

United Nations
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UNESCO Chair in Humanities and
Cultural Integrated Landscape Management,
Polytechnic Institute of Tomar



*ERASMUS MUNDUS
MASTER IN
QUATERNARY AND
PREHISTORY*

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

A GUIDE TO STUDENTS – 2021-2022

MAPHAR – IMQP 2021-2022
INSTITUTO POLITÉCNICO DE TOMAR
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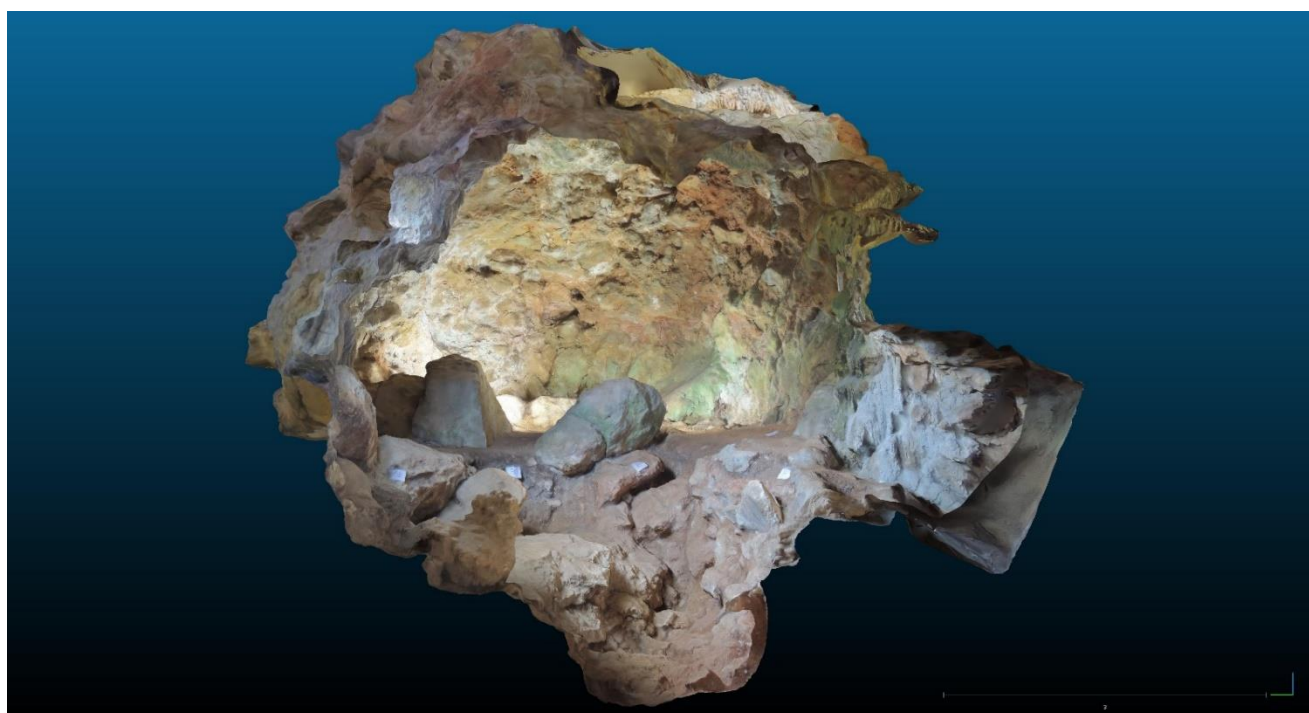


Photo: 3D reconstruction of Gruta do Cadaval cave, Tomar.

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.

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 to 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: Università degli Studi di Ferrara, Muséum national d'Histoire Naturelle or Universitat Rovira I Virgili, Tarragona.

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).



Left: Neolithic vessel, Gruta do Cadaval, Tomar. Right: Megalithic passage grave Anta da Foz do Rio Frio, Mação.

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 through 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 assume 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 Paleoeologia 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)

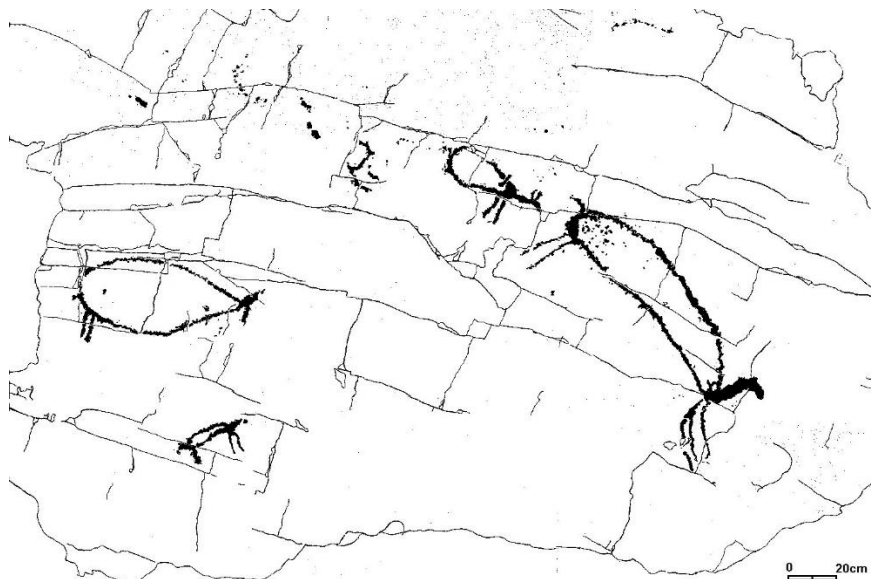
The MAPHAR study experience

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 de 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



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.

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 30 years of experience and an educational offer including over 20 Bachelor's degrees and several Post-graduations and Master's degrees, IPT has managed to face the regional challenges.

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.



Main campus of IPT, Tomar.

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 Instituto Terra e Memória (ITM-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, bidding 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.

