELEIA - AGIT	2		
3	APHELEIA - AGIT	APHELEIA - AGIT	3		
4	APHELEIA - AGIT	APHELEIA - AGIT	4	**22h00 Prazo final de entrega Trabalhos**	
5	APHELEIA – SPH	APHELEIA – SPH	5		
6	APHELEIA – SPH	APHELEIA – SPH	6		
7	APHELEIA – SPH	APHELEIA – SPH	7	Museografia	Museografia
8	APHELEIA – SPH	APHELEIA – SPH	8	Museografia	Museografia
9	APHELEIA – SPH	APHELEIA – SPH	9	Téc.Labor. e A.Exper.	Téc.Labor. e A.Exper.
10	APHELEIA – SPH	APHELEIA – SPH	10		
11	APHELEIA – Sem.G.Patr.	APHELEIA – Sem.G.Patr.	11		
12			12		**EXAME2**
13			13		
14			14	Escavações (AA)	Escavações (AA)
15			15	Escavações (AA)	Escavações (AA)
16		**Exame 1**	16	Escavações (AA)	Escavações (AA)
17			17		
18			18		
19			19	Escavações (AA)	Escavações (AA)
20			20	Escavações (AA)	Escavações (AA)
21			21	Escavações (AA)	Escavações (AA)
22	Gestão do Património Cult.	Gestão do Património Cult.	22	Escavações (AA)	Escavações (AA)
23	Téc.Labor. e A.Exper.	Téc.Labor. e A.Exper.	23	Escavações (AA)	Escavações (AA)
24	Téc.Labor. e A.Exper.		24		
25			25		
26			26	Escavações (AA)	Escavações (AA)
27			27	Escavações (AA)	Escavações (AA)
28			28	Escavações (AA)	Escavações (AA)
29	Tafonomia	Tafonomia	29	Escavações (AA)	Escavações (AA)
30	Tafonomia	Tafonomia	30	Escavações (AA)	Escavações (AA)
			31		

Textile stretcher, Neolithic, Gruta do Cadaval, Tomar.

Junho - June			Julho . July		
	9h30-13h00	14h30-18h00		9h30-13h00	14h30-18h00
1			1		
2			2		
3			3		
4			4		
5			5		
6			6	Conserv., Restauro…	Conserv., Restauro…
7			7	Conserv., Restauro…	Conserv., Restauro…
8			8	Conserv., Restauro…	Conserv., Restauro…
9	Museografia	Museografia	9		
10			10		
11			11		
12			12		
13			13		
14			14		
15			15		
16			16		
17			17		
18			18		
19			19		
20			20		
21			21		
22			22		
23			23		
24			24		
25			25		
26			26		
27			27		
28			28		
29			29		
30			30		
			31		

Late Iron age Scepter, Mação

Slate plaque from Mação.

Early maedieval hillfort of São Miguel da Amêndoa, Mação.

ASSESSMENT AND EVALUATIONS

A avaliação inclui atividades em aula, trabalhos de grupo interdisciplinares e um exame global.
No primeiro bloco de aulas, serão realizados os 3 trabalhos (desenvolvidos ao longo dos 4 meses, em grupo), que deverão ser entregues até à semana de 23 a 27 de janeiro de 2023, durante a qual se realizará o exame final global:

1. TRAB 1 Estudo com plano de montagem de exposição com catálogo de projeto de pré-história e arte pré-histórica – UCs GPC, MUS, MET, (bio), PHE e APH.
2. TRAB 2 Artigo de caracterização de uma área de referência, nas dimensões de povoamento humano, - UCs (BIO), ECO, GFQ, MET.
3. TRAB 3 Relatório sobre técnicas de arqueologia – UCs EXP, MET, RUP.
4. Exame global, em que cada docente de UC elabora 2 questões (total 26 questões), sendo uma de escolha múltipla (4 possibilidades) e 1 de desenvolvimento (requerendo uma redação de no máximo 2 páginas). Os estudantes deverão responder a 6 questões de escolha múltipla (10 pontos cada) e 2 questões de desenvolvimento (50 pontos cada). A correção formal da redação terá uma valoração de 20 pontos.

Evaluation includes lecture room activities, interdisciplinary teamwork and a global exam.
In the first block of lectures, 3 essays will be carried out (developed over the 4 months, in group), and should be delivered by the week of 23 to 27 January 2023, during which the final global exam will take place:

1. TRAB 1 Study with exhibition plan with prehistory and prehistoric art project catalog - GPC, MUS, MET, (bio), PHE and APH.
2. TRAB 2 Article characterizing a reference area, in the dimensions of human settlement, - UCs (BIO), ECO, GFQ, MET.
3. TRAB 3 Report on archaeology techniques – UCs EXP, MET, RUP.
4. Global exam, in which each C.U. lecturer elaborates 2 questions (total 26 questions), one of multiple choice (4 possibilities) and 1 of development (requiring an essay of a maximum of 2 pages). Students should answer 6 multiple choice questions (10 points each) and 2 development questions (50 points each). The formal correctness of the wording will value 20 points.

No segundo bloco de aulas, poderão ser realizados relatórios e artigos que deverão ser entregues entre março e abril, para além de um exame, nos mesmos moldes do realizado em janeiro, mas referente às unidades curriculares desenvolvidas entre fevereiro e abril.

