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ABSTRACTS BOOK



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ADVANCES IN MICROBIAL DIAGNOSIS: USING MASS SPECTROMETRY FOR PROTEOMICS AND GENOMICS APPLICATIONS

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Since the last two decades mass spectrometry (MS) has been applied to analyse the chemical cellular components of microorganisms, providing rapid and discriminatory proteomic profiles for their species identification and, in some cases, subtyping. The application of MS for the microbial diagnosis is currently well-established. The remarkable reproducibility and objectivity of this method is based on the measurement of constantly expressed and highly abundant proteins, mainly important conservative ribosomal proteins, which are used as markers to generate a cellular fingerprint. Mass spectrometry based on matrix-assisted laser desorption ionization-time of flight (MALDI- TOF) technique has been an important tool for the microbial diagnostic. However, some technical limitation concerning both MALDI-TOF and its used protocols for sample preparation have fostered the research of new mass spectrometry systems (e.g. LC MS/MS). LC MS/MS is able to generate online mass spectra of specific ions with further online sequencing of these ions, which include both specific proteins and DNA fragments. In this work a set of data for yeasts and filamentous fungi diagnostic obtained through an international collaboration project involving partners from Argentina, Brazil, Chile and Portugal will be presented and discussed.