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 (YIGU); 2) participation in the steering committees of UNESCO projects on Geo-Parks, International Geoscience Programme (IGP), Landscape Management (Aphelieia) 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.



Instituto Terra e Memória research centre, Mação.

CGEO is also the basis of the European Aphelieia 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 stratigraphies 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).

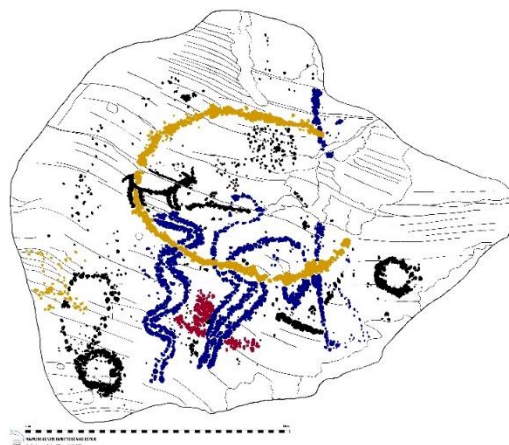
Major contributions in Quaternary studies include: new model of geoarchaeological interpretation of the “terra preta” deposits formation and significance, in Brazil; new model on the Guarani expansion in Brazil, based on ceramics technological analysis; corpus of rock art, models of human transitions 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).



Museum of Prehistoric Art of Mação

Objectives set by CGEO build on the achievements from the previous stage. CGEO has obtained research recognition and impact in the aforementioned 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 Apeleia. 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, paleontology 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.



Reconstruction of Palaeolithic hut, Archaeopark of Mação

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. As aulas assinaladas em fundo cor de salmão, serão exclusivamente online. Os docentes enviarão, antecipadamente, os links, na plataforma TEAMS. Os docentes deverão assegurar tutorias presenciais.

Theoretical courses run in presence and online. The practical courses run in presence, whenever possible. The lectures coloured in salmon will be exclusively online. Lecturers will send the links on the TEAMS platform in advance. Lecturers will also secure in presence tutorials.

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.

LISTA DOS MÓDULOS – LIST OF MODULES				
Sem	U.C.	ECTS	Docente	Avaliação Assessment
MÓDULOS OBRIGATÓRIOS – COMPULSORY MODULES				
	Pré-História Europeia European Prehistory	3	Luiz Oosterbeek	Trabalho para o conjunto dos dois módulos. Joint essay for the two modules.
	Geologia das Formações Quaternárias Continentais Geology of Quaternary Continental Formations	3	Pierluigi Rosina	
	Tecnologia e Tipologia Lítica Lithic technology and typology	3	Telmo Pereira	Trabalho para o conjunto dos dois módulos. Joint essay for the two modules.
	Arqueologia Rupestre Rupestrian archaeology	3	Sara Garcês	
	Museografia Museography	3	Luís Mota Figueira	Trabalho para o conjunto dos dois módulos. Joint essay for the two modules.
	Gestão do Património Cultural Cultural heritage Management	3	Luiz Oosterbeek	
	Arte Pré-Histórica Prehistoric Art	3	George Nash	Trabalho. Essay.
	Bio-Arqueologia e Evolução Humana Bioarchaeology and Human evolution	6	Francisco Curate	Trabalho. Essay.
	Paleoecologia da Paisagem Landscape Palaeoecology	3	Luís Santos	Trabalho. Essay.
Sem	U.C.	ECTS	Docente	Avaliação Assessment
MÓDULOS OBRIGATÓRIOS PARA ALUNOS ERASMUS MUNDUS – COMPULSORY 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.	EC TS	Docente	Avaliação Assessment
MÓDULOS OPCIONAIS – OPTIONAL MODULES				
	Arte Neolítica Peninsular Peninsular Neolithic Art	3	Hipólito Collado	Trabalho aplicado ou Exame. Applied work or Exam.
	Arqueoaústica e Arte Rupestre Archaeoaoustics and Rock Art	3	Fernando Coimbra	Trabalho aplicado ou Exame. Applied work or Exam.
	Seminário de Pré-História Prehistory Seminar	6	Luiz Oosterbeek	Relatório a entregar em Junho. Report to be delivered in June.
	Arqueologia, Comportamento Humano e Gestão Integrada do Território Archaeology, Human behaviour and Integrated Landscape Management	3	Luiz Oosterbeek	Trabalho aplicado ou Exame. Applied work or Exam.
	Etnoarqueologia Ethnoarchaeology	3	Luís Mota Figueira	Trabalho aplicado ou Exame. Applied work or Exam.
	Formação e Modificação dos Depósitos Antrópicos Formation and Modification of Anthropic deposits	3	Pierluigi Rosina	Trabalho aplicado ou Exame. Applied work or Exam.
	Geodiversidade e Património Arqueológico Geodiversity and Archaeological Heritage	3	Pierluigi Rosina	Trabalho aplicado ou Exame. Applied work or Exam.
	Geomorfologia Geomorphology	3	Pierluigi Rosina	Trabalho aplicado ou Exame. Applied work or Exam.
	Seminário de Geoarqueologia Geoarchaeology Seminar	6	Pierluigi Rosina	Trabalho aplicado ou Exame. Applied work or Exam.
	Conservação, moldagem e restauro de materiais arqueológicos Conservation, casts and restoration of archaeological materials	3	Fernando Costa	Trabalho aplicado. Applied work.
	Técnicas de laboratório e arqueologia experimental Laboratory techniques and Experimental Archaeology	3	Luiz Oosterbeek	Trabalho aplicado. Applied work.
	Metodologia do Trabalho Científico Methodology of Scientific Work	3	Silvério Figueiredo	Trabalho aplicado ou Exame. Applied work or Exam.
	Sistemas de Informação Geográfica Geographic Information Systems	6	Rita Anastácio	Trabalho aplicado.
	Sociedades de Caçadores Recolectores Hunter-Gatherer Societies	3	Silvério Figueiredo	Trabalho aplicado ou Exame. Applied work or Exam.
	Tafonomia Taphonomy	3	Silvério Figueiredo	Trabalho aplicado ou Exame. Applied work or Exam.
	Inglês English	3	Hermínia Sol	Trabalho aplicado ou Exame. Applied work or Exam.
	Português Portuguese	3	Hermínia Sol	Trabalho aplicado ou Exame. Applied work or Exam.
	Seminário de Gestão do Património Cultural Heriatge Seminar	6	Luiz Oosterbeek	Preparação de artigo. Preparation of paper.

