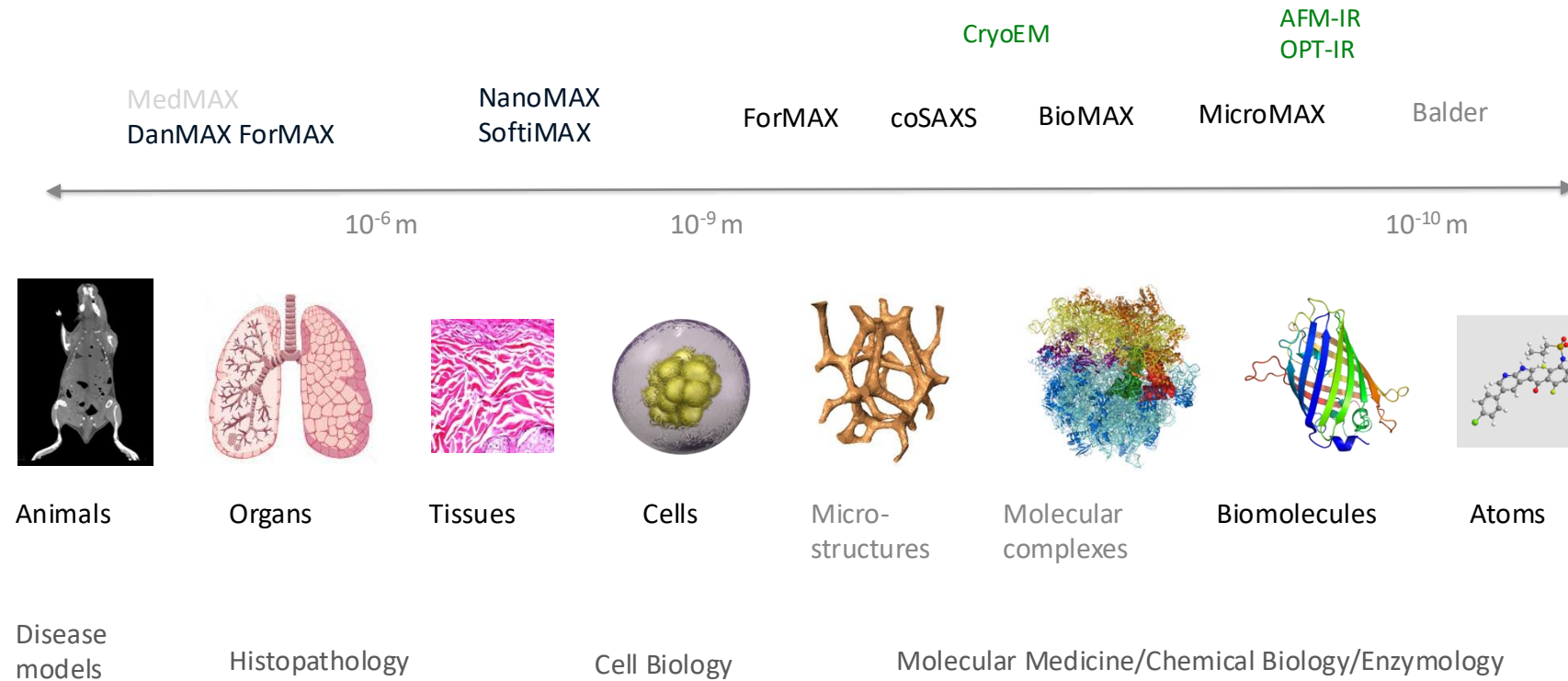




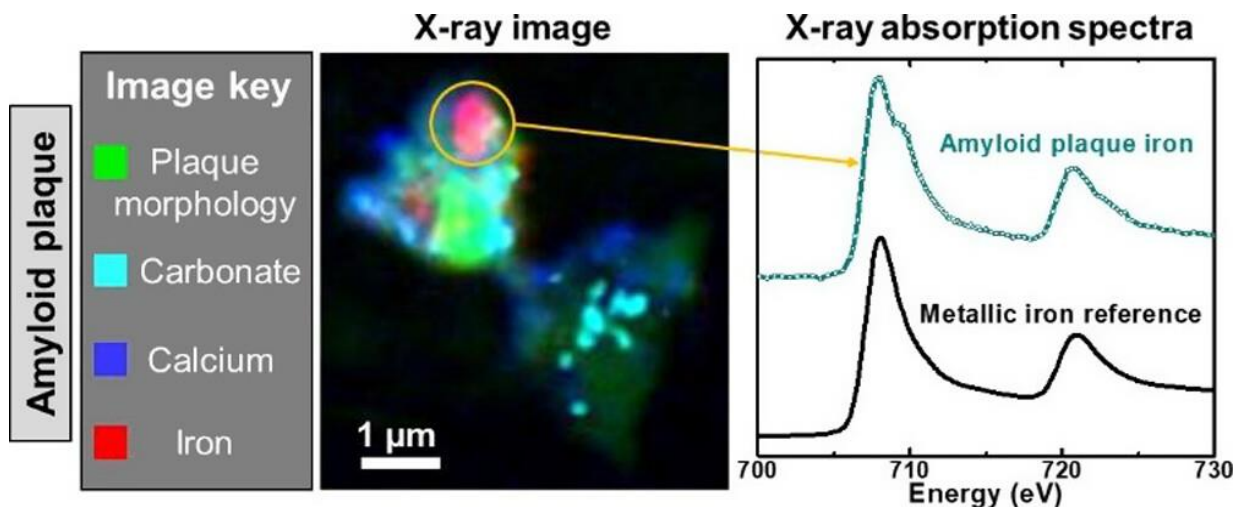
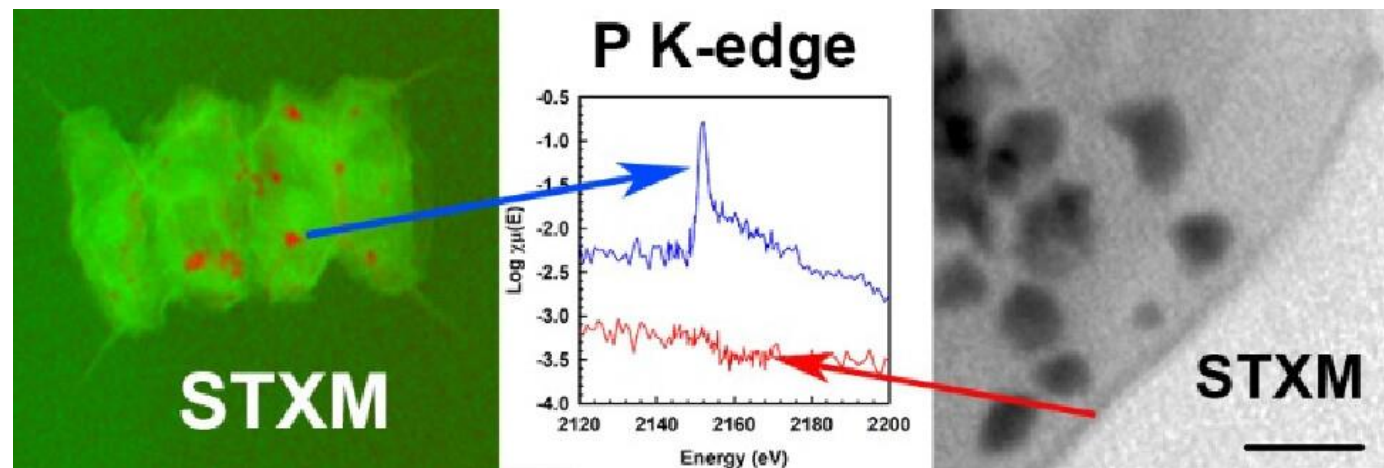
Biology at different length scales

SoftiMAX

Phosphorus Storage in Microalgae: STXM and XAS P K-Edge Investigation

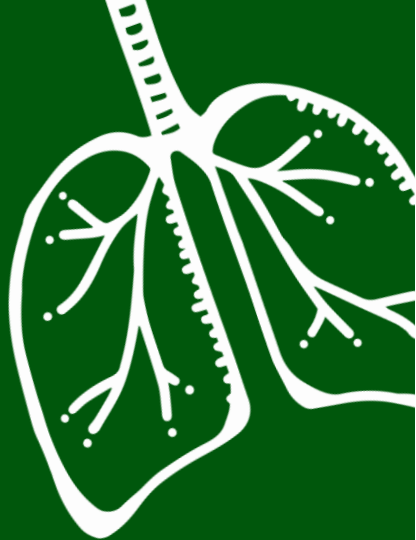
Plouviez, M. *et al*, ACS Sustainable Resource Management 2024, 1(6)

