



# CDB SEMINAR

<b>Date:</b>	<b>Tuesday, January 11</b>
<b>Time:</b>	<b>16:00 P.M. - 18:00 P.M.</b>
<b>Place:</b>	<b>7F Conference Room of Building A, CDB</b>

16:00-17:00

**Speaker1: Henrik Bringmann**

< Max Planck Institute of Molecular Cell Biology and Genetics, Dresden >

**Title: "Cytokinesis cleavage plane positioning  
by the mitotic spindle."**

**Summary:**

The position of the cell cleavage furrow determines the relative sizes of the two daughter cells as well as the distribution of their contents. In animal cells, the position of the furrow is specified by the position of the mitotic spindle. The cytokinesis furrow bisects the spindle midway between the microtubule asters, at the site of the microtubule-based midzone, producing two daughter cells. Both the midzone and the asters are implicated in cytokinesis. Experiments in some cell types have suggested that the position of the furrow is determined by the midzone, while experiments in other cells have suggested that the position of the furrow is determined by the microtubule asters. One possibility is that different organisms and cell types use different mechanisms to position the cleavage furrow. An alternative possibility is that microtubule asters and the spindle midzone redundantly specify the cell division site. We have examined the relative contributions of the different parts of a spindle to specification of the cleavage furrow in the *C. elegans* zygote. By spatially separating the spindle midzone from one of the asters using a UV laser, we have found that the cytokinesis cleavage plane is redundantly positioned by a first cue determined by microtubule asters followed by a second cue that is derived from the spindle midzone. Thus the position of the cleavage furrow is specified by two consecutive furrowing activities.