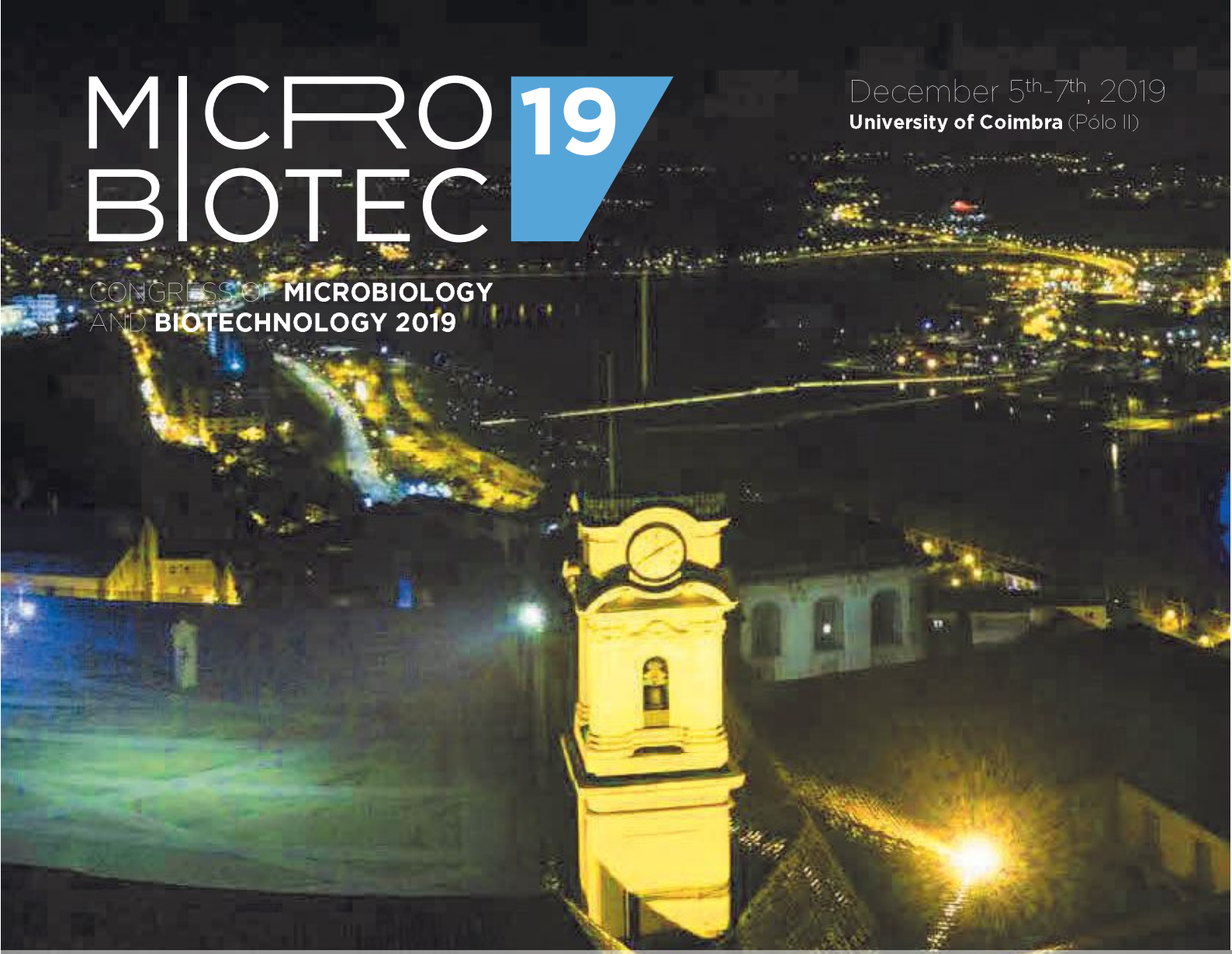
MICRO BIOTEC 19

CONGRESS OF **MICROBIOLOGY** AND **BIOTECHNOLOGY 2019**

December 5th-7th, 2019
University of Coimbra (Pólo II)



BOOK OF ABSTRACTS

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I10. Industrial and Food Microbiology and Biotechnology

P389. *Penicillium crustosum*: a threat to food safety?

Teresa Dias[1,2], Célia Soares[2], Carla Santos[2], Margarida Barata[1], Nelson Lima[2]
[1] Faculdade de Ciências da Universidade de Lisboa, Lisboa, Portugal
[2] Micoteca da Universidade do Minho, CEB-Centre of Biological Engineering, University of Minho, Campus de Gualtar, Braga, Portugal

E-mail: *teresavaledias@hotmail.com*

With the continuous growth of the world population, substantial increases in food production will be required as well as the need to guarantee its safety. Problems related to food/feed contamination have been frequently reported, including those related with fungi and their production of mycotoxins. Mycotoxins are fungal secondary metabolites that can cause severe health issues in either humans or domesticated animals when ingested, inhaled and/or absorbed. Ochratoxin A (OTA) is one of the most studied and poses a severe health risk. This toxin is present in a wide diversity of food and feed products with *Aspergillus* and *Penicillium* species being mainly associated with food spoilage and OTA contamination. The major OTA producers are *P. verrucosum*, *P. nordicum* and *A. carbonarius*. Recent studies have reported the presence of OTA in food matrices where known OTA producers are not present. Therefore, and based on previous evidences, other species, such as *P. crustosum*, are now being considered. The main goal of this work was to search for potential OTA producers among *P. crustosum* strains with different geographic origins and to search for potential genetic differences at the sub-species level.
A total of 44 strains of *P. crustosum* from different parts of the globe were studied. Mycotoxin production was analysed by HPLC-FL. In addition, genes associated with OTA production (ochratoxin polyketide synthase, ochratoxin non-ribosomal peptide synthetase and an ochratoxin transport protein) were tested. RAPD-PCR fingerprinting (M13 and GACA4) and beta-tubulin gene sequencing were used to perform a wide molecular characterisation.
Genetic differences between isolates were found allowing the clustering of strains from the same geographic region, except for isolates from Europe. Under the studied conditions, and with a HPLC-FL detection limit of 7.6 ng/ml, preliminary results showed that OTA was not detected for all studied strains. However, regarding the genes associated with OTA production, there were 4 positive strains for the 3 genes. Nevertheless, further studies with a broader array of conditions need to be considered.