In the second block of lectures, reports and articles can be made and should be delivered between March and April, plus an exam, in the same way as that held in January but referring to the curricular units developed between February and April.

Existirão dois blocos intensivos:

1. O Seminário de Gestão do Património e parte de AGIT entre 24 a 31 de março (desenvolvido com o programa APHELEIA).
2. A componente final dos Seminários de Pré-História e Geoarqueologia, em abril (desenvolvida em trabalhos de campo).

There will be two intensive blocks:

1. The Heritage Management Seminar and part of AGIT (developed with the APHELEIA program).
2. The final component of the Seminars of Prehistory and Geoarchaeology, in April (developed in fieldwork).

A avaliação em cursos específicos inclui:

a) SPH – discussão sobre a definição do tema da tese, a decidir até maio, incluindo a identificação dos supervisores e o plano de mobilidade.
b) AAR – um pequeno ensaio iniciado durante as palestras, complementado pelo debate do curso sobre um tema.
c) TEC - um exame com componente prática.

Assessment in specific courses includes:

a) SPH – discussion on the definition of the thesis topic, to be decided by May, including the identification of supervisors and the mobility plan.
b) AAR – a small essay initiated during the lectures, complemented by course debate on a theme.
c) TEC – an exam with practical component.

Survey of the Megalithic passage grave Anta da Lajinha, Cardigos, Mação.

Collapsed Wall from the Bronze age Castelo Velho da Zimbreira, Mação

LISTA DOS MÓDULOS – LIST OF MODULES				
Sem	**U.C.**	**ECTS**	**Docente**	**Avaliação (Exame +)** **Assessment (Exam +)**
MÓDULOS OBRIGATÓRIOS – COMPULSORY MODULES				
	Pré-História Europeia European Prehistory	3	Alexandra Figueiredo	Trabalho 1 Essay 1
	Arte Pré-Histórica Prehistoric Art	3	George Nash	Trabalho 1 Essay 1
	Bio-Arqueologia e Evolução Humana Bioarchaeology and Human evolution	6	Francisco Curate	Trabalho 2 Essay 2
	Geologia das Formações Quaternárias Continentais Geology of Quaternary Continental Formations	3	Pierluigi Rosina	Trabalho 2 Essay 2
	Paleoecologia da Paisagem Landscape Palaeoecology	3	Luís Santos	Trabalho 2 Essay 2
	Tecnologia e Tipologia Lítica Lithic technology and typology	3	Telmo Pereira	
	Arqueologia Rupestre Rupestrian archaeology	3	Sara Garcês	Trabalho 3 (relatório) Essay 3 (report)
	Gestão do Património Cultural Cultural heritage Management	3	Luiz Oosterbeek Sara Garcês	Trabalho 1 Essay 1
	Museografia Museography	3	Luiz Oosterbeek	Trabalho 1 Essay 1

Sem	U.C.	ECTS	Docente	Avaliação (Exame +) Assessment (Exam +)
MÓDULOS OBRIGATÓRIOS PARA ALUNOS ERASMUS MUNDUS – COMPULSURY MODULES FOR E.M. STUDENTS				
	Seminário de introdução Introductory seminar		IMQP	Trabalho. Essay
	Seminário de especialização Specialization seminar		IMQP	Trabalho coletivo. Collective essay
Sem	**U.C.**	**ECTS**	**Docente**	**Avaliação (Exame +) Assessment (Exam +)**
MÓDULOS OPCIONAIS – OPTIONAL MODULES				
	Seminário de Pré-História Prehistory Seminar	6	Luiz Oosterbeek Hugo Gomes	
	Instrumentos analíticos em estudos de materiais Analytical tools for materials studies	3	Luiz Oosterbeek	Trabalho 3 (relatório) Essay 3 (report)
	Metodologia do Trabalho Científico Methodology of Scientific Work	3	Silvério Figueiredo	Trabalhos 1 e 2 Essay 1 and 2
	Geodiversidade e Património Arqueológico Geodiversity and Archaeological Heritage	3	Pierluigi Rosina	
	Inglês English	3	Hermínia Sol	
	Português Portuguese	3	Hermínia Sol	
	Arte Neolítica Peninsular Peninuslar Neolithic Art	3	Hipólito Collado	
	Estudos Multisensoriais de Paisagens Multisensorial landscape studies	3	Fernando Coimbra	
	Sociedades de Caçadores Recolectores Hunter-Gatherer Societies	3	Silvério Figueiredo	
	Tafonomia Taphonomy	3	Silvério Figueiredo	
	Arqueologia, Comportamento Humano e Gestão Integrada do Território Archaeology, Human behaviour and Integrated Landscape Management	3	Luiz Oosterbeek	
	Sistemas de Informação Geográfica Geographic Information Systems	6	Rita Anastácio	
	Conservação, moldagem e restauro de materiais arqueológicos Conservation, casts and restoration of archaeological materials	3	Fernando Costa	
	Geomorfologia Geomorphology	3	Pierluigi Rosina Hugo Gomes	
	Formação e Modificação dos Depósitos Antrópicos Formation and Modification of Anthropic deposits	3	Pierluigi Rosina	
	Métodos de Escavação, Registo e Análise Field Recording and Analytics Methods	3	Fernando Coimbra Alexandra Figueiredo	
	Seminário de Gestão do Património Cultural Heriatge Seminar	6	Luiz Oosterbeek	
	Seminário de Geoarqueologia Geoarchaeology Seminar	6	Pierluigi Rosina Hugo Gomes	