STXM: Scanning Transmission X-ray Microscopy
XAS: X-ray Absorption Spectroscopy



Label-Free In Situ Chemical Characterization of Amyloid Plaques in Human Brain Tissues

Everett, J. *et al*, ACS Chem. Neurosci. 2024, 15(7)



NanoMAX

BIO IMAGING

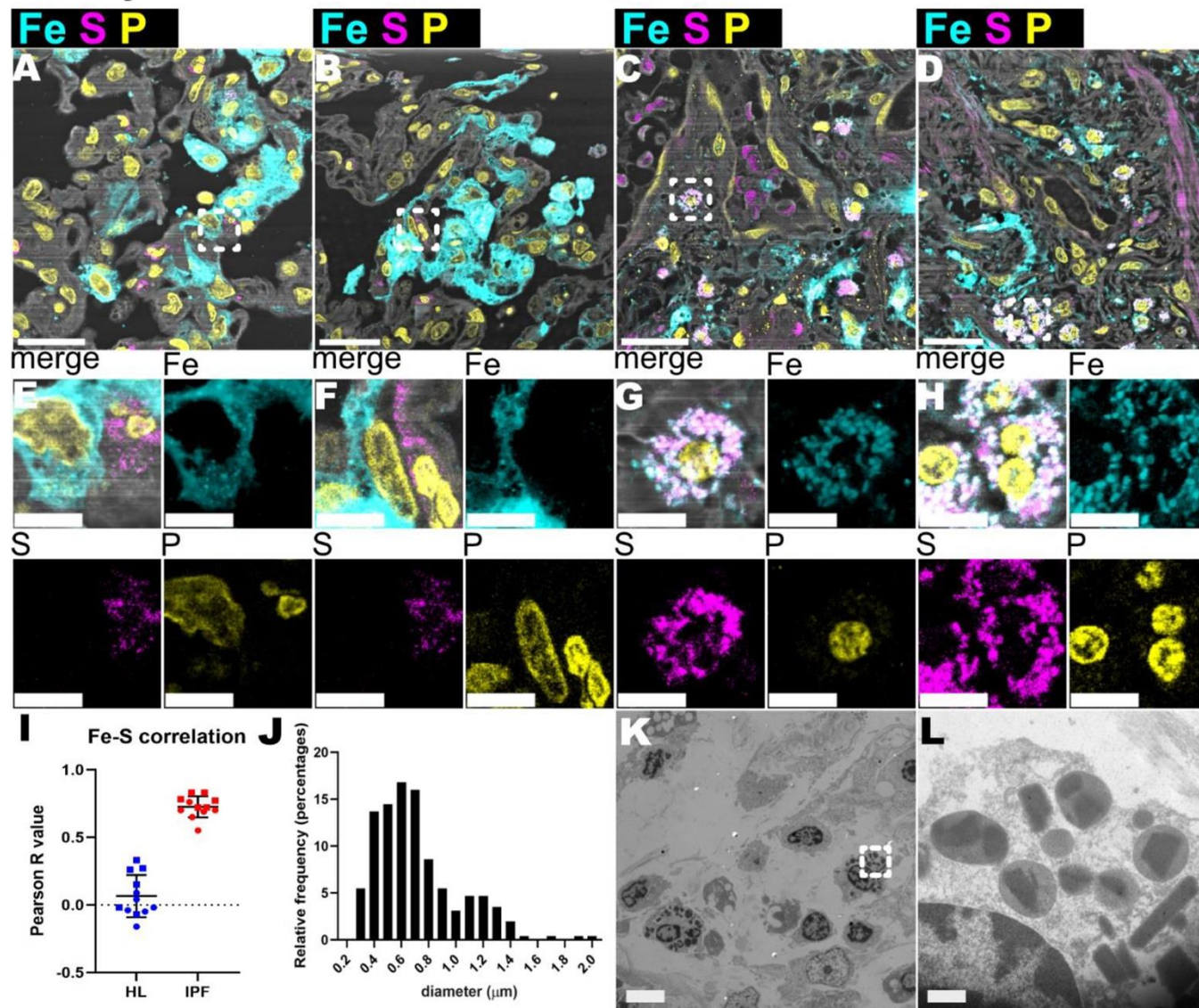
Nano-XRF of lungs

MAX IV

Human tissue

Healthy

IPF



B. Falcones et al., *Nano-XRF of lung fibrotic tissue reveals unexplored Ca, Zn, S and Fe metabolism: a novel approach to chronic lung diseases*, Cell Communication and Signaling 23:67 (2025)

