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UNIVERSITÀ DEL PIEMONTE ORIENTALE
DIPARTIMENTO DI SCIENZE E INNOVAZIONE TECNOLOGICA

EVENTI DiSIT

Seminario | Seminar

09-05-2024

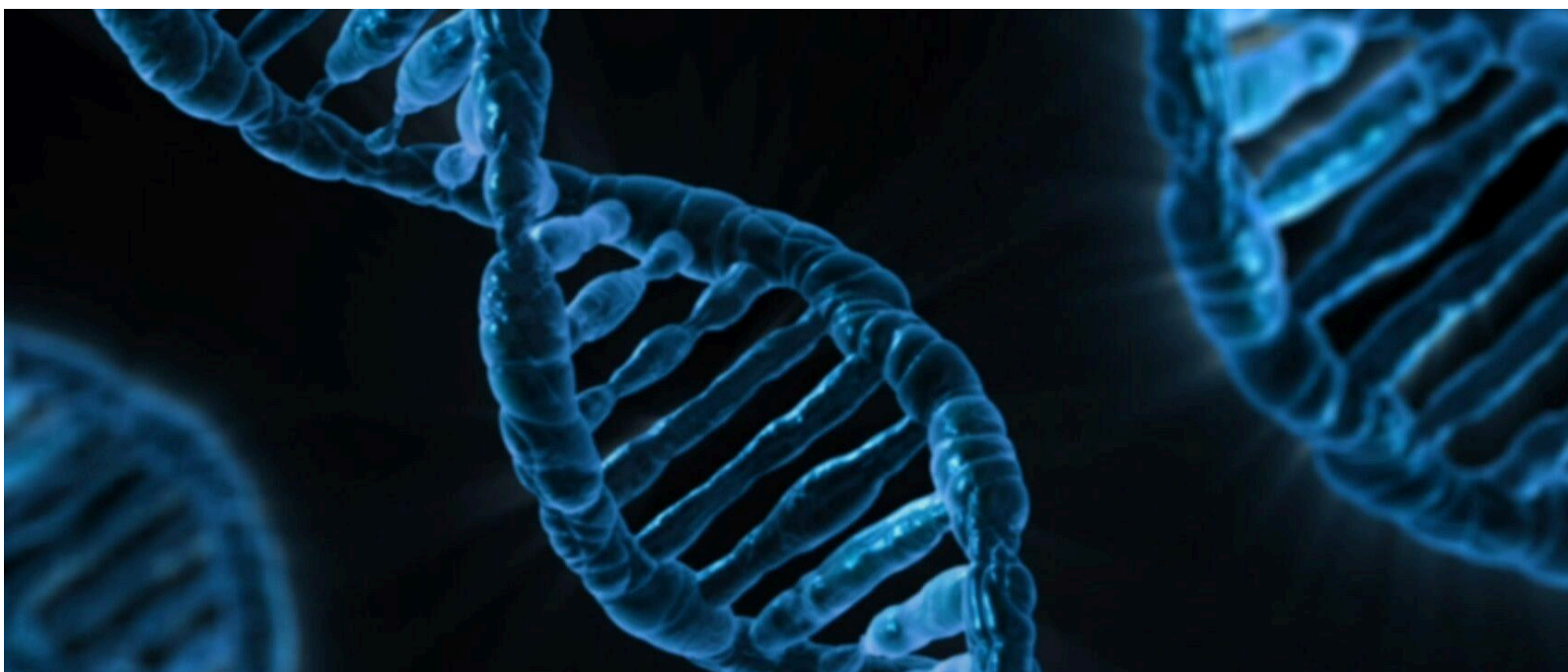
14:30-15:30

Aula 204

Biodiversity Identification at Scale in a Large Hydroelectric Reservoir Using eDNA and Metabarcoding

[Prof. Mauro Rebelo](#)

Universidade Federal do Rio de Janeiro, RJ, Brazil



Identifying biodiversity remains an unresolved challenge as traditional taxonomic methods fail to scale effectively. This seminar presents innovative DNA-based methodologies, specifically environmental DNA (eDNA) and metabarcoding, as scalable alternatives to conventional approaches. Although these methods deviate from traditional taxonomy by not always providing species-specific names, they offer a substantial opportunity to catalog biodiversity comprehensively. Our research established a robust biodiversity baseline in an 800 km² hydroelectric reservoir, utilizing principal component analysis (PCA), discriminant analysis of principal components (DAPC), and rarefaction and saturation curves to ensure data representativeness. This baseline is currently being replicated in two additional reservoirs, each covering 1000 km². Furthermore, we conducted the largest eDNA sampling campaign along the Brazilian coast, spanning from Recife to Arvoredo over 45 days and collecting nearly 100 samples. Preparations are underway for an unprecedented scale of biodiversity monitoring in an oil field, involving over 1000 eDNA samples. Our findings highlight the reliability and cost-effectiveness of eDNA and metabarcoding, setting the stage for a new era in ecological research that is more robust and scalable.

EVENTO APERTO A:

Docenti | Teachers, Borsisti | Research Fellows, Assegnisti | Postdoctoral researchers, Dottorandi | PhD students, Studenti | Students, Esterni UNIUPO | external UNIUPO people

SEMINARIO IN LINGUA: English