THE PROGRAMMES

PRÉ-HISTÓRIA EUROPEIA – EUROPEAN PREHISTORY

Docente Responsável: Alexandra Figueiredo, Professora Adjunta

Compreender e estudar os comportamentos, tecnologias, crenças, hábitos e ações que desencadearam mudanças nas comunidades que ocuparam a Europa durante a pré-história. Diferentes estudos de caso serão considerados para compreender as diferentes formas de vida e relações, focando desde o período de caçadores-coletores até agricultores/pastores, e desde o uso da pedra até a criação das primeiras inovações metalúrgicas.

Understanding and studying the behaviors, technologies, beliefs, habits and actions that triggered changes in the experience of the communities that occupied Europe during prehistory. Different case studies will be considered to understand the different forms of life and relationships, focusing from the period of hunter-gatherers to farmers/pastors, and from the use of stone to the creation of the first metallurgical innovations.

ARTE PRÉ-HISTÓRICA – PREHISTORIC ART

Docente Responsável: George Nash, eq. Professor Adjunto.

Este curso analisará a história da investigação, utilizando uma série de grandes descobertas (por exemplo, Vale de Côa, NE Portugal, Chauvet, SE França, Paisley Caves, Oregon NW Americas, a arte rupestre da Indonésia, Brasil/Chile, América do Sul e Europa Periférica), os estudiosos envolvidos e as suas várias interpretações. Além disso, o curso analisará também as ideias filosóficas que foram incorporadas na arte pré-histórica em geral, como o xamanismo, o fenómeno entóptico e o totemismo; claramente a arte funciona como um catalisador para a ação humana – ver bibliografia selecionada.

This course will look at the history of research, using several of the major discoveries (e.g. Coa Valley, NE Portugal, Chauvet, SE France, Paisley Caves, Oregon NW Americas, the cave art of Indonesia, Brazil/Chile, South America and Peripheral Europe), the scholars involved and their various interpretations. In addition, the course will also look at the philosophical ideas that have been incorporated into early prehistoric art in general, such as shamanism, entoptic phenomenon and totemism; clearly art acts as a catalyst for human agency – see selected bibliography.

GEOLOGIA DAS FORMAÇÕES QUATERNÁRIAS CONTINENTAIS – GEOLOGY OF QUATERNARY CONTINENTAL FORMATIONS

Docente Responsável: Pierluigi Rosina, Professor Coordenador.

Conhecimento básico de processos geológicos, e da sua cronostratigrafia. Os processos geológicos introduzidos referem-se a depósitos continentais que contêm vestígios arqueológicos. Será disponibilizado conhecimento para a realização de uma descrição das unidades estratigráficas no domínio e métodos de estudo laboratoriais.

Basic knowledge of geological processes and their chronostratigraphy. The geological processes introduced will refer to continental deposits that contain archaeological traces. Knowledge will be provided to carry out a description of stratigraphic units in the field and laboratory study methods.

PALEOECOLOGIA DA PAISAGEM – LANDSCAPE PALAEOECOLOGY

Docente Responsável: Luís Santos, Professor Adjunto.

Conceitos de Ecologia, Paleoecologia, interpretação de gráficos e métodos de análise.

Concepts of Ecology, Paleoecology, interpretation of graphs and methods of analysis.

BIO-ARQUEOLOGIA E EVOLUÇÃO HUMANA – BIOARCHAEOLOGY AND HUMAN EVOLUTION

Docente Responsável: Francisco Curate, Investigador (Universidade de Coimbra).

Identificação dos ossos principais do esqueleto humano. Como interpretar os ossos humanos em contextos arqueológicos, reconhecer e interpretar os principais acontecimentos da história da evolução humana e da história natural humana.

Identification of the main bones of the human skeleton. How to interpret the human bones in archaeological contexts, be familiar and interpret the major events of the human evolutionary history and the human natural history.

ARQUEOLOGIA RUPESTRE – RUPESTRIAN ARCHAEOLOGY

Docente Responsável: Sara Garcês, eq. Professor Adjunto.

Metodologia aplicada ao rastreio e registo de arte rupestre em 2D e 3D; Técnicas de execução da arte rupestre; Grandes áreas de arte rupestre na Europa; A lista de património mundial da UNESCO de sítios de arte rupestre; O Complexo Rupestre do Tejo; Análise estilística e cronológica de diferentes sítios da Península Ibérica; Arqueometria e análise de pigmentos pré-históricos; Métodos de namoro na arte rupestre.

Methodology applied to the tracing and registration of rock art in 2D and 3D; Techniques of execution of rock art; Large areas of rock art in Europe; The UNESCO World Heritage list of rock art sites; The Tagus Rock Complex; Stylistic and chronological analysis of different sites in the Iberian Peninsula; Archeometry and analysis of prehistoric pigments; Dating methods in rock art.

TECNOLOGIA E TIPOLOGIA LÍTICA – LITHIC TECHNOLOGY AND TYPOLOGY

Docente Responsável: Telmo Pereira, eq. Professor Adjunto.

