



Seminario

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**Sala Conferenze
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Return to the Sea – the genome of the seagrass *Zostera marina*.

The genome of *Zostera marina*, the first marine angiosperm to be fully sequenced (*Nature* 18 Feb 16) reveals unique insights into the genomic losses and gains involved in achieving the structural and physiological adaptations required for its fully marine lifestyle, arguably the most extreme habitat shift ever accomplished by flowering plants.

How has the genome evolved, diverged and changed? The omics resources available and under development are advancing a wide range of functional ecological studies, from adaptation of marine ecosystems under climate warming, to unraveling the mechanisms of salinity tolerance, plant defense, acclimation, and physiological resilience. In tandem, we are just beginning to explore seagrass-microbiome interactions, the dynamics of survival facilitated by the methylome, and use this knowledge to better understand seagrass vulnerabilities as well as strengths.