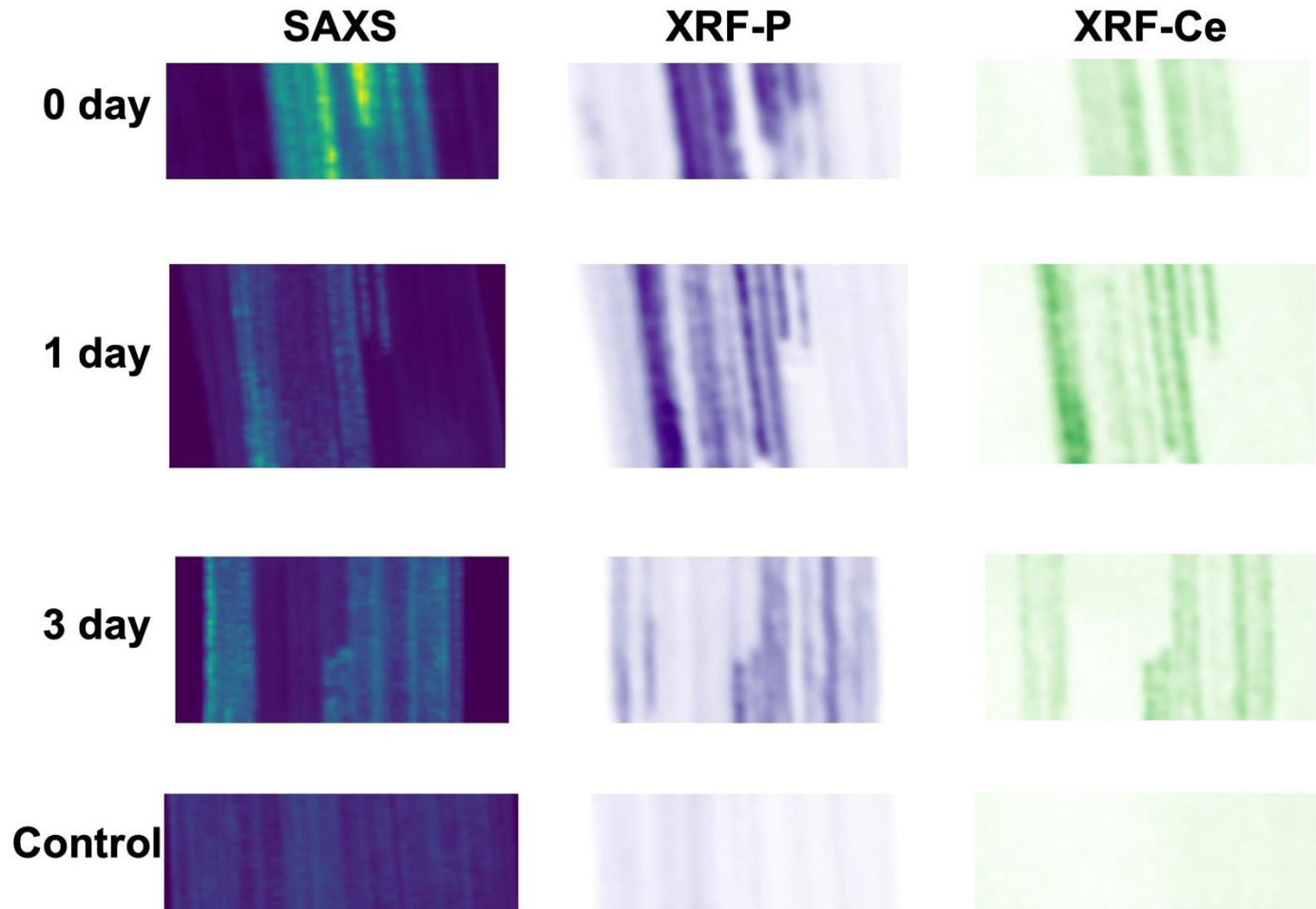
XRF- X-ray Fluorescence

Idiopathic Pulmonary Fibrosis (IPF)

– chronic lung disease without known cause

Metabolism and accumulation of metals could play a role

ForMAX



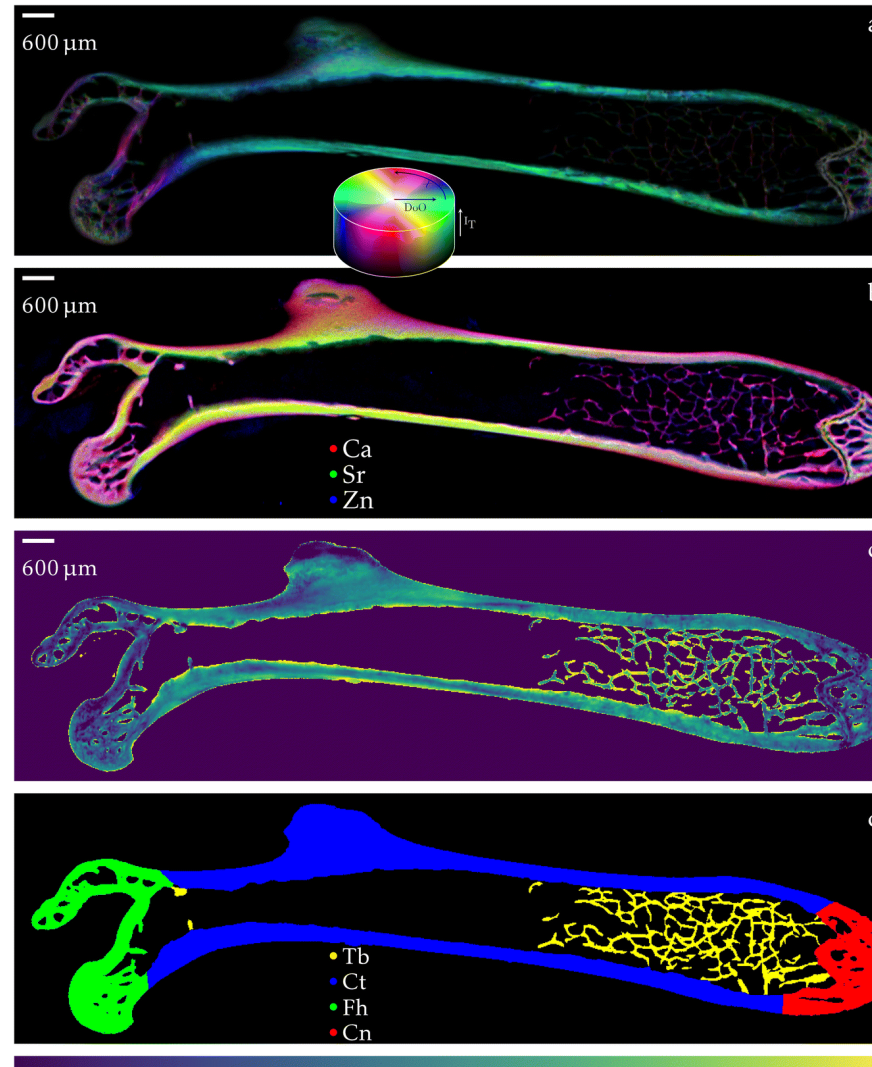
Aligned total scattering intensity maps and XRF intensity maps for P and Ce elements of freeze-dried barley leaves infiltrated with nano-hydroxyapatite (nHAP) solutions after different treatment time, and one of the control group infiltrated just with the citrate solution.

