



UNIVERSITÀ DI PAVIA

DIPARTIMENTO DI SCIENZE DELLA TERRA E DELL'AMBIENTE
DOTTORATO DI RICERCA IN SCIENZE DELLA TERRA E DELL'AMBIENTE

1. Project title

Advancing the Management of Aquatic Invasive Alien Species: integration of bioacoustic tools and citizen science

2. Proposer

Surname	Marchini
Name	Agnese

3. Research Unit

Surname	Name	Institution
Trygonis	Vasilis	University of Aegean, Greece
Gestoso	Ignacio	University of Cadiz, Spain

4. Key words (Max. 5 – at least 2)

IAS, bioacoustics, soundscapes, citizen science

5. Abstract (Max. 1.500 characters with spaces)

Monitoring and managing IAS underwater poses several challenges. Bioacoustic tools (sound libraries compilation, fast/automatic detection techniques, soundscapes analysis) can assist long term, wide area investigations supporting targeted studies (BRUV techniques) and validating opportunistic observations (e.g. recreational fishing). Field experiments (underwater acoustic recordings, BRUV video recordings) will be conducted along with lab analysis (review of existing acoustic libraries, build of local acoustic library, in vivo recordings of IAS soniferous species). Laboratory analysis will also focus on existing local acoustic database and software tools to setup and test easy, fast and reliable interpretation of audio recordings that don't require specialistic skills. This will allow involvement of the general public for big data analysis through citizen science platforms and increase public awareness about IAS.