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The ENEA microbial culture collection in the PNRR SUS-MIRRI.IT

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ENEA, with its microbial collection comprising approximately 1500 bacteria, fungi, marine microalgae and viruses, is partner of the SUS-MIRRI.IT **Strengthening the MIRRI Italian Research Infrastructure for Sustainable Bioscience and Bioeconomy** project being involved with four Operational Units located in the Center and South of Italy. SUS-MIRRI.IT, coordinated by the University of Turin, involves 15 institutions with 24 UOs, funded by National Recovery and Resilience Plan (PNRR) is granted by the European Commission's Next Generation EU programme. SUS-MIRRI.IT will develop Research, Services and Training within the Italian network of culture collections MIRRI-IT.

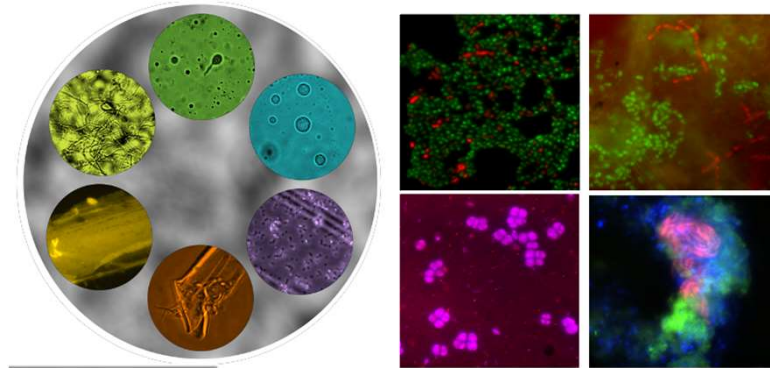
Through the project, **we aim at valorising the bioresources stored at the four ENEA Research Centers**, improving their characterization and optimising their management, thus unlocking their genomic and metabolic potential.



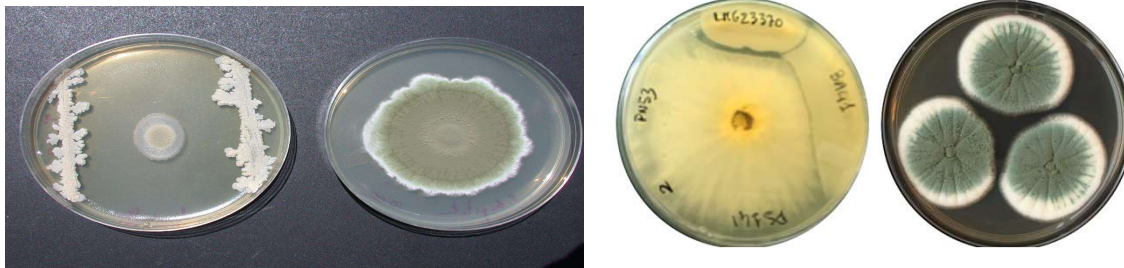
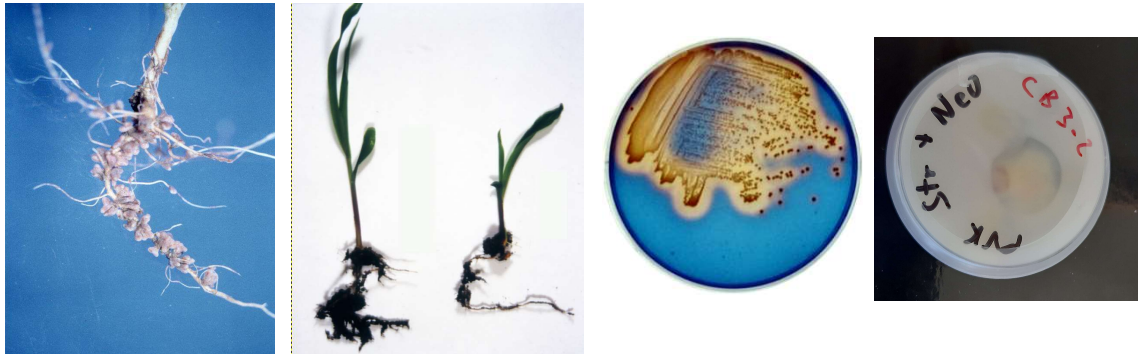
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Bacteria, fungi, microalgae, microbial consortia, plant virus

