Special Issue

Xylem Water Distribution in Woody Plants Visualized

Message from the Guest Editor

Water transport is a critical xylem function that affects photosynthesis, growth, plant vitality, and ultimately plant survival. Studying the relationships between water transport and xylem structure is fundamental for understanding species ecology, and provides important knowledge for sylvicultural, tree improvement, and forest restoration practices.

A major limitation to the research on the hydraulic function of xylem cells is the technical difficulty to visualize the free water as it occurs in real-time in the intact plant. Revolutionary new techniques for studying xylem water in real-time are now available, including cryo-microscopy, synchrotron, and X-ray microtomography. This Special Issue plans to give an overview of the most recent advances in the studies of free water movement in secondary xylem.

Potential topics include, but are not limited to:

Application of cryo-light microscopy and cryo-SEM in studies of the water content of xylem cells.
Three-dimensional microscopy of the water flow pathways of xylem.
X-ray microtomography of water content and water movement in the living plant.
Xylem flow tracers.

Guest Editor

Dr. Peter Kitin

School of Environmental and Forest Sciences, University of Washington, Seattle, WA, USA

Deadline for manuscript submissions

closed (10 May 2023)

Forests

an Open Access Journal by MDPI

Impact Factor 2.5
CiteScore 4.6

mdpi.com/si/133885

Forests
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
forests@mdpi.com

mdpi.com/journal/forests

Forests

an Open Access Journal by MDPI

Impact Factor 2.5
CiteScore 4.6

mdpi.com/journal/forests

MDPI

About the Journal

Message from the Editor-in-Chief

Forests (ISSN 1999-4907) is an international and cross-disciplinary, scholarly forestry journal. The distinguished editorial board and refereeing process ensures the highest degree of scientific rigor and review of all published articles. Original research articles and timely reviews are released online, with unlimited free access. Our goal is to have *Forests* be recognized as one of the foremost publication outlets for high quality, leading edge research in this broad and diverse field. We therefore invite you to be one of our authors, and in doing so share your important research findings with the global forestry community.

Editor-in-Chief

Prof. Dr. Giacomo Alessandro Gerosa
Department of Mathematics and Physics, Catholic University of Brescia, I-25121 Brescia, Italy

Author Benefits

High Visibility:

indexed within Scopus, SCIE (Web of Science), Ei Compendex, GEOBASE, PubAg, AGRIS, PaperChem, and other databases.

Journal Rank:

JCR - Q2 (Forestry) / CiteScore - Q1 (Forestry)

Rapid Publication:

manuscripts are peer-reviewed and a first decision is provided to authors approximately 17.1 days after submission; acceptance to publication is undertaken in 2.4 days (median values for papers published in this journal in the first half of 2025).