

P055 Spatial organisation of cytokinesis in the
African Trypanosome

**Sue Vaughan, Richard J Wheeler, Sylvain Lacomble,
Catarina Gadelha and Keith Gull**

*Sir William Dunn School of Pathology, University of Oxford,
South Parks Road, Oxford, OX1 3RE*

The protozoan parasite *Trypanosoma brucei* causes African sleeping sickness in humans and Nagana in cattle. Trypanosomes cycle between a mammalian host and tsetse flies and during these transitions the cell shape alters and decisions are made about whether or not to divide. Central to cell shape alterations and cell division is the microtubule cytoskeleton. We are lacking even basic knowledge of the morphology and molecular mechanisms of cytokinesis in these organisms. Understanding this is both timely and necessary as there are many RNAi phenotypes in the literature that exhibit cytokinesis defects. The microtubule cytoskeleton remains intact during cell division in *T. brucei* necessitating very precise spatial and temporal order of duplication of many single copy organelles in order to produce two identical daughter cells. We have used a combination of simple video microscopy and scanning electron microscopy to examine the morphological changes. Using a range of monoclonal antibodies we have studied the underlying cortical microtubule cytoskeleton to examine the patterns of microtubule extension, growth and segregation as the two daughter cells are formed.