INTRODUCING THE TEACHING STAFF

Programme coordination:

Luiz Oosterbeek - www.cienciavitae.pt/portal/8F1D-6954-5FAB

Pierluigi Rosina - www.cienciavitae.pt/portal/B61C-102D-BD9F

Silvério Figueiredo www.cienciavitae.pt/portal/E419-DBB9-E859

Other teaching staff:

Alexandra Figueiredo - <https://www.cienciavitae.pt/portal/AA1C-2D35-B5A7>

Fernando Coimbra - www.cienciavitae.pt/portal/4719-2211-0247

Fernando Costa - www.cienciavitae.pt/portal/FC1F-75AA-6629

Francisco Curate - www.cienciavitae.pt/portal/EF1B-4B08-5982

George Nash - www.cienciavitae.pt/portal/5310-C8A9-2D07

Hermínia Sol - www.cienciavitae.pt/portal/941B-7834-5C49

Hipólito Collado - www.cienciavitae.pt/portal/E814-CC4E-83AB

Luís Mota Figueira - www.ipt.pt/download/cph/praxis3/10CV_LMFigueira.pdf

Luís Santos - www.cienciavitae.pt/portal/031C-78F9-EC97

Rita Anastácio - www.cienciavitae.pt/portal/1F16-572C-A476

Sara Garcês - www.cienciavitae.pt/portal/3B1D-3194-7E9D

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

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Pedro Cura - <https://institutoterramemoria.academia.edu/Pedrocura/CurriculumVitae>

Visiting professors

André Luís Ramos Soares - <http://lattes.cnpq.br/4984779171371127>

Cristiana Ferreira - www.cienciavitae.pt/portal/5815-4B65-F8FE

Davide Delfino - www.cienciavitae.pt/portal/A41D-FDDE-4F67

Dragos Gheorghiu - www.unarte.org/respdf/606noutati2.pdf

Fabio Carbone - <https://pureportal.coventry.ac.uk/en/persons/fabio-carbone>

Georgios Dimitriadis - www.cienciavitae.pt/3C14-F5FF-AA76

Hugo Gomes - www.cienciavitae.pt/portal/3A18-0817-4E55

Stefano Grimaldi - <https://webapps.unitn.it/du/it/Persona/PER0002410/Curriculum>

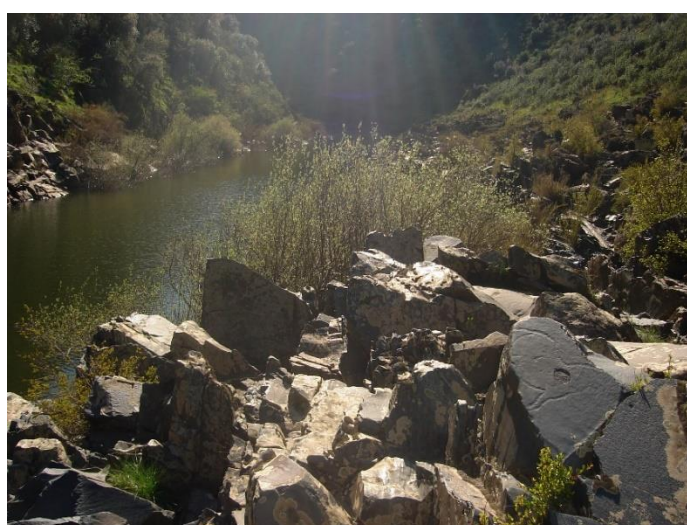
THE CALENDAR

Outubro/October 2021						
1	2	3	4	5	6	7
8	9	10	11	12	13 9h30 Sem.Pré-Hist. (Visita de estudo)	14 9h30 Pré-História Europeia
					14h30 Sem. PH (abertura de aulas)	
15 9h30 Geologia Form.Quatern.Co nt.	16	17	18 10h00 Pré-Hist.Europeia	19 9h30 Geologia Form.Quatern.Co nt.	20 9h30 Geologia Form.Quatern.Co nt.	21 9h30 Português
9h30 Geologia Form.Quatern.Co nt.				14h30 Pré-Hist.Europeia		14h30 Inglês
22	23	24	25	26 (Aniversário do IPT)	27	28 9h30 Português
						14h30 Inglês
29	30 9h30 Tec. e Tipol. Lítica 14h30 Tec. e Tipol. Lítica	31				



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

Novembro/November 2021						
1 Entrega versão 1 trabalho PHE e GFQC	2	3	4 9h30 Português	5 9h30 Arqueologia Rupestre	6 9h30 Tec. e Tipol. Lítica.	7
	14h30 Arqueologia Rupestre	14h30 Arqueologia Rupestre	14h30 Inglês	14h30 Metodologia do Trab. Científico	14h30 Tec. e Tipol. Lítica	
8 SGP - Encontro de Museus MT (online)	9	10	11 9h30 Português	12	13 9h30 Tec. e Tipol. Lítica	14 x
SGP - Encontro de Museus MT (online)		14h30 Arqueologia Rupestre	14h30 Inglês	14h30 Arqueologia Rupestre		
15	16 9h30 Arte Pré- Hist.	17 9h30 Arte Pré- Hist.	18 9h30 Português	19 9h30 Arte Pré- Hist.	20 Entrega versão 1 trabalho ARup e TTL	21
			14h30 Inglês			
22 9h30 Arte Pré- Hist.	23 9h30 Arte Pré- Hist.	24	25 9h30 Português	26 9h30 Paleoecologia da Paisagem	27 9h30 Bio- Arqueol. e Evolução Humana	28
			14h30 Inglês	14h30 Bio- Arqueol. e Evolução Humana	14h30 Bio- Arqueol. e Evolução Humana	
29	30 Entrega versão 1 trab. Arte Pré- Histórica					



