

LEX26

4th Luso-Extremadurenses Congress on Science and Technology

BOOK OF ABSTRACTS



Évora
6-8 july 2026

TECHNICAL SPECIFICATIONS

Title:

LEX26 – 4th Luso-Extremadurens Congress on Science and Technology (Book of Abstracts)

Webpage:

<https://lex26.uevora.pt/>

Editor:

Universidade de Évora. Largo dos Colegiais, 2. 7004-516 Évora

Authors:

André Carmo, Javier Sanchez, João Dias, José Martin Gallardo, Maria Rosário Félix, Miguel Potes

Congress Venue:

Universidade de Évora
Colégio Espírito Santo
Largo dos Colegiais, 2
7004-516 Évora

Published and printed by:

UE-Universidade de Évora

Copyright © 2026 left to the authors of individual papers

All rights reserved

ISBN: 978-972-778-514-8 (impresso)

ISBN: 978-972-778-515-5 (electrónico)

Como citar:

Carmo, A., Sanchez, J., Dias, J., Gallardo, J. M., Félix, M. R., & Potes, M. (2026). LEX26 – 4th Luso-Extremadurens Congress on Science and Technology (Book of Abstracts). Universidade de Évora.

Stairway to gold: the stepped thermal evolution of Casas Novas deposit (Montemor-o-Novo, Portugal)

Diogo São Pedro 1,2; José Roseiro1,2,3; Marcelo Silva1,2,3; Noel Moreira2,3; Jorge Pedro1,4 and Pedro Nogueira1,3,4

1 Instituto de Ciências da Terra, Pólo de Évora

2 Instituto de Investigação e Formação Avançada, Universidade de Évora

3 Laboratório GEO-DS, Universidade de Évora

4 Departamento de Geociências, Universidade de Évora

Presenting author: diogormspedro@gmail.com

Abstracts

The Iberian Peninsula is a geologically complex region divided into fault-bounded tectonostratigraphic zones, each characterized by a distinct internal stratigraphy and structural history. The Ossa-Morena Zone (OMZ) is one of these key divisions, located in the southwestern Iberian Peninsula and extending from the Alentejo region in Portugal into the Extremadura and Andalusia regions of Spain. The Casas Novas gold deposit is situated within the Escoural Gold District of the OMZ (Montemor-o-Novo, Portugal) and constitutes an orogenic gold system. The mineralization is present on structurally controlled mesothermal veins genetically related to the Montemor-o-Novo Shear Zone (MNSZ). Recent research by São Pedro [1], utilizing the laboratory facilities at the University of Évora, has defined the metallogenic sequence and characterized the mineralogical and geochemical signatures of the paragenetic assemblages. The mineralization reveals a complex evolution during regional metamorphism, categorized into three distinct stages (i) An early stage (potential peak metamorphic conditions), characterized by high-temperature, Co–Ni-enriched loellingite (FeAs_2) hosting Au-(Ag) alloys; (ii) an intermediate stage (retrograde metamorphism), defined by the replacement of loellingite (FeAs_2) by arsenopyrite (FeAsS) and the precipitation of native gold (Au), maldonite (Au_2Bi), and Bi–Te phases (e.g., hedleyite, Bi_7Te_3); and (iii) a late stage, represented by the crystallization of pyrite (FeS_2) and chalcopyrite (CuFeS_2). These new data, combined with the extensive expertise of the researchers at the Institute of Earth Sciences (ICT) regarding the geodynamic evolution of the OMZ, provide critical constraints for ongoing studies of similar auriferous systems in both Portugal and Spain. This contribution refines the metallogenic model for the region and enhances the potential for cross-border scientific networking and exploration strategies within the Iberian Massif.

Keywords: gold deposits, Ossa-Morena Zone, mineralogy, geochemistry.

Acknowledgements:

This work is funded by national funds through FCT - Fundação para a Ciência e Tecnologia, I.P., in the framework of the UIDB/04683 and UIDP/04683 - Instituto de Ciências da Terra programs.

References:

[1] São Pedro, D. Estudo mineralógico e geoquímico do depósito Aurífero de Casas Novas (Montemor-o-Novo), MSc of Geologic Eng, University of Évora, 2026. <http://hdl.handle.net/10174/41814>