C. Wu *et al.* Correlative X-ray Imaging to Reveal the Dissolution of Nanoparticles and Nutrient Transport in Plant Foliar Fertilization. *Front. Plant Sci.* **2025**, 16, Article 1610402

DanMAX

Scan of the frontal section of full femoral bone of mouse, looking at the orientation of crystallites as a function of position in the bone

Christensen, T. E. K.; Moriishi, T.; Komori, T. Imaging the Orientation of Hydroxyapatite Crystallites Across Full Mouse Femora. *Faraday Discuss.* **2025**, 261, 1–12.



Orientation
direction

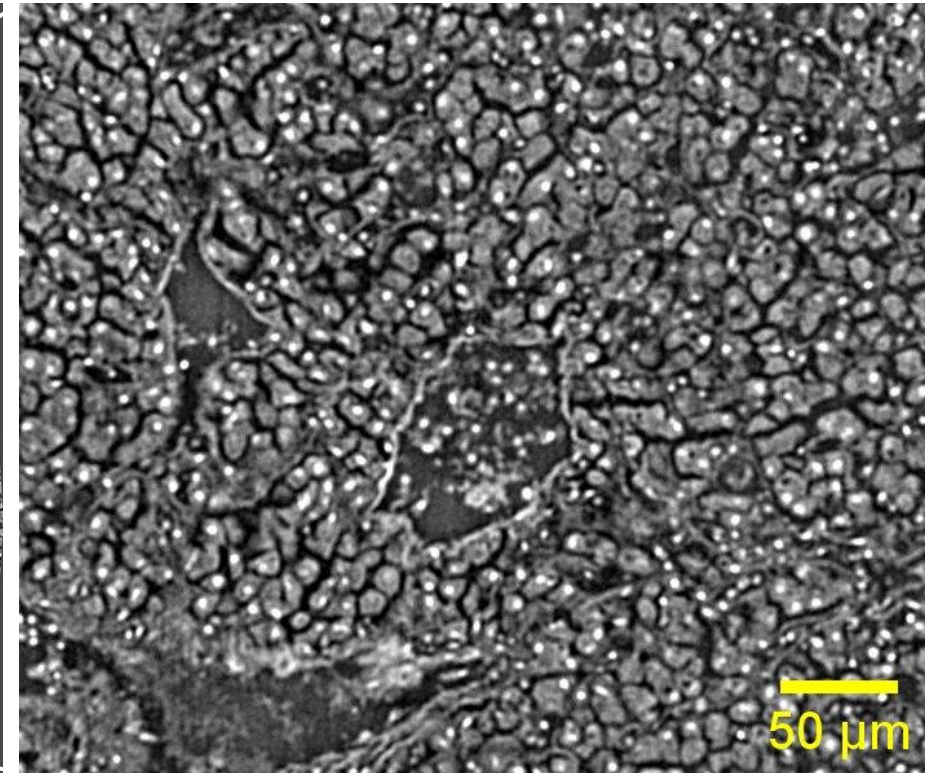
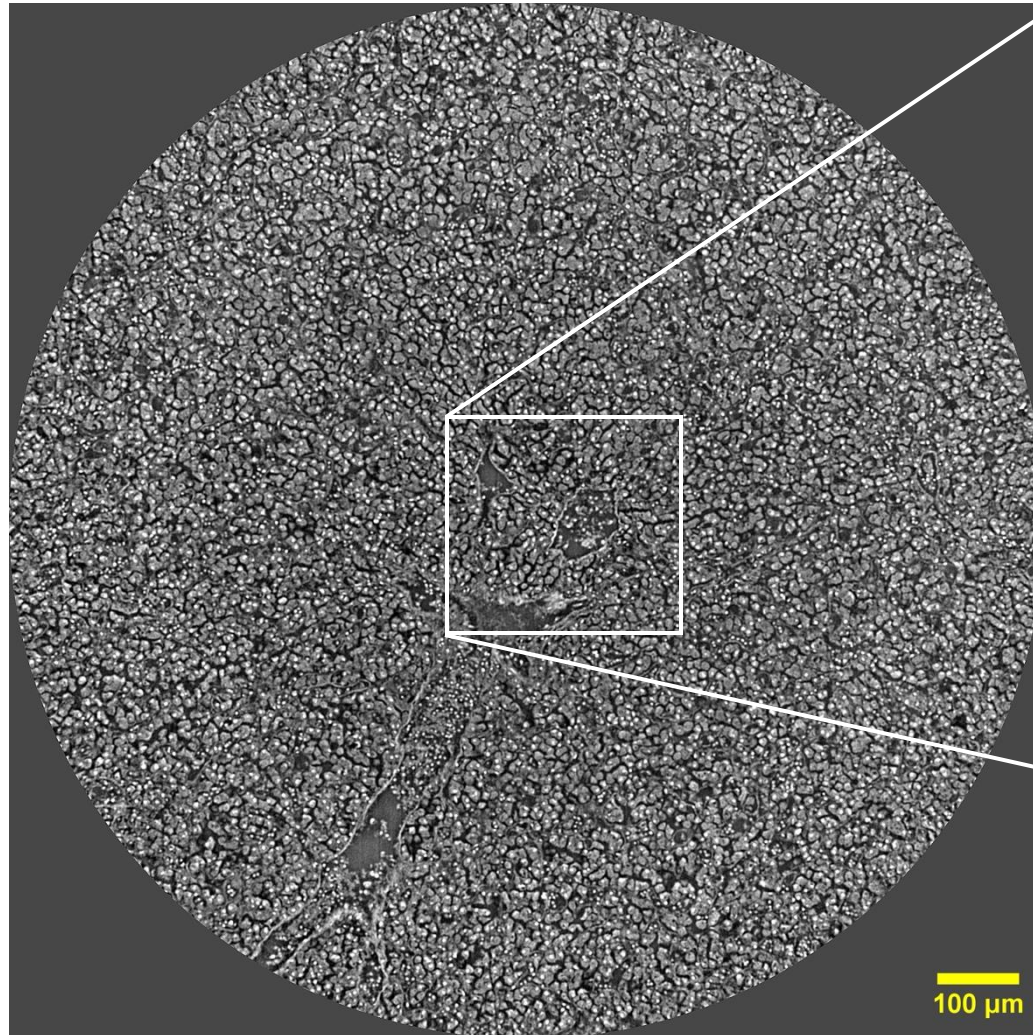
Degree of
orientation