Upper Palaeolithic horse engraving, Ocreza valley, Mação

1	2	3	4	5	6	7
	9h30 Português	9h30 Paleoecologia da Paisagem	9h30 Bio- Arqueol. e Evol. Humana		9h30 Paleoecologia da Paisagem	
	14h30 Inglês	14h30 Bio- Arqueol. e Evol. Humana	14h30 Bio- Arqueol. e Evol. Humana		14h30 Paleoecologia da Paisagem	
8	9	10	11	12	13	14
	9h30 Português	9h30 Paleoecologia da Paisagem	9h30 Bio- Arqueol. e Evol. Humana			
	14h30 Inglês	14h30 Bio- Arqueol. e Evol. Humana	14h30 Bio- Arqueol. e Evol. Humana			
15	16	17	18	19	20	21
	9h30 Português				Entrega versão 1 trab. Pal. da Paisagem	
	14h30 Inglês					
22	23	24	25	26	27	28
29	30	31				



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

1	2	3	4	5 Entrega versão 1 trab. Bio-Arq. e Ev. Humana	6	7 9h30 Gestão do Património Cultural
					14h30 Gestão do Património Cultural	14h30 Museografia
8 9h30 Museografia	9	10	11 9h30 Gestão do Património Cultural	12	13	14
14h30 Museografia			14h30 Metodologia do Trab. Científico	14h30 Metodologia do Trab. Científico	14h30 Metodologia do Trab. Científico	
15 14h30 Museografia	16	17 9h30 Sistemas Inform. Geográfica	18 9h30 Sistemas Inform. Geográfica	19 9h30 Sistemas Inform. Geográfica	20 9h30 Sistemas Inform. Geográfica	21 9h30 Sistemas Inform. Geográfica
			14h30 Conserv. Rest. Mold. Mat. Arq	14h30 Conserv. Rest. Mold. Mat. Arq	14h30 Conserv. Rest. Mold. Mat. Arq	14h30 Conserv. Rest. Mold. Mat. Arq
22	23	24 9h30 Sistemas Inform. Geográfica	25 9h30 Sistemas Inform. Geográfica	26 9h30 Seminário de Geoarqueologia	27 9h30 Seminário de Geoarqueologia	28 9h30 Seminário de Geoarqueologia
		14h30 Sistemas Inform. Geográfica		14h30 Seminário de Geoarqueologia.	14h30 Seminário de Geoarqueologia.	14h30 Seminário de Geoarqueologia.
29	30	31 9h30 Seminário de Geoarqueologia				
		14h30 Seminário de Geoarqueologia				



Textile stretcher, Neolithic, Gruta do Cadaval, Tomar.

1	2	3	4	5	6	7
		9h30 SPH – Nada Elias	9h30 SPH – Nada Elias			
14h30 SPH – Nada Elias	14h30 Seminário de Pré-História 14h30 SPH – Nada Elias		Entrega versão 1 trab. GPC e Museografia			
8	9 (Aniversário do ITM)	10	11	12	13	14
15	16	17 Exame ou trab. Sem. de Geoarq.	18 9h30 Seminário de Pré-História 14.30 Etnoarqueologia	19 9.30 Etnoarqueologia 9.30 Etnoarqueologia	20	21
22	23	24	25	26 Entrega trab. Sist. Inform. Geogr..	27	28 IMQP
			14.30 Etnoarqueologia			



Late Iron age Scepter, Mação

1	2 IMQP 14h30 Arq. Comp. Humano e G.I.T.	3 IMQP 9h30 Seminário de Pré-História	4 IMQP	5 IMQP	6 IMQP	7 IMQP
	14h30 Arq. Comp. Humano e G.I.T.	14h30 Arq. Comp. Humano e G.I.T.				
8 IMQP	9 IMQP	10 9h30 Seminário de Pré-História	11	12	13	14
15	16 Exame ou trab. Etnoarqueologia	17 14h30 Arqueoac. e Arte Rupestre	18 9h30 Arqueoac. e Arte Rupestre 14h30 Arqueoac. e Arte Rupestre	19	20	21
22	23	24	25	26	27	28
29	30 APHELEIA 9h30 Sem. de Gest. Património	31 APHELEIA 9h30 Sem. de Gest. Património				
	14h30 Sem. de Gest. Património	14h30 Sem. de Gest. Património				



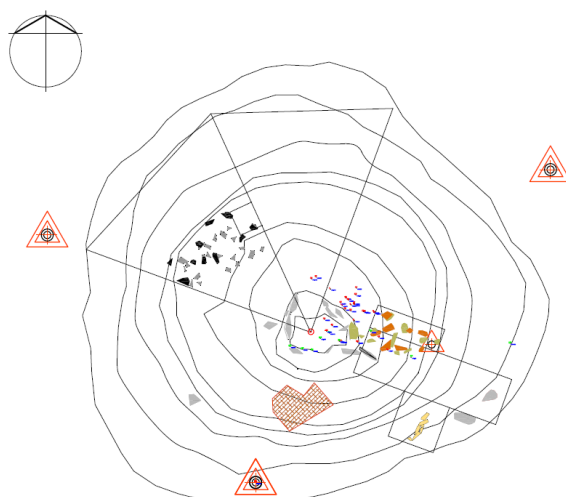
Slate plaque from Mação.