Definição e características de artefactos líticos. Critérios de análise de núcleos. Critérios de análise de suportes. Critérios de análise de peças retocadas. Critérios para a análise de peças polidas. Inferências funcionais e paleoetnográficas.

Definition and characteristics of lithic artifacts. Criteria for analysis of cores. Criteria for analysis of blanks and supports. Criteria for analysis of retouched tools. Criteria for the analysis of polished tools. Functional and palaeoethnographic inferences.

GESTÃO DO PATRIMÓNIO CULTURAL – CULTURAL HERITAGE MANAGEMENT

Docente Responsável: Luiz Oosterbeek, Professor Coordenador.

Definição de conceitos principais, como torná-los eficazes, quais são as principais questões específicas na gestão do património cultural, quais os principais instrumentos e métodos que podem ser utilizados, como estruturar um programa e um projeto, o sistema de avaliação HERITY e critérios de avaliação.

Definition of main concepts, how to render them effective, which are the core specific issues in cultural heritage management, which main tools and methods may be used, how to structure a programme and a project, the HERITY evaluation system and assessment criteria.

MUSEOGRAFIA – MUSEOGRAPHY

Docente Responsável: Luiz Oosterbeek, Professor Coordenador.

Conceitos. Noções básicas de muesografia. Trabalho de grupo aplicado.

The Concepts. Basics of museography: core concerns and tools; key concepts; variables; museography as a strategy of science education. Applied goup work.

PH – ESTUDOS MULTISENSORIAIS DE PAISAGENS – MULTISENSORIAL LANDSCAPE STUDIES

Docente Responsável: Fernando Augusto Rodrigues Coimbra, Professor Adjunto Convidado

Breve introdução à Arqueoacústica. Origens da música e comportamento musical primitivo. O contributo da Arqueoacústica para o estudo da arte pré-histórica. Arqueoacústica e arte rupestre pós-paleolítica. A vida sedentária e a multiplicação de instrumentos musicais. Cenas de música e de dança em arte rupestre.

Brief introduction to Archaeoacoustics. Origins of music and early musical behaviour. The contribution of Archaeoacoustics in the study of Prehistoric Art. Archaeoacoustics and post-Palaeolithic rock art. Sedentary life and the spread of musical instruments. Music and dancing scenes in rock art.

PH - ARQUEOLOGIA, COMPORTAMENTO HUMANO E GESTÃO INTEGRADA DO TERRITÓRIO – ARCHAEOLOGY, HUMAN BEHAVIOUR AND INTEGRATED LANDSCAPE MANAGEMENT

Docente Responsável: Luiz Oosterbeek, Professor Coordenador.

Teoria e estudos de caso para compreender a nova relação funcional entre a arqueologia e a gestão do território contemporânea em termos das necessidades da sociedade atual.

Theory and case studies to understand the new functional relationship between archaeology and contemporary land management in terms of the needs of current society.

PH - ARTE NEOLÍTICA PENINSULAR – PENINSULAR NEOLITHIC ART

Docente Responsável: Hipólito Collado Giraldo, eq. Professor Adjunto.

Introdução à arte rupestre de grupos humanos ao longo do Holoceno na Península Ibérica. Várias questões como estilos, técnicas, critérios de localização e diferentes abordagens para interpretar o seu significado serão abordadas. Além disso, os alunos serão introduzidos aos métodos de documentação de arte rupestre.

Introduction to the rock art of human groups along Holocene period in the Iberian Peninsula. Several issues as styles, techniques, location criteria and different approaches to interpreting its meaning will be addressed. Besides, students will be introduced to the rock art documentation methods.

MT – MÉTODOS DE ESCAVAÇÃO, REGISTO E ANÁLISE – FIELD RECORDING AND ANALYTICS METHODS

Docentes Responsáveis: Alexandra Figueiredo, Professora Adjunta; Fernando Coimbra, Eq. Prof. Adjunto

Este módulo decorre em duas partes. Na primeira, em outubro, os estudantes participarão numa escavação em Mação (F.Coimbra). Na segunda, complementarão a aprendizagem de utilização de equipamentos (estação total, GPS, entre outros).

This module runs in two parts. In the first, October, students will participate in an excavation in Mação (F. Coimbra). In the second, they will complement learning of usage of equipment (total station, GPS, and beyond – A. Figueiredo).

PH - SEMINÁRIO DE PRÉ-HISTÓRIA – PREHISTORY SEMINAR

Docente Responsável: Luiz Oosterbeek, Professor Coordenador.

Articulação Interdisciplinar dos projetos realizados pelos alunos do 1º ano de Mestrado e dos projetos levados a cabo pelos estudantes de doutoramento do segundo ano. Debates sobre questões de investigação.

Interdisciplinary articulation of the projects carried out by first-year Master's students and the projects undertaken by the second-year doctoral students. Debates on research issues.

PA - SOCIEDADES DE CAÇADORES RECOLECTORES – HUNTER-GATHERER SOCIETIES

Docente Responsável: Silvério Manuel Domingues Figueiredo, Professor Adjunto.

