

## MEETING ABSTRACTS

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# Abstracts from The International Conference on Medicinal Plants and Bioeconomy & the 1st Sino-CPLP Symposium on Natural Products and Biodiversity Resources

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**A1****At Plant, From Lab Bench to Bedside: A Translational Approach**Alberto C. P. Dias<sup>1,2,3</sup><sup>1</sup>Centre of Molecular and Environmental Biology (CBMA)-University of Minho, Campus de Gualtar, 4710-057 Braga, Portugal; <sup>2</sup>CITAB-UM, University of Minho; <sup>3</sup>Centre of Biological Engineering (CEB), University of Minho**Correspondence:** Alberto C. P. Dias - [acpdias@bio.uminho.pt](mailto:acpdias@bio.uminho.pt)  
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Extracts, infusions, or other types of preparations from medicinal plants have been used since ancient times for the treatment of several diseases, in what is commonly designated as “folk medicine”. In recent years, science has proven that some plant extracts, fractions or specific compounds may have an important role as drug sources with relevant properties.

In this work, particular emphasis will be given to neuroprotection, anti-inflammatory and skin healing properties of specific plants extracts/compounds in *in vitro* as well as in *in vivo* models. New approaches, including nanotechnology, will be addressed.

Based on specific extracts some particular topical formulations were developed, used in “real situations” for skin problems like psoriasis, pressure ulcers, and chronic wounds. The synergy of the properties of selected plant constituents, gave very positive results associated with a high degree of skin hydration, contributing to cell regeneration. In all cases, after repeated applications, notorious improvements or complete treatment were observed, without significant side effects.

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**A2****Antioxidant and neuroprotective effects of *Hyptis suaveolens*, *Hyptis pectinata* and *Hyptis marruboides* in *Caenorhabditis elegans***Daniela Vilas-Boas Campos<sup>1,2,3</sup>, Rejaine Rios<sup>3,4</sup>, Carlos Bessa<sup>1,2</sup>, Marta Daniela Costa<sup>1,2</sup>, Andreia Teixeira-Castro<sup>1,2</sup>, Patrícia Maciel<sup>1,2</sup>, Alberto C. P. Dias<sup>3,5,6</sup><sup>1</sup>Life and Health Sciences Research Institute (ICVS), School of Medicine, University of Minho, Campus Gualtar, 4710-057 Braga, Portugal; <sup>2</sup>ICVS/3B's-PT Government Associate Laboratory, Braga/Guimarães, Portugal; <sup>3</sup>Centre of Molecular and Environmental Biology (CBMA)-University of Minho, Campus de Gualtar, 4710-057 Braga,Portugal; <sup>4</sup>Instituto Federal Goiano, Biology Department, Campus Rio Verde, Goiás, Brasil; <sup>5</sup>CITAB-UM, University of Minho, Portugal; <sup>6</sup>Centre of Biological Engineering (CEB), University of Minho**Correspondence:** Alberto C. P. Dias - [acpdias@bio.uminho.pt](mailto:acpdias@bio.uminho.pt)  
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The increasing trend for the use of natural products as sources of pharmacologically active molecules has changed attitudes in the population. Given the existing demand, a credible scientific analysis and validation of the effect of these natural products is necessary. The genus *Hyptis* Jacq. (Lamiaceae) has about 300 species with wide distribution, among which *Hyptis suaveolens*, *Hyptis pectinata* and *Hyptis marruboides* (HS, HP, HM, respectively) are used in folk medicine and are commercialized in street markets for treatment of several diseases. This study aims to evaluate the neuroprotective activity, as well as to elucidate some of the cellular mechanisms involved in the pharmacological action of HS/HP/HM plant extracts using *Caenorhabditis elegans*, as an animal model. For this purpose, we used a *C. elegans* model of Machado-Joseph disease (MJD), expressing a human mutant ATXN-3 and a *C. elegans* model of frontotemporal dementia with parkinsonism-17 (FTDP-17), expressing a mutant form of tau protein, and tested ethanolic leaf extracts from HS, HP, and HM. Our data showed that chronic treatment with 1 mg/mL of HS/HP/HM extracts had a beneficial impact in these diseases since it significantly ameliorated the locomotor defects exhibited by *C. elegans*. Moreover, with *C. elegans* model of MJD, the chronic treatment with the *Hyptis* extracts also increased the animal's survival. We observed, in both models, a significant protection against juglone-induced oxidative damage (by more than 50%), after chronic treatment with these extracts. Using *C. elegans* reporter strains we also observed a higher induction of *gst-4*, in HS/HP/HM extract-treated animals upon exposure to oxidative damage. Our findings support an antioxidant and neuroprotective activity of HS, HP e HM, suggesting the activating specific antioxidant enzymes like *gst-4*.

**A3****Preparative-HPLC–MS technique for rapid isolation of a chemical constituent from *Helichrysum odoratissimum***Weiyang Chen<sup>1</sup>, Sushil K. Chaudhary<sup>1</sup>, Khotso D. Serabele<sup>1</sup>, Sandra Combrinck<sup>1,2</sup>, Alvaro M. Viljoen<sup>1,2</sup><sup>1</sup>Department of Pharmaceutical Sciences; <sup>2</sup>SAMRC Herbal Drugs Research Unit, Tshwane University of Technology, 175 Nelson Mandela Drive, Private Bag X680, Pretoria 0001, South Africa**Correspondence:** Weiyang Chen - [chenw@tut.ac.za](mailto:chenw@tut.ac.za)  
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