



# UNIVERSITÀ DI PAVIA

## Corso di Dottorato in Scienze della Terra e dell'Ambiente

### 1. Project title

Demography and ecological response of roe deer across a natural - human-modified habitat gradient in northern Italy

### 2. Proposer

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### 4. Key words

(Max. 5 – at least 2)

Habitat quality – Habitat use – Demography – Time budget – *Capreolus capreolus*

### 5. Abstract

(Max.1.500 characters with spaces)

Habitat quality can be considered a continuous variable, ranging from low (i.e. based on resources only available for survival), to medium (i.e. based on resources available for reproduction), to high (i.e. based on resources available for population persistence). As habitat quality potentially may limit the fitness of individuals, animals should prioritize the use of habitats that provide the best access to the limiting resources, thus corresponding to the optimal habitats.

The roe deer (*Capreolus capreolus*) is a medium-sized ungulate adapted to woodland; nevertheless roe deer populations have rapidly expanded all over Europe, colonising fragmented landscapes and even open agricultural plains. The observed expansion might be the result of the saturation of the preferred forested habitats.

The aim of this project is to investigate the relationship between the habitat quality and the local adaptations, in terms of ecological and behavioural responses, of the roe deer; in other words, identifying the adaptations by means the species succeeds in survive, reproduce and persist in suboptimal and marginal habitats.

By means of different sampling techniques (drive counts, direct observations, and camera trapping), the research will clarify which adaptations are related to the quality of the habitat across a natural - human-modified gradient, giving particular attention to: density, demography, habitat selection, behaviour (vigilance, feeding, escaping distance), and activity.