XRF —
R: Ca, G: Sr, B: Zn

Unit cell c-axis shown from
6.875 Å to 6.890 Å

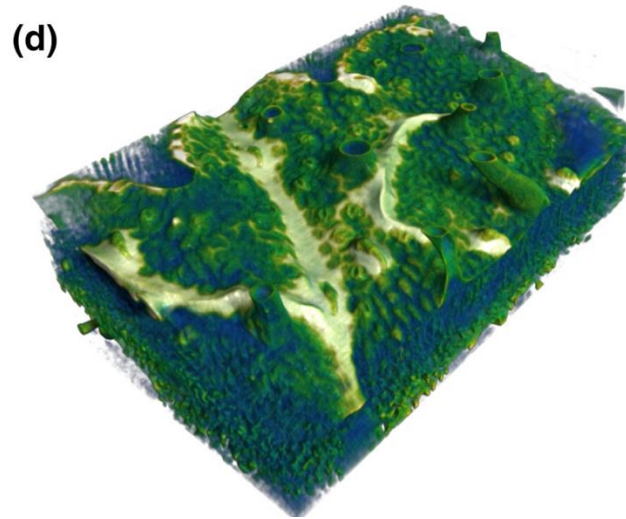
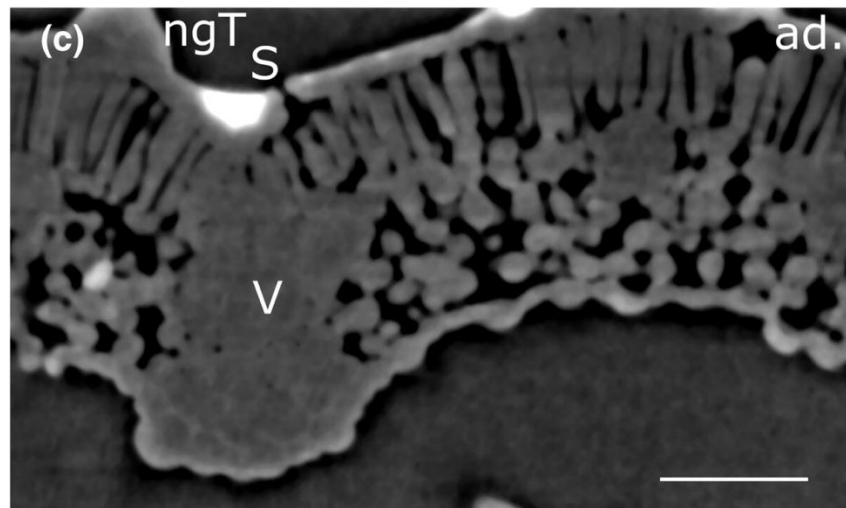
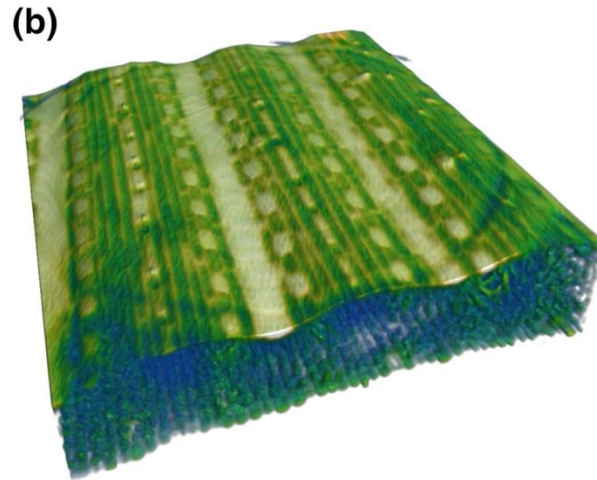
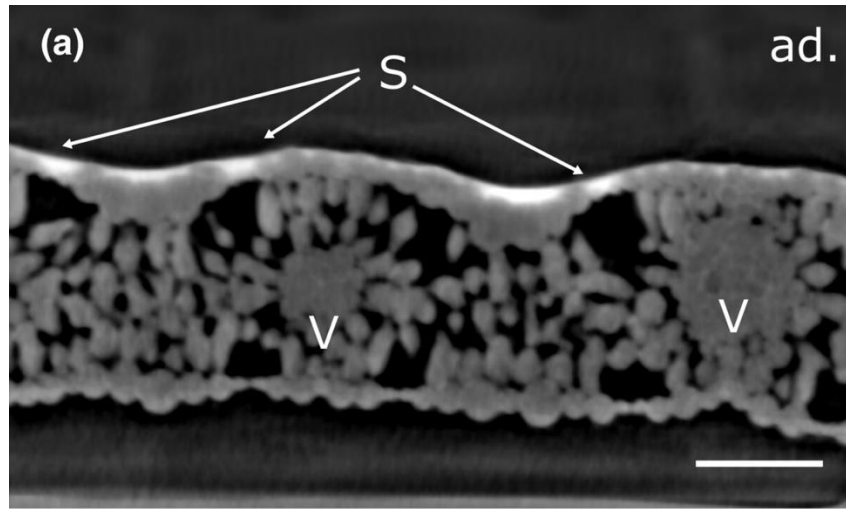
Segmentation of the bone
Y: trabecular bone in the shaft (Tb),
B: cortical bone in the shaft (Ct), G:
femoral head (Fh), R: condyle (Cn)

DanMAX



Cellular imaging in liver tissue using
synchrotron micro-CT

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Liquid films from low surface tension droplets on leaves of barley and potato.

Leaves were treated with droplets at $\gamma = 20 \text{ mN m}^{-1}$ and imaged by X-ray μCT . (a, c) Vertical sections. (b, d) 3D reconstructions, where plant tissues are depicted in blue/green shades and the water film in white. (a, b) Barley leaf imaged 4.5 h after droplet deposition

M. Frank *et al.* X-ray Micro-CT Imaging to Study Foliar Water Uptake Mechanisms in Plants with Contrasting Leaf Topography. *New Phytol.* **2025**, 248(2), 656–671.