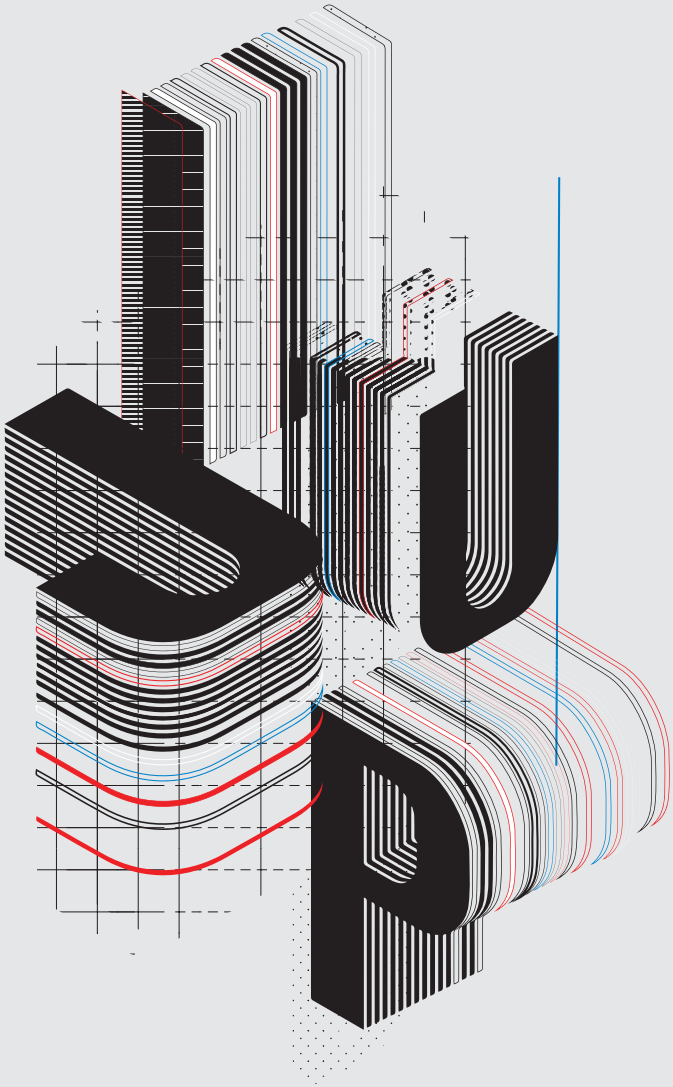
BOOK OF ABSTRACTS

12TH MEETING
OF YOUNG RESEARCHERS
OF **UNIVERSITY OF PORTO**



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REITORIA DA U.PORTO
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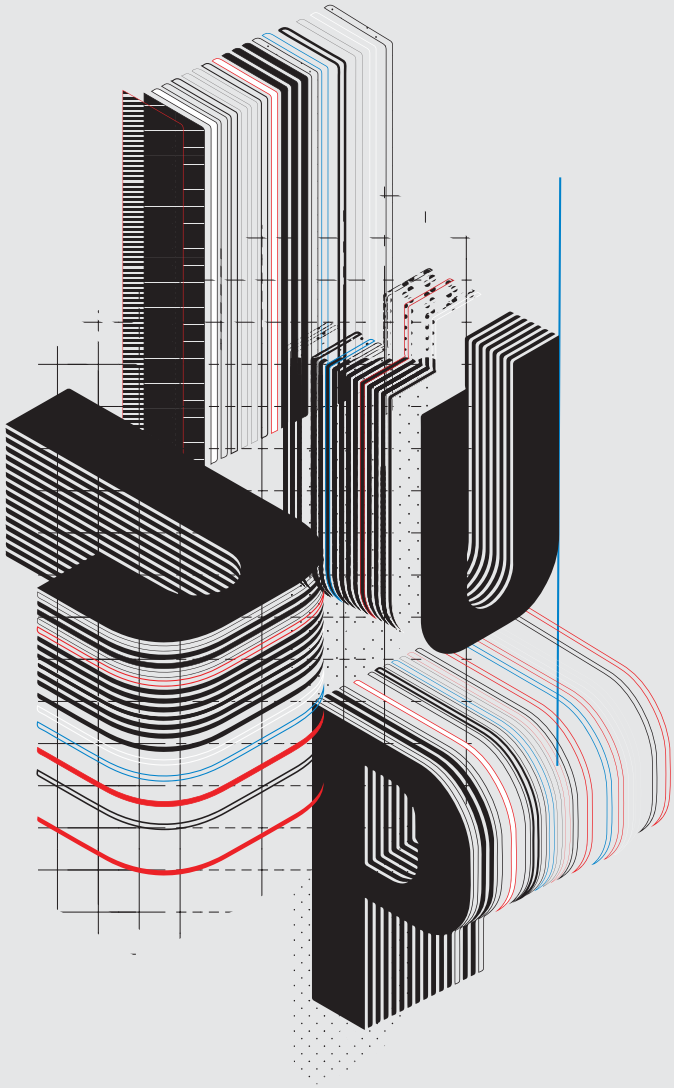

U.PORTO

- ## 15081 | Cyanobacteria from the LEGE Culture Collection: a road for innovation in human health?

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Ubiquitously distributed through the most different terrestrial and marine environments, cyanobacteria constitute an inspiring source for the search for new bioactive compounds. Of them, carotenoids represent a promising class of secondary metabolites, with recognized beneficial properties for humans´ health.
Different cyanobacteria strains of the LEGE culture collection (lege.ciimar.up.pt), namely those belonging to the genus *Cyanobium* (LEGE12431) and *Nodosilinea* (LEGE13457), were explored regarding their pigments profile and biological activities. The strains under study were cultured and scaled-up until 4L culture. After collection, the biomass was lyophilized and used for the preparation of acetonic (100%) and ethanolic (70%) extracts. The extracts were chemically analysed for their pigments profile, by High Performance Liquid Chromatography (HPLC) with Photo Diode Array (PDA) at 450 nm. The carotenoids qualitative and quantitative profile was established, with xantophylls being dominant over carotenes. The antioxidant activity of the extracts, determined through their capacity to scavenge superoxide radical anion *in vitro*, was positively correlated with their content in carotenoids. In order to find out the potential of these organisms for the treatment of chronic skin inflammatory conditions, the extracts will be screened for their toxicity and further explored for their capacity to reduce inflammation, using the mammal cell model RAW 264.7. Altogether, our results will enrich the knowledge of underexplored cyanobacteria strains, both regarding their metabolome and biological activities.

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