

## FORM PER PROGETTI BANDO DOTTORATO

### 1. Project title

Biodiversity of Dark Septate Endophytes of extreme environments
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### 2. Proposer

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### 3. Research Unit

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### 4. Key words

(Max. 5 – at least 2)

FUNGI, DARK HYPHAE MATTER, COLD EXTREME ENVIRONMENTS
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### 5. Abstract

(Max.1.500 characters with spaces)

The research proposed for the doctorate in Earth and Environmental Sciences addresses a little-known topic: the biodiversity of Dark septate Endophytes (DSE). These are saprotrophic fungi characterized by a dark septate mycelium rich in melanin that are found in association at the root level of many plant species. This association is very abundant especially in extreme, arid, hot or cold or polluted environments. In particular, these fungi have not yet been studied in extreme cold environments.

The research involves the isolation and identification of DSEs in areas with an alpine and arctic climate, as well as the analysis of the biogeographical and genetic relationships of the strains studied. Part of the research will be dedicated to the selection of the most stress tolerant isolates to be tested also as a possible seed coating of agri-environmental interest.