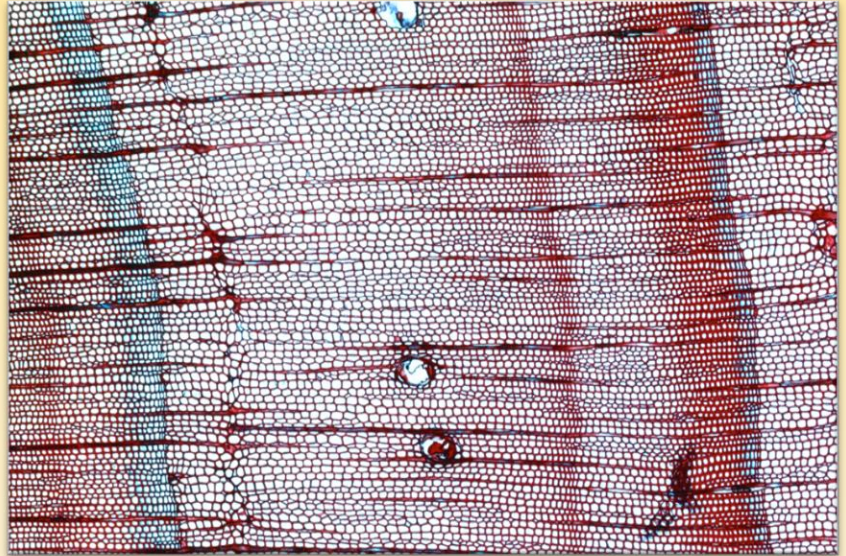


# Plant and vegetation responses to abiotic stresses

*In-depth seminars for students attending lessons on Geobotany  
Degree on Science for Nature and Environment*



**Wednesday 14<sup>th</sup> of May: 9.30-12.30**

Auditorium Biblioteca Scientifica

Università di Udine

**Marco Carrer ~ University of Padua**

*Annual Rings and Xylem Anatomical Traits in the Analysis  
of Abiotic Stress in Woody Species*

**Giai Petit ~ University of Padua**

*The xylem water transport network: just safe  
enough to keep flowing*

# **Plant and vegetation responses to abiotic stresses**

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Growth rings do not simply indicate the age of an individual but represent an invaluable source of environmental and ecological information. By analyzing them, it is possible to reconstruct a sort of life record for each tree or shrub, allowing us to contextualize current growth conditions within a long-term perspective.

**Giai Petit ~ University of Padua**

***The xylem water transport network: just safe  
enough to keep flowing***

The xylem follows a rigidly organized structure, with conduit size changing along the hydraulic pathway from leaves to roots. Both lumen and cell wall resistance contribute to total conduit resistance, scaling with distance from the apex. The carbon investment in this xylem configuration optimizes both efficiency and safety.