Esta disciplina irá lecionar sobre os diferentes aspetos que caracterizam as sociedades pré-históricas de caçadores-coletores. Estes aspetos incluem: a origem do homem e os primeiros fabricantes de instrumentos em África; As primeiras sociedades europeias; Os Caçadores-coletores do Paleolítico Inferior; Recursos naturais durante o Paleolítico Médio; Os caçadores-coletores do Paleolítico Inferior e Médio; Os Caçadores-Coletores do Paleolítico Superior; O Homem pré-histórico e arte pré-histórica.

This discipline will lecture the different aspects that characterize prehistoric hunter-gatherers' societies. Those aspects include: the origin of man and the first instrument manufacturers in Africa; The first European societies; The Hunter-gatherers of the Lower Palaeolithic; Natural resources during the Middle Palaeolithic; The Hunter-gatherers of the Lower and Middle Palaeolithic; The Hunter-Gatherers of the Upper Palaeolithic; Prehistoric Man and prehistoric art.

GQ - FORMAÇÃO E MODIFICAÇÃO DOS DEPÓSITOS ANTRÓPICOS – FORMATION AND MODIFICATION OF ANTHROPIC DEPOSITS

Docente Responsável: Pierluigi Rosina, Professor Coordenador.

Este curso centra-se na compreensão do que são os depósitos antrópicos e como são formados. Para isso, no decorrer das palestras será feita uma introdução à geoarqueologia; Serão observados os principais métodos de análise sedimentológica aplicados ao estudo dos sítios arqueológicos; os principais contextos ambientais e estratigráficos serão identificados e estudados especificamente; serão identificados depósitos fluviais, lacustrinas, cavidades, etc. Serão identificadas possíveis análises arqueométricas aplicáveis a estas realidades; e serão identificadas alterações no pecado e pós-doutoramento.

This course focuses on understanding what anthropic deposits are and how they are formed. To do this, in the course of the lectures will be given an introduction to the discipline of geoarchaeology; the main methods of sedimentological analysis applied to the study of archaeological sites will be seen; the main environmental and stratigraphic contexts will be identified and specifically studied; fluvial, lacustrine, cavity fillers, etc. deposits will be identified; possible Archaeometric analyses applicable to these realities will be identified; and sin and postsedimentary changes will be identified.

GQ - GEODIVERSIDADE E PATRIMÓNIO ARQUEOLÓGICO – GEODIVERSITY AND ARCHAEOLOGICAL HERITAGE

Docente Responsável: Pierluigi Rosina, Professor Coordenador.

Durante este curso, serão introduzidos os conceitos de Geodiversidade (variedade de materiais de terra, formas e processos que constituem e moldam a Terra, quer como um todo quer numa parte específica dela) e de Património Arqueológico (sinais móveis ou imóveis do passado antigo, trazidos à luz através de escavações técnicas ou ainda não desenterrados, mas cuja presença foi estabelecida num determinado local). Serão também identificados cenários, valor e perigos/ameaças, práticas de conservação, exemplos de comparação e integração da Geodiversidade com o Património Arqueológico.

During this course, the concepts of Geodiversity (variety of earth materials, forms and processes that constitute and shape the Earth, either as a whole or in a specific part of it) and Archaeological Heritage (movable or immovable signs of the ancient past, brought to light through technical excavations or not yet unearthed, but whose presence has been established in a given place) will be introduced. Settings, value and hazards/threats, conservation practices, examples of comparison and integration of Geodiversity with Archaeological Heritage will also be identified.

GQ - GEOMORFOLOGIA – GEOMORPHOLOGY

Docente Responsável: Pierluigi Rosina, Professor Coordenador.

Durante o curso, o conceito de Geomorfologia (estudo da morfologia da superfície da Terra, ou seja, as formas que compõem o relevo terrestre,

investigando a sua origem e evolução) será explicado através da identificação dos objetivos e métodos desta disciplina; Serão identificados princípios fundamentais na análise de ajuda. Outros conceitos que serão explicados serão a constituição e a dinâmica da Terra; a dinâmica dos processos às formas; Meteorização, erosão e formas; Geomorfologia Dinâmica: in situ alteração, estudo de formas e tipos de erosão; Rochas, suas estruturas e formas; Geomorfologia Estrutural introduzindo formas de relevo e geologia; a importância dos fatores e formas climáticas. Especificamente, a geomorfologia de Portugal será estudada.

During the course, the concept of Geomorphology (studies the morphology of the earth's surface, i.e., the forms that make up the land relief, investigating their origin and evolution) will be explained through the identification of the objectives and methods of this discipline; fundamental principles in relief analysis will be identified. Other concepts that will be explained will be the Earth's constitution and dynamics; the dynamics from processes to forms; Meteorization, erosion and forms; Dynamic Geomorphology: in situ alteration, the study of forms and types of erosion; Rocks, their structures and shapes; Structural Geomorphology introducing relief forms and geology; the importance of climatic factors and shapes. Specifically, the geomorphology of Portugal will be studied.

GQ - SEMINÁRIO DE GEOARQUEOLOGIA – GEOARCHAEOLOGY SEMINAR

Docente Responsável: Pierluigi Rosina, Professor Coordenador.

