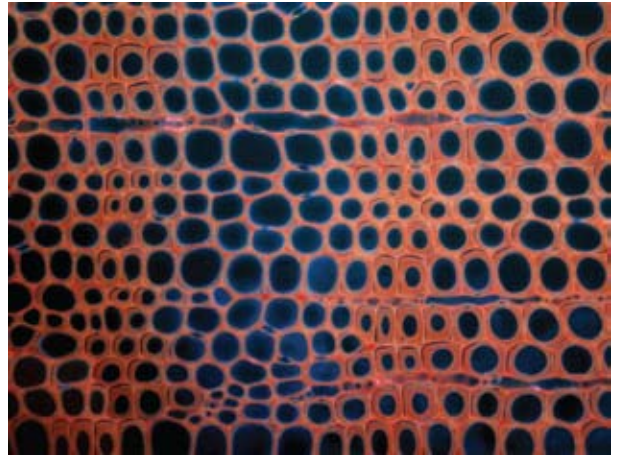


## Functional Traits in Wood Anatomy

*edited by*

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Katarina Čufar, Veronica De Micco



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International Association of Wood Anatomists c/o Naturalis Biodiversity Center

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Natural and plantation forests, park and roadside trees, and even arctic, alpine and desert shrubs all depend on their wood or secondary xylem for hydraulic and mechanical fitness and biological defence. In recent decades the research community has become aware that the complex tissue of wood harbours a wealth of so-called functional traits that make natural and manmade ecosystems dynamic and sustainable. On the other hand, natural and anthropogenic stress factors such as prolonged or extreme droughts, floods, hurricanes and snow storms, which seem on the increase in our globally warming era, challenge the limits of functional xylem and phloem adaptations arisen over millions of years of adaptive evolution.

This special issue of the IAWA Journal brings together 12 papers by researchers collaborating in the Functional Traits Topic Group of the Cost-Action STReESS (Studying Tree Responses to extreme Events: a SynthesiS) that was active from 2012 to 2016. Six papers are reviews of the literature dealing with the concept of functional traits in wood anatomy, and with individual functional traits such as porosity, various other growth ring markers, intra-annual density fluctuations (IADFs), inter-conduit pit membranes, vessel occlusions, and onset of sap conduction in earlywood vessels. The other six papers contain a wealth of original results ranging from cambium dynamics and phloem formation to growth ring and IADF analysis in European and Tropical forests exposed at increasing frequency to extreme events. This book is aimed at the research community and advanced students of plant biology, forestry, wood science, and global change.

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