1 APHELEIA 9h30 Sem. de Gest. Património	2 APHELEIA 9h30 Sem. de Gest. Património	3 APHELEIA 9h30 Sem. de Gest. Património	4 APHELEIA 9h30 Sem. de Gest. Património	5 APHELEIA 9h30 Sem. de Gest. Património	6 APHELEIA 9h30 Sem. de Gest. Património	7 APHELEIA 9h30 Seminário de Pré-História
14h30 Sem. de Gest. Património	14h30 Sem. de Gest. Património	14h30 Sem. de Gest. Património	14h30 Sem. de Gest. Património	14h30 Sem. de Gest. Património	14h30 Sem. de Gest. Património	14h30 Seminário de Pré-História
8 APHELEIA 9h30 Seminário de Pré-História	9	10	11	12 Entrega trab. SGP e Arq.C.H.GIT	13	14
14h30 Seminário de Pré-História						
15	16	17	18	19	20 9h30 Seminário de Pré-História	21 9.30 Téc. Lab. e Arq. Experimental
				14h30 Soc. Caçad. Recolectores	14.30 Téc. Lab. e Arq. Experimental	14.30 Téc. Lab. e Arq. Experimental
22	23 9h30 Soc. Caçad. Recolectores	24	25	26 9h30 Form. e Mod. de Dep. Antrópicos	27 9h30 Form. e Mod. de Dep. Antrópicos	28 9h30 Form. e Mod. de Dep. Antrópicos
14.30 Téc. Lab. e Arq. Experimental	14h30 Soc. Caçad. Recolectores			14h30 Tafonomia	14h30 Tafonomia	14h30 Tafonomia
29	30					



Early maedieval hillfort of São Miguel da Amêndoa, Mação.

1	2	3 9h30 Form. e Mod. de Dep. Antrópicos	4 9h30 Geodiv. e Patr. Arqueológico 14h30 Tafonomia	5 9h30 Seminário de Pré-História	6 9h30 Geodiv. e Patr. Arqueológico	7 Exame ou trab. Arqueoaústica e AR
8	9	10 9h30 Geodiv. e Patr. Arqueológico	11 9h30 Geodiv. e Patr. Arqueológico	12 9h30 Geodiv. e Patr. Arqueológico Exame ou trab. Soc.Caçad.Recol et.	13 9h30 Arte Neolítica Peninsular	14 9h30 Arte Neolítica Peninsular 14h30 Arte Neolítica Peninsular
15	16	17 9h30 Geomorfologia	18 9h30 Geomorfologia	19	20 Exame ou trab. Form. Mod. Dep. Antr	21
22	23	24	25 9h30 Geomorfologia	26 9h30 Geomorfologia	27 Exame ou trab. Arte Neol. Peninsular	28
29	30 9h30 Geomorfologia	31				



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

Junho/June 2021						
1	2 Exame ou trab. Geodivers. e Patr. Arg	3	4	5	6 Exame ou trab. Geomorfologia	7
8	9 Exame ou trab. Tafonomia	10	11	12	13 Trabalhos de campo	14 Trabalhos de campo
15 Trabalhos de campo	16	17 Trabalhos de campo	18	19	20 Trabalhos de campo	21 Trabalhos de campo
22 Trabalhos de campo	23 Trabalhos de campo	24 Trabalhos de campo	25	26	27 Trabalhos de campo	28 Trabalhos de campo
29 Trabalhos de campo	30 Trabalhos de campo					

Further field work: Julho/July,...



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

THE PROGRAMMES

Pré-História Europeia – European Prehistory

Docente Responsável: Luiz Oosterbeek, Professor Coordenador.

The course focuses on three main research areas: Quaternary and human colonisation in Europe and its wider context; Hunting-Gathering Societies; The first farmers.

Arte Pré-Histórica – Prehistoric Art

Docente Responsável: George Nash, eq. Professor Adjunto.

This course will look at the history of research, using a number of the major discoveries (e.g. Coâ 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.

Basic knowledge of geological processes - and their chrono-stratigraphy - related to continental deposits that contain archeological traces. Description of stratigraphic units in the field and laboratory study methods.

Paleoecologia da Paisagem – Landscape Palaeoecology

Docente Responsável: Luís Santos, Professor Adjunto.

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).

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.

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.

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.

Gestão do Património Cultural – Cultural heritage Management

Docente Responsável: Luiz Oosterbeek, Professor Coordenador.

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: Luís Mota Figueira, Professor Coordenador.

Acquisition of instrumental competencies (cognitive, methodological, technological and terminological), interpersonal skills (interaction and cooperation in personal and group performance) and systemic competencies (understanding, sensitivity and generic and specific knowledge about the reality of the curricular unit), in the domains of museography.

PH - Arqueoacústica e Arte Rupestre - Archaeoacoustics and Rock Art

Docente Responsável: Fernando Augusto Rodrigues Coimbra, Professor Adjunto Convidado

Brief introduction to Archaeoacoustics. Soundscapes in the Palaeolithic. The contribution of Archaeoacoustics in the study of Prehistoric Art. Archaeoacoustics and post-Palaeolithic rock art.

PH - Arqueologia, Comportamento Humano e Gestão Integrada do Território – Archaeology, Human behaviour and Integrated Landscape Management

Docente Responsável: Luiz Oosterbeek, Professor Coordenador.

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.

Introduction to the rock art techniques, its location criteria and different approaches to interpreting its meaning. Students will be introduced to the documentation techniques related with rock art.

PH - Etnoarqueologia – Ethnoarchaeology

Docente Responsável: Luís Mota Figueira, Professor Coordenador.

Instrumental skills (cognitive, methodological, technological and terminological), interpersonal skills (group interaction and cooperation) and systemic skills (comprehension, sensitivity and general and specific knowledge of subject matters) in ethnoarchaeology.

PH - Seminário de Pré-História – Prehistory Seminar

Docente Responsável: Luiz Oosterbeek, Professor Coordenador.

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.

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 art.

GQ - Formação e Modificação dos Depósitos Antrópicos – Formation and Modification of Anthropic deposits

Docente Responsável: Pierluigi Rosina, Professor Coordenador.

Introduction to geo-archaeology. Methods of sedimentological analyses applied to the study of archaeological sites. Environmental and stratigraphic contexts. Deposits: river, lacustrine, cavity fillers, etc. Archaeometric analyses. The sin and post-sedimentary changes.