Durante este curso o conceito de geoarqueologia (um método de investigação arqueológica que utiliza a ajuda de métodos geológicos como a estratigrafia ou a geomorfologia). Tentando situar o sítio arqueológico num contexto mais amplo, que é o do território em que se situa o sítio. Esta abordagem ajuda a reconstruir não só a história material e cultural do local, mas também a dos recursos que a área oferecia. Além disso, a geoarqueologia é essencial para reconstruir quaisquer razões geológicas para o abandono do local, tais como: deslizamentos de terra, inundações ou terramotos. A disciplina visa também enriquecer o conhecimento geológico da área a caminho do planeamento futuro do uso da terra. Vários temas como o transporte de sedimentos, a fonte dos materiais e os indicadores climáticos serão tratados.

During this course the concept of geoarchaeology (a method of archaeological investigation that uses the aid of geological methods such

as stratigraphy or geomorphology. Trying to situate the archaeological site in a broader context, which is that of the territory in which the site is located). This approach helps to reconstruct not only the material and cultural history of the site, but also that of the resources that the area offered. In addition, geoarchaeology is essential to reconstruct any geological reasons for the abandonment of the site, such as may be: landslides, floods or earthquakes. Discipline is also aimed at enriching the geological knowledge of the area on the way to future land use planning. Various topics such as those of sediment transport, source of the materials, and climatic indicators will be treated.

MT - CONSERVAÇÃO, MOLDAGEM E RESTAURO DE MATERIAIS ARQUEOLÓGICOS – CONSERVATION, CASTS AND RESTORATION OF ARCHAEOLOGICAL MATERIALS

Docente Responsável: Fernando Manuel Conceição Costa, Investigador.

Diferença entre Moldagem e Modelação. Diferença entre copiar, replicar e falsificar. Tipos de Moldes. Normas para a avaliação de cópias ou reproduções. Legislação e Códigos Deontológicos relacionados com o problema das reproduções. Tipos de reprodução. Moldagem Aplicada a Situações de Conservação e Restauro. Materiais de moldagem. Materiais de Reprodução.

Difference between Molding and Modeling. Difference between copy, replica, and spoofing. Types of Molds. Standards for evaluating copies or reproductions. Legislation and Deontological Codes related to the problem of reproductions. Reproduction Types. Molding Applied to Conservation and Restoration Situations. Molding materials. Reproduction Materials.

MT - METODOLOGIA DO TRABALHO CIENTÍFICO – METHODOLOGY OF SCIENTIFIC WORK

Docente Responsável: Silvério Manuel Domingues Figueiredo, Professor Adjunto.

A Metodologia do trabalho científico é um método de aquisição de conhecimento. Os princípios do método científico são a observação, que deve ser rigorosamente analisada; formular hipóteses, por indução, com base nessas observações; Ensaios estatísticos experimentais e baseados na medição das deduções retiradas das hipóteses; e requinte, ou eliminação, das hipóteses baseadas nos resultados experimentais. Nesta disciplina, para além da definição e discussão do método científico serão

também analisados aspetos práticos, tais como: como organizar uma bibliografia. como estruturar um trabalho científico.

The Methodology of scientific work is a method of acquiring knowledge. The principles of the scientific method are the observation, that should be rigorously analyzed; formulating hypotheses, via induction, based on such observations; experimental and measurement-based statistical testing of deductions drawn from the hypotheses; and refinement, or elimination, of the hypotheses based on the experimental findings. In this discipline, in addition to the definition and discussion of the scientific method will also be analyzed practical aspects, such as: how to organize a bibliography. how to structure a scientific work.

MT - SISTEMAS DE INFORMAÇÃO GEOGRÁFICA – GEOGRAPHIC INFORMATION SYSTEMS

Docente Responsável: Rita Ferreira Anastácio, Professora Adjunta.

Introdução aos Sistemas de Informação Geográfica. Modelos de dados. Sistemas de coordenadas. Geoprocessamento e mapas.

Introduction to Geographic Information Systems. Data models. Coordinates' systems. Geoprocessing and maps.

MT - TAFONOMIA – TAPHONOMY

Docente Responsável: Silvério Manuel Domingues Figueiredo, Professor Adjunto.

A tafonomia pode ser definida como o estudo dos princípios que ocorrem durante a transição dos restos orgânicos da biosfera para a litosfera, a partir do momento em que o organismo ao qual pertence, morre, até ao momento em que este resto é recolhido, como um fóssil. A tafonomia é, portanto, o ramo da Paleontologia que lida com o enterro e fossilização dos organismos, ou seja, de todos os processos relacionados com a formação de um Depósito.

Taphonomy can be defined as the study of the principles that occur during the transition of organic remains from the biosphere to the lithosphere, from the moment the organism to which that remains belongs, dies, until the moment this remain is collected, as a fossil. Taphonomy is, therefore, the branch of Paleontology that deals with the burial and fossilization of organisms, that is, of all processes related to the formation of a Deposit.

MT – INSTRUMENTOS ANALÍTICOS EM ESTUDOS DE MATERIAIS – ANALYTICAL TOOLS IN MATERIALS' STUDIES

Docente Responsável: Luiz Oosterbeek, Professor Coordenador.

Formação aplicada em técnicas de campo e laboratório. Arqueologia experimental.

Applied training in field and laboratory techniques. Experimental archaeology.

MD - INGLÊS – ENGLISH

Docente Responsável: Hermínia Sol, Professora Adjunta.

