



SEMINARIO BIOLOGICO  
DIPARTIMENTO DI BIOLOGIA



UNIVERSITÀ  
DEGLI STUDI  
DI PADOVA

## Mario Terzi Lecture

Aula Magna  
Vallisneri

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Oxygen sensing and signaling  
in plants

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*Plant life is greatly impaired under conditions of oxygen deficit. When the supply of oxygen is hampered, a variety of acclimation responses is activated to reduce detrimental effects of energy depletion. In plants, one branch of the ubiquitin-dependent N-end rule pathway for protein degradation, which is active both in mammals and plants, functions as an oxygen sensing mechanism. A conserved N-terminal amino acid sequence of the ERF-transcription factor RAP2.12 ultimately leads to degradation of RAP2.12 under aerobic conditions. When the oxygen concentration is low, RAP2.12 is stable and accumulates in the nucleus to activate the gene expression program for hypoxia acclimation.*

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