GQ - Geodiversidade e Património Arqueológico – Geodiversity and Archaeological Heritage

Docente Responsável: Pierluigi Rosina, Professor Coordenador.

General Considerations: Geodiversity and Archaeological Heritage; Settings. Value and threats of Geodiversity and Archaeological Heritage. Conservation and Management of Geodiversity and Archaeological Heritage. Comparison and Integration of Geodiversity with Archaeological Heritage.

GQ - Geomorfologia – Geomorphology

Docente Responsável: Pierluigi Rosina, Professor Coordenador.

Geomorphology: object and methods; fundamental principles in the relief analysis; Constitution and earthly dynamics. From processes to forms. Meteorization, erosion and forms - Dynamic Geomorphology: in situ alteration; forms and types of erosion. Rocks, structures and shapes. Structural Geomorphology: relief forms and geology. Climate and shapes. The geomorphology of Portugal.

GQ - Seminário de Geoarqueologia – Geoarchaeology Seminar

Docente Responsável: Pierluigi Rosina, Professor Coordenador.

Sediment transport, facies of Miall, source of the materials, climatic indicators will be some of the treated arguments.

MT - Conservação, moldagem e restauro de materiais arqueológicos – Conservation, casts and restoration of archaeological materials

Docente Responsável: Fernando Manuel Conceição Costa, Investigador.

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.

How to organize a bibliography. How to structure a scientific work. Methodology of scientific work.

MT - Sistemas de Informação Geográfica – Geographic Information Systems

Docente Responsável: Rita Ferreira Anastácio, Professora Adjunta.

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

MT - Tafonomia – Taphonomy

Docente Responsável: Silvério Manuel Domingues Figueiredo, Professor Adjunto.

Methodologies to identify processes of decay and fossilization or preservation in the archaeological record.

MT - Técnicas de laboratório e arqueologia experimental – Laboratory techniques and Experimental Archaeology

Docente Responsável: Luiz Oosterbeek, Professor Coordenador.

Applied training in field and laboratory techniques. Experimental archaeology.

MD - Inglês – English

Docente Responsável: Hermínia Maria Pimenta Ferreira Sol, Professora Adjunta.

English as a language of science; Technical vocabulary for archaeology; Academic English; Upper intermediate level grammatical structures.

MD - Português – Portuguese

Docente Responsável: Hermínia Maria Pimenta Ferreira Sol, Professora Adjunta

Recognition of linguistic structures for greeting, presenting oneself and his/her nationality and profession. To find and describe spaces. Syntax notions: the structure of sentences, syntactic relationships. Nouns and adjectives; variable and invariable demonstrative pronouns; adverbs of place; time; Pronouns. Particularities of Portuguese culture. Vocabulary enrichment.

MD - Seminário de Gestão do Património – Cultural Heritage Seminar

Docente Responsável: Luiz Oosterbeek, Professor Coordenador.

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

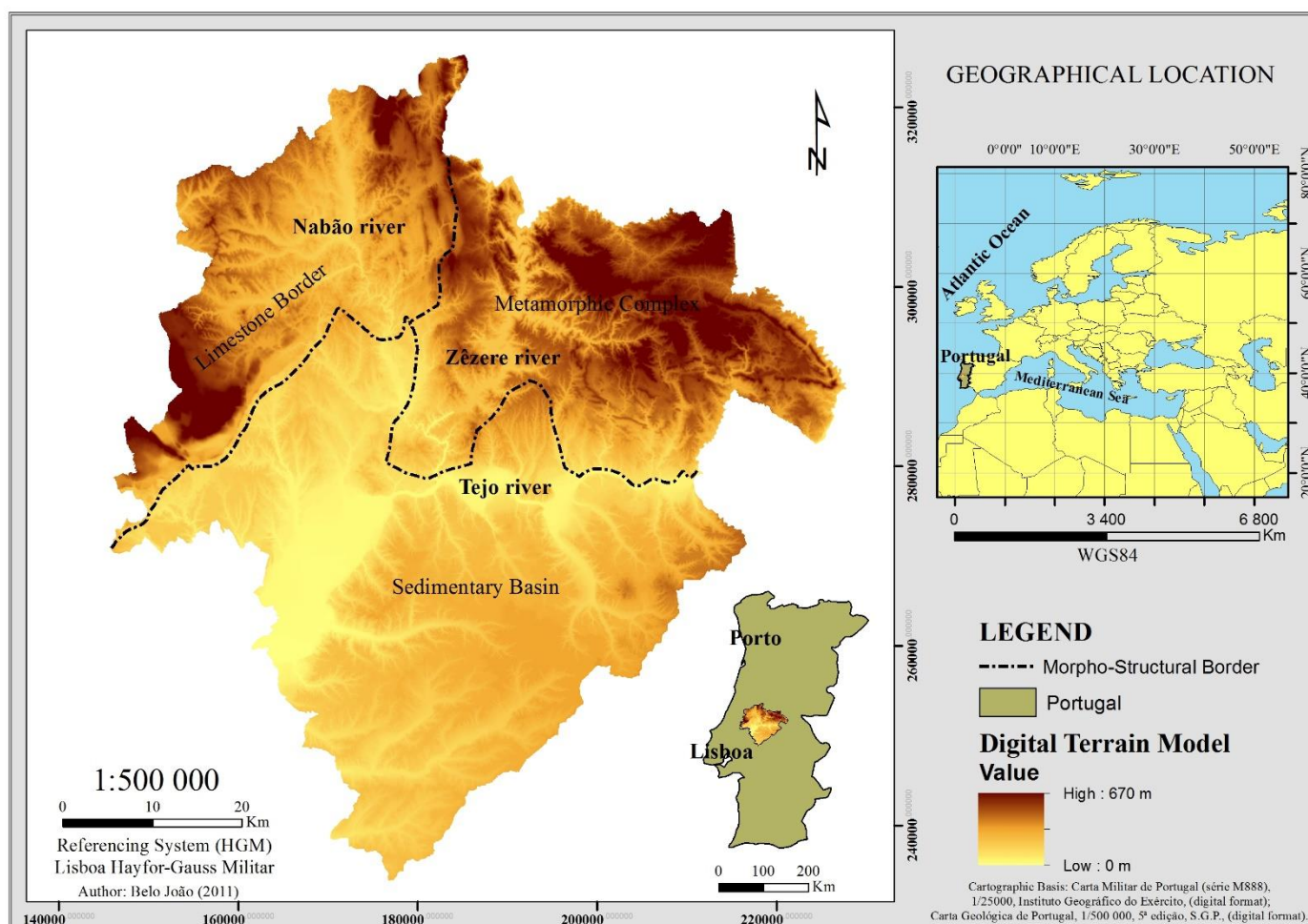
Docente Responsável: Luiz Oosterbeek, Professor Coordenador.