O módulo de inglês, língua estrangeira, tem como principais objetivos aperfeiçoar um conjunto de competências linguísticas e socioculturais para aplicação em situações comunicativas na área da arqueologia assim como desenvolver capacidades de interpretação e produção textual usando a língua de uma forma fluente de acordo com as suas regras. Pretende-se dotar os alunos de um léxico variado e técnico de acordo com a sua área de estudo e consequentemente que saibam reconhecer as diferentes estruturas de textos académicos. Avaliação: Presença e participação na aula (20%) + Atividades de escrita feitas em aula (25%) + Prova final (55%).

The module of English, as a foreign language, has as main objectives to improve a set of linguistic and sociocultural competences for application in communicative situations within the area of archaeology as well as to develop abilities of interpretation and textual production using the language in a fluent way according to its rules. It is intended to provide students with a varied and technical lexicon according to their area of study so that they can recognize the different structures of academic texts. Assessment: Class attendance and participation (20%) + Classroom writing activities (25%) + Final test (55%).

MD - PORTUGUÊS – PORTUGUESE

Docente Responsável: Hermínia Sol, Professora Adjunta

O Módulo de Português, língua estrangeira, tem por objetivo dar um conjunto de ferramentas aos alunos que lhes permitam comunicar em português. Assim, pretende-se que adquiram competências ao nível da pronúncia do português, isto é que reconheçam os sons do sistema

fonético português e que sejam capazes de o reproduzir; almeja-se, ainda, que dominem o léxico básico do ponto de vista oral e escrito de modo a entender e reproduzir enunciados relacionados com as necessidades do quotidiano em língua portuguesa, que lhes permitam entabular eficazmente um diálogo. Avaliação: Presença e participação na aula (20%) + Atividades de escrita feitas em aula (25%) + Prova final (55%).

The Module of Portuguese, a foreign language, aims to give a set of tools to students who disburse themselves in Portuguese. Thus, it is intended that they acquire skills in the pronunciation of the Portuguese, that is, that they recognize the children of the phonetic system Portuguese and that they are able to reproduce; it is also intended that they dot the basic lexicon from the oral and written point of view in order to understand and reproduce statements related to how everyday needs in Portuguese, which effectively entabulate a dialogue. Evaluation: Presence and participation in class (20%) + Writing activities done in class (25%) + Final test (55%).

MD - SEMINÁRIO DE GESTÃO DO PATRIMÓNIO – CULTURAL HERITAGE SEMINAR

Docente Responsável: Luiz Oosterbeek, Professor Coordenador.

Desenvolvimento de competências para coordenar projetos na área da gestão do património arqueológico. Este seminário é articulado com a Conferência Internacional da APHELEIA, organizada todos os anos.

Development of skills to coordinate projects in the field of archaeological heritage management. This seminar is articulated with the International APHELEIA Conference, organized every year.

PH - SEMINÁRIO DE INTRODUÇÃO IMQP – IMQP INTRODUCTORY SEMINAR

Docente Responsável: Luiz Oosterbeek, Professor Coordenador.

Nivelamento de alunos e introdução geral ao IMQP, online, envolvendo todos os alunos das quatro universidades.

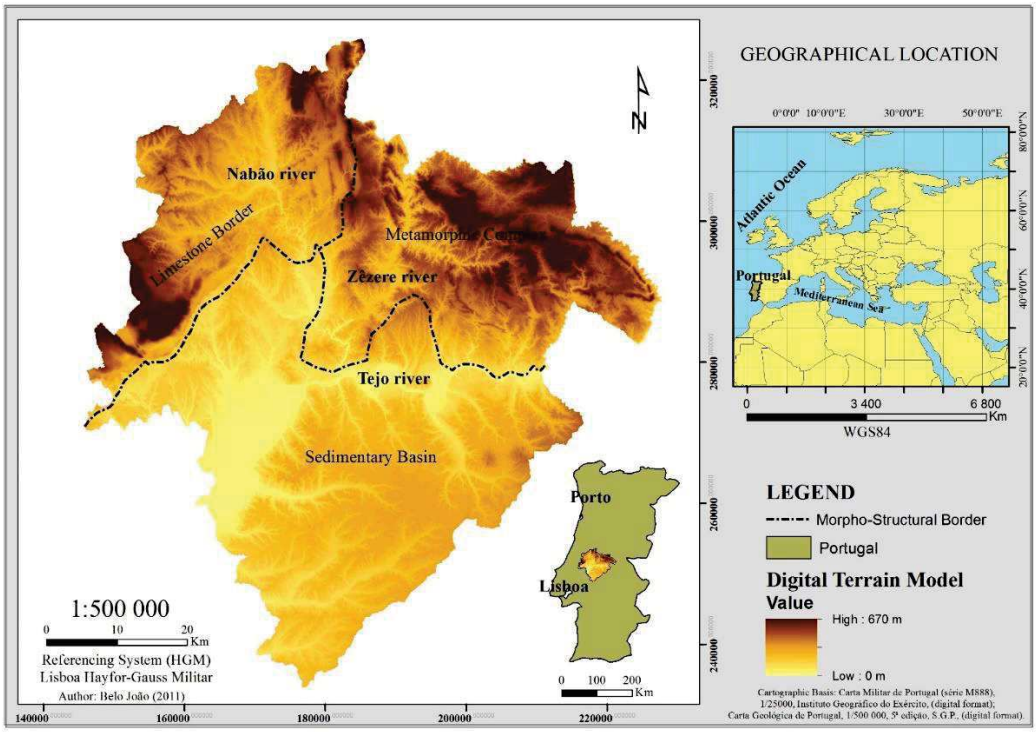
Levelling of students and general introduction to IMQP, online, engaging all students in the four universities.