The **ENEA microbial culture collection (EMCC)** has been created over the years by an interdepartmental team of researchers that has collected microbial organisms and microbial consortia from different environments (contaminated sites, hypogea and archaeological sites, food, lake sediments, sea, soil, rhizosphere, water). The microbial collection has several important applications (from the health of cultivated plants to the degradation of environmental contaminants, from the production of biomolecules for industrial, energy and food uses to new products for the restoration of artistic heritage).



Sustainability and protection (soil, bioremediation, waste management, biorefinery, reduction of climate-altering gas emissions).

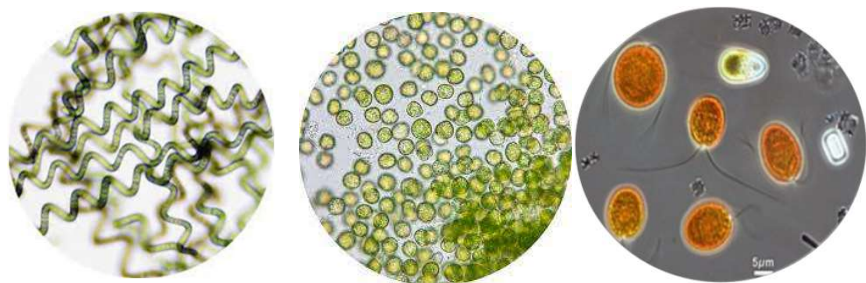


Plant growth promotion, nitrogen fixation, phosphorous solubilization and plant disease suppression.



Phytopathogenic bacteria and fungi responsible for serious plant diseases and capable of compromising crop production and quality.

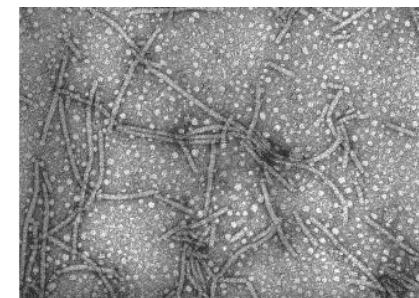
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Strains of freshwater and seawater microalgae useful for the production of bio-based molecules in the nutraceutical, cosmeceutical and pharmaceutical sectors or for the production of energy and/or green chemistry products.



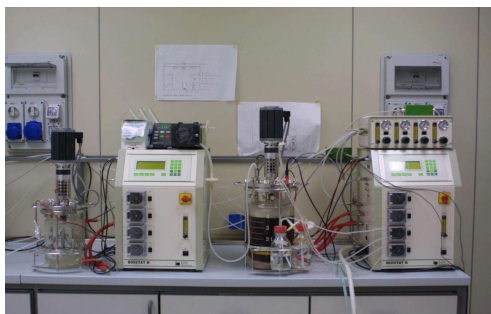
Fungi capable of synthesizing lignocellulolytic enzymes. They are widely used in the production of biofuels starting from waste materials or in the bioremediation and detoxification processes of industrial matrices.



A plant virus with applications in the biomedical sector, especially for the development of innovative vaccines, diagnostic systems and delivery of targeted cancer therapy.



Yeasts to produce bioethanol starting from different types of sugars (xylose, lactose, glucose, etc.).



Microbial strains useful to produce bio-based molecules in the nutraceutical, cosmeceutical and pharmaceutical sectors.



Strains used for cultural heritage, being able to remove the substances responsible for the deep brown stains on the marble of the Madonna del Parto.