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.

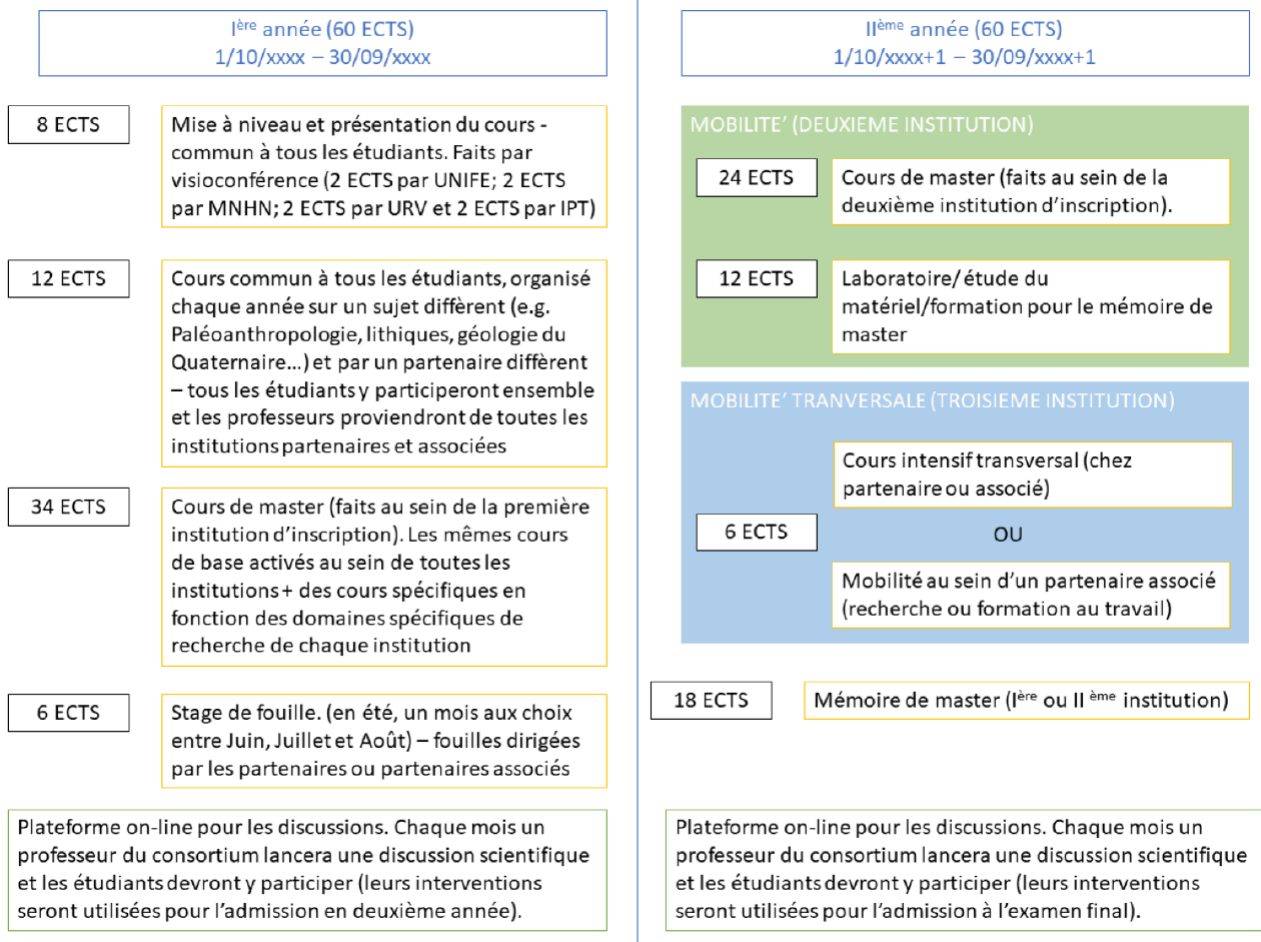
Organized each year by a different partner university, it is compulsory for all IMQP students..



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: Ge archaeology Seminar (6) and Bio-Archaeology (6).

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

USING TEAMS

Online lectures and meetings will run in the platform TEAMS.

