

## **Three-dimensional insights into neuro-glia interaction: the role of SBF-SEM**

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The morphology of astrocytes, both under physiological and pathological conditions, plays a crucial role in the territorial control of brain parenchyma. However, their morphological complexity and heterogeneity remain poorly quantified. Volume electron microscopy (vEM) offers a valuable source for structural analysis of these cells and of their interaction with neurons, particularly given the small size of their processes, which can be up to two orders of magnitude below the resolution of visible light. Advances in vEM techniques, such as serial block-face scanning electron microscopy (SBF-SEM) have enabled the acquisition of high-resolution image stacks of extensive cellular structures and substructures.