

## **Super-resolution imaging of Fts-Z in *Bacillus subtilis* during interphase and cell division**

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Fts-Z is a protein of prokaryotes which shows homology with the tubulin family of proteins in eukaryotes. As such it has fundamental importance for developing an understanding how the cytoskeleton and cell division arose in early life-forms. In *B. subtilis* it has long been known to form a ring around the plane of cell division, and our more recent work has shown that it is also present as a spiral around the tubular cell in interphase.

These structures lie at or below the limit of resolution of the optical microscope, but are impossible to delineate with useful contrast in the electron microscope. Our work to date has used deconvolution microscopy, with some confocal imaging. We now present the first results from STED (stimulated emission depletion) microscopy, to obtain better resolution of these complex structures.