



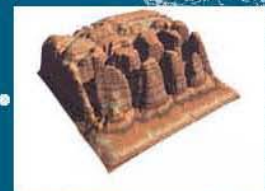
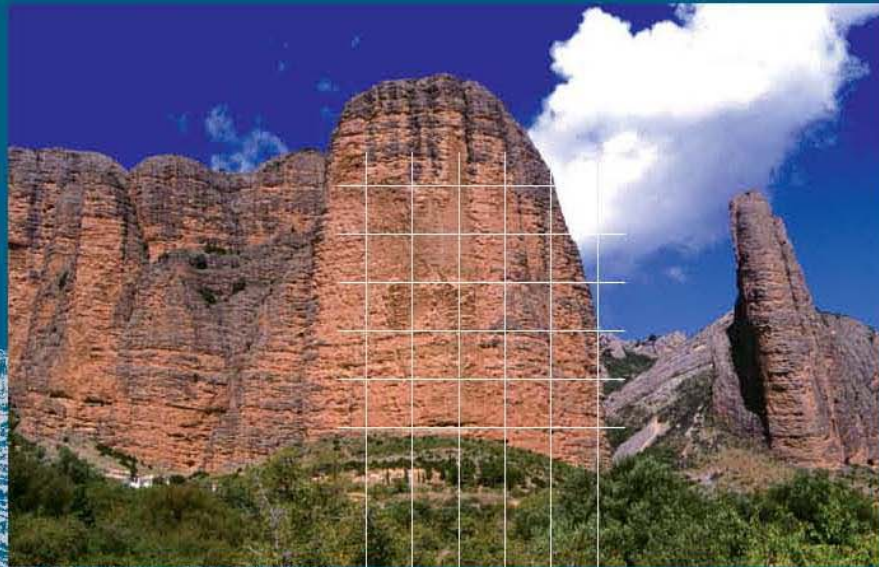
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Oral presentations:**Eemien and Flandrian deposits on Porto (Northern Portugal) littoral platform: neotectonic and archaeological evidences**M.A. ARAÚJO ^{(1)*}, S.M. RODRIGUES ⁽²⁾, A.T. GOMES ⁽¹⁾⁽¹⁾Dep. Geografia, Fac. Letras Universidade do Porto, Portugal⁽²⁾DCTP, Fac. Letras Universidade do Porto, Portugal

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Littoral platform from Porto area contains several outcrops of cenozoic deposits. The newer deposits have a marine origin and they can be assigned to at least three levels (around 30m, 20m and from 10m to recent sea level). A TL dating confirmed that the lower marine deposits, that corresponds to iron cemented sandstones covering old marine platforms, belongs to Eemien. We will focus on later marine deposits, and the tectonic style and regional tectonic framework that created the differences between the north and the south of the studied area. Recently, at Aguda beach, some 12 km south of Porto, a macrolithic industry (mainly cores and flakes made of filonian quartz) was found inside this marine deposit. Upon it, there are lagoon deposits. The upper part of the lagoon deposit was TL dated of 8 ka BP. So, this lagoon deposit is a testimony of continental conditions during Flandrian transgression. The lagoon deposit is covered by another marine sandstone, about 5 m above mean sea level. So, in this area, there are clear evidences of 2 marine sea levels with about 120 ka difference of age. The newer one is lying upon the old one, at a slightly higher altitude. The superposition of a Flandrian marine deposit upon a Eemien one may suggest that Aguda beach area is undergoing some subsidence as attested by the general trend of Eemien deposits.

Keywords: Marine deposits; Neotectonics; Eemien; Flandrian transgression; Palaeolithic industry

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Evolution of rocky coasts in Eastern Liguria (NW Italy) since upper Pleistocene: linking above and below sea-level morphologiesI. AROZARENA LLOPIS ⁽¹⁾, A. CHELLI ⁽²⁾, P.R. FEDERICI ⁽¹⁾ and M. PAPPALARDO ^{(1)*}⁽¹⁾Dipartimento di Scienze della Terra, Università di Pisa, Italy⁽²⁾Dipartimento di Scienze della Terra, Università di Parma, Italy

