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DIPARTIMENTO DI SCIENZE DELLA VITA

PhD Program in *Environmental Life Sciences*

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Seminar room, 1st Floor, Q Building

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Measuring plant diversity at multiple scales

Plant diversity is a fundamental measure of biological diversity, because it represents one of the components of biodiversity but also because the structural and functional role of plants in many ecosystems. Therefore, measuring plant diversity in a proper way is fundamental to understand ecosystems changes and many project devoted to ecosystem assessment or monitoring rely on the collection and interpretation of plant data. However, diversity data are intrinsically scale dependent and the findings achieved at different spatial scales can show different, or even contrasting, patterns. My research has largely focused on the scale dependence of plant diversity data for several purposes, from biodiversity survey to monitoring applications. In this talk, I will discuss about the collection and assembly of plant data at different spatial and temporal scales and about the effects of these issues to the observed patterns. The collection of plant diversity data is necessarily done at fine scale, such as by using plots, but the information is often needed at much coarser spatial scales, such as a park or a country. I will therefore discuss various approaches used to get cross-scale information thorough rarefaction and diversity partitioning techniques. Finally, I will discuss about the potential development of species richness estimators for getting reliable estimates of total diversity are large scales.