PH - SEMINÁRIO DE ESPECIALIZAÇÃO IMQP – IMQP SPECIALIZATION SEMINAR

Docente Responsável: Pierluigi Rosina, Professor Adjunto.

Organizado todos os anos por uma universidade parceira diferente, é obrigatório para todos os alunos do IMQP.

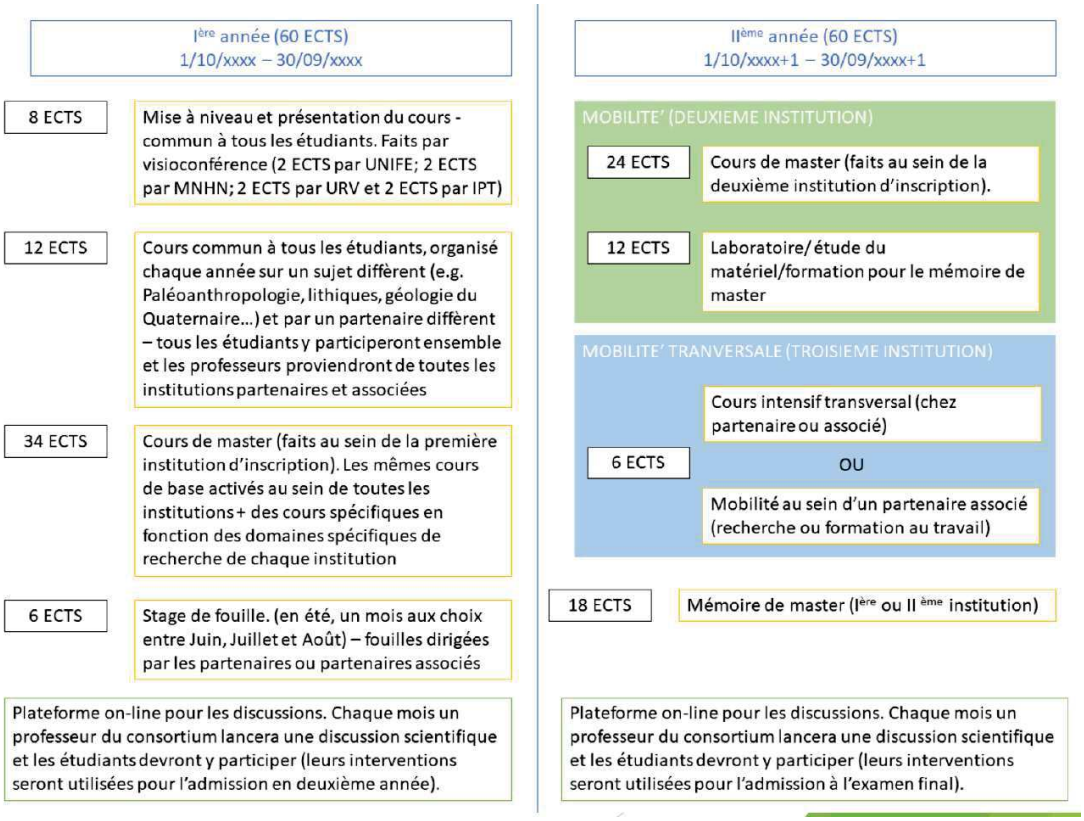
Organized each year by a different partner university, it is compulsory for all IMQP students.



The Alto Ribatejo Region DEM.

ERASMUS INTERNATIONAL MASTER IN QUATERNARY AND PREHISTORY

MAPHAR is part of the Erasmus + IMQP. This is delivered by IPT with the Universities of Ferrara (Italy) and Tarragona (Spain) and the Muséum National d'Histoire Naturelle (France), providing students follow part of their ECTS in a second country and participate in specific joint activities.



The table above illustrates one possibility of mobility to follow.

In the first year you will be involved in two activities:

- A common course: Introduction to Prehistory and Quaternary Science (8 ECTS)
    - Note: students taking this course will have validated the following ECTS of MAPHAR: Prehistory Seminar (6) and Autonomous Activities (2)
- A common joint course on Palaeoanthropology and Methodology (12 ECTS)
    - Note: students taking this course will have validated the following ECTS of MAPHAR: Geoarchaeology Seminar (6) and Bio-Archaeology (6).

Further explanations will be given in the first lecture of the course.

USEFUL CONTACTS AND LINKS

Emails

Balcão Único - Student Point of Contact (registration and academic procedures) - balcaounico@ipt.pt

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Municipality of Mação +351241 577 200

Firemen in Mação + 351 241 519 000

Police (GNR) in Mação +351 241 572 222

Health Centre in Mação +351 241 577 020

Useful links

www.ipt.pt

www.institutoterramemoria.org

www.apheleiaproject.org

www.museumacao.pt

www.uispp.org

www.cipsh.net

Centro de Geociências (uc.pt)

www.cpgp.pt

A model of explanation of the dawn of farming in the Alto Ribatejo region.