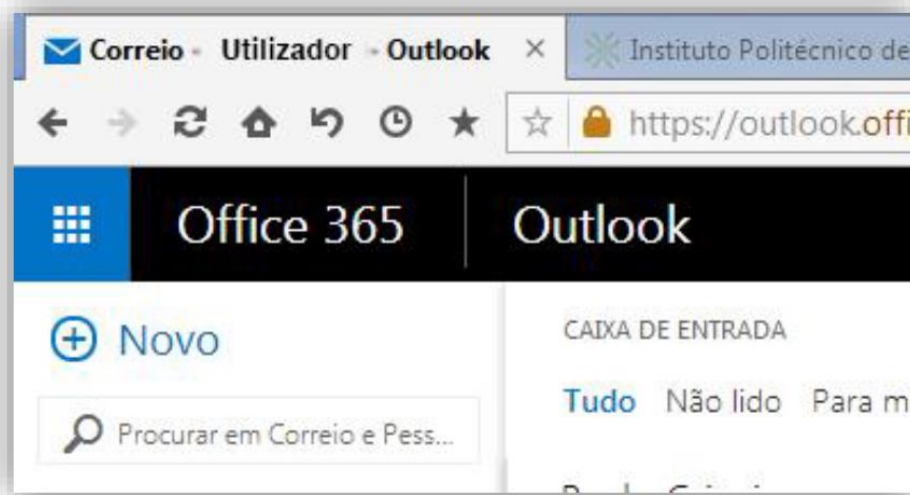
Each activity may have its own link, but there is a general common “room” for all professors and students to share, in the following link:

<https://teams.microsoft.com/l/team/19%3a08e4cb30e6a04fa891d513e49868b0e1%40thread.tacv2/conversations?groupId=f7cebe71-3c4c-4198-8451-538851356321&tenantId=21e90dfc-54f1-4b21-8f3b-7fb9798ed2e0>

If you have TEAMS, simply open it and look for the “rooms” referred to the various disciplines.

If you do not have TEAMS yet, using your IPT email address (“...@ipt.pt”):

1. Upload office 365 in your computer



2. Chose “install now”, to install office 365



3. This should give you access to all office 365 and TEAMS programmes.
4. Using TEAMS will allow you to:
 - a. Participate in online courses.
 - b. Have access to teaching materials from the lecturers.
 - c. Upload your own essays or other works.

You will find several easy introductions to TEAMS online.

For instance: <https://www.youtube.com/watch?v=bAesIjrem7E>

COVID-19

While the pandemic is still not controlled, we will be following with attention and tranquillity the recommendations issued by national authorities, as well as by the Municipality of Mação and the Polytechnic Institute of Tomar.

This is a complex and unprecedented situation, for which we must be prepared to adapt our response, as situation evolves. In any case, all staff and students, as well as over 85% of the population in Portugal, have been vaccinated, and most restrictive measures have been lifted.

However, the following measures have been established, in order to protect all users of the facilities in Mação and, also, to prevent the facilities from being closed down, as it occurred before, with some faculties and schools in the Country.

Lectures, meetings and events

Besides any specific measures decided by the authorities, which may further reduce or cancel the events, we will pursue activities with a series of precaution measures, to reduce the risks of infection, namely:

- Lectures and research/working meetings involving our teams will continue with no restriction, apart from the general health prevention recommendations, including the limitation of number of people in each specific room (see bellow).
- Meetings with more than 100 international participants (including speakers and panellists) are cancelled/postponed.
- Meetings with less than 100 international participants (including speakers and panellists) will be reviewed on a case-by-case basis.

Workspaces at ITM research centre and the Museum

- Specific cleaning measures have been put in place: hydro-alcoholic solution at strategic locations, replacement of tissue towels with disposable rags, hygiene instructions posted in the corridors, increased frequency of cleaning of sanitary facilities.
- Wearing a surgical mask is compulsory at all times, inside the Museum and ITM.
- It is very important everyone collaborates in the cleaning of the facilities, namely not contributing for the accumulation of garbage, keeping the tables and the working stations proper, etc.
- Any researcher/student arriving from abroad should contact ITM or the Museum of Mação by email or phone, without going into the facilities, before doing so. This rule applies if visitors arriving from other countries will be joining staff or students in Mação. However, we remain fully open and welcoming for international staff and students, within the conditioning considered, at each stage, by the authorities.
- An isolation room has been prepared, in the ground floor of each building, equipped with *paracetamol* (for fever), masks and gloves, basket for disposable items (used masks, handkerchiefs, etc.).

On an individual level, make sure to:

- Avoid handshakes and hugs;
- Wash your hands very regularly with soap, or use a hydro-alcoholic solution;

- Cough and sneeze into your sleeve or into a disposable handkerchief;
- Stay at home in case of fever and consult a doctor;
- Wear a surgical mask whenever you are using the facilities of the Museum and ITM;
- Contact the Museum staff in case of fever and cough, or any other symptoms that may point to Covid-19;
- If you already have taken a vaccine, we recommend uploading it in your smartphone using a recognised app.

Also:

- Be attentive to any possible signs, on you or around you, such as fever (around or above 38^o), cough, pain in your throat or muscles, headache, nausea or difficulty to breathe,
- If you have any of these symptoms, you should not go to the health centre or ITM but, immediately,
 - call the health line “Saúde 24” (number 808 242424). They will indicate the procedure to follow.
 - then call ITM through the emails itm.macao@gmail.com or museu@cm-macao.pt
- In case you detect the situation once inside ITM, please make the calls as indicated above and then go to the **isolation room** (small room in the ground floor, next to the WC).

We will continue to keep you informed as and when the situation evolves and in the meantime should you have any questions, including regarding teleworking, please do not hesitate to contact the dedicated team, which monitors developments at Headquarters and in the Field and ensures coordination of actions. Contact the dedicated team here:

Museu de Arte Pré-Histórica de Mação museu@cm-macao.pt

Also, stay alert to updated information at: <http://www.ipt.pt/>

USEFUL CONTACTS AND LINKS

Emails

Student Point of Contact (registration and academic procedures) - spoc@ipt.pt

Laurent Caron (IMQP Erasmus + structure) – lcaron@ipt.pt

Guiomar Fonseca (course secretary) – guiomar.fonseca@ipt.pt

International Relations Office of IPT (Mobility grants for non scholarship students) – gri@ipt.pt

Museum of Mação (Anabela B. Pereira et al.) – museu@cm-macao.pt

Luiz Oosterbeek – loost@ipt.pt

Research group closed list (need to me member) - quaternary-prehistory-macao@googlegroups.com

Phone numbers

Museum of Mação +351 241 571 477

Polytechnic Institute of Tomar +351 328 100 100

Instituto Terra e Memória +351 241 571 307

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



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