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The coast of eastern Liguria, stretching about 100 km with a NW-SE orientation, is characterized by alternating typical cliff morphologies, complex rocky features, landslide dominated slopes and brief tracts of minor coastal plains. The evolution of this coast during the last 125.000 years has been controlled by several factors; they are sea level changes, rates of continental uplift and shelf subsidence, the presence of extensional fault lines, rock resistance to wave erosion (as a function of rock type and degree of jointing) and finally the action of non marine morphological processes on slopes. In this work we interpret different case studies along the coastal tract in object in terms of the succession of the mentioned factors, to explain the occurrence of very different landforms in such a short coastal tract. Evidence of 5.5 sea highstand (rock terraces or notches) are scattered along the coastal slopes; they account for differential uplift rates in different sectors. Lithological and weathering conditions affect the extreme variability of landforms in the proximity of present-day sea level. Nearshore bathymetry and lithological characteristics of proximal submerged deposits are also taken into account, in order to interpret morphogenetic processes occurred in conditions of sea level lowstands.

Keywords: Rocky coasts; Sea-level changes; Uplift rates; Rock mass resistance; Nearshore

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Basement reactivation of the Albergaria-a-Velha–Águeda strike-slip zone (Iberian Massif, NW Portugal): structural geomorphology and geotectonic consequences

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The aim of this research is to assess the role of the regional geological and morphotectonical mapping on the tectonostratigraphic framework in Albergaria-a-Velha–Águeda region (Iberian Massif, NW Portugal). The Porto–Tomar strike-slip zone is an almost linear narrow zone of NNW trend in the crystalline polymetamorphosed shear belt. The metapelitic Proterozoic-Palaeozoic basement is covered largely by post-Triassic sediments. The topographic configuration of Albergaria-a-Velha–Águeda region consists of a littoral platform characterised by a very regular planation surface gently dipping to the West and bounded, to the East, by a series of elevated hill ranges (300m). These hills are separated by deeply incised river valleys under regional tectonic control. Two major fault branches, the S. João-de-Ver thrust sheet and the Porto–Tomar shear system, dominate the Albergaria-a-Velha sector, in a NNW–ESE direction. In the latter fault system a dextral strike-slip faulting is associated with transpressive kinematics triggered by the post-orogenic collapse of the structure along the ancient Porto–Tomar thrust planes.

Keywords: *Structural geomorphology; Tectonics; Porto-Tomar shear zone; Iberian Massif; NW Portugal*

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Plio-Quaternary extensional neotectonics in the central sector of the Iberian Range (NE Spain)

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The Iberian Range (NE of Spain), with a dominant NW-SE structural grain, is an intraplate orogene generated in Paleogene times by the tectonic inversion of Mesozoic sedimentary basins. The extensional tectonic regime that has operated since the Lower-Middle Miocene (post-orogenic stage) has generated several grabens superposed to the previous compressional structures showing a progressively younger age towards the west. In the central sector of the Iberian Range two main extensional episodes can be differentiated: (1) The first extensional episode produced the NW-SE trending Calatayud Graben and the Teruel Graben, with a NNE-SSW orientation. Both grabens, around 100 km long, are filled with a sequence of Mio-Pliocene continental sediments several hundred meters thick. (2) The second extensional episode caused the reactivation of the pre-existing grabens and the generation of new Plio-Quaternary half-grabens superimposed to the western margins of the Calatayud and Teruel grabens (Munébrega, Daroca and Jiloca Polje-halfgrabens). These basins, from 20 to 80 km long, are controlled by NW-SE normal faults in their western margins and have a dominantly alluvial Plio-Quaternary fill several tens meters thick. The capture of the basins by the external drainage network and the progressive transition into exorheic conditions had an instrumental role in the morpho-stratigraphical evolution of the basins. Evidence of Plio-Quaternary tectonic activity in these basins include: (1) Tilting and faulting with hectometric throws of the Pliocene limestones and the correlative planation surfaces in Calatayud and Teruel Grabens; (2) Faulting of Pleistocene fluvial terrace and pediment deposits; (3) Faulted Upper Pleistocene and Holocene colluvial sequences; (3) Linear mountain fronts with conspicuous geomorphic anomalies. The recently obtained geochronological data (C-14, OSL) from the faulted deposits provides new insights on the deformational history and kinematics of the faults. Some of these aspects (chronology, mean slip rates) are important from the seismic hazard perspective.

Keywords: *Extensional neotectonics; Seismic hazard; Radiocarbon dating; OSL dating; Iberian Range*