PALESTRA DIVISION SITE SELECTION IN *Xanthomonas citri subsp. citri*

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Recent work from our group demonstrated that the processes of chromosome segregation and cell division in *Xanthomonas citri* (Xac) share some resemblance with cognate functions in *Caulobacter crescentus (C. crescentus)* (Ucci AP et al., 2014; Microbiology Open 3: 29). If the similarities were confirmed, there might be a factor in Xac, not yet identified, which operates on site division selection, and that in *C. crescentus* received the name of MipZ. MipZ is an inhibitor of FtsZ polymerization, and shows subcellular localization dependent on the bacterial centromere. Right after chromosome replication initiates, duplicated origins (centromeres) segregate; in *C. crescentus*, as well as in Xac, centromeres separate asymmetrically: one remains close to a cell pole while the other moves to the opposite pole. MipZ in *C. crescentus* is nearby the two centromeres, which guarantees that the cell center is the region with the least concentration of the FtsZ inhibitor; hence, this is the site where the divisional septum, the Z-ring, will develop. This mode of site division selection is not used for instance by *Escherichia coli* (Eco). Eco utilizes the Min system, where MinD localizes at the poles and recruits MinC, the FtsZ inhibitor. The localization of MinCD in Eco is dynamic and dependent on MinE that swipes from pole to pole reorganizing the MinCD complex during the cell cycle. Again, the cell center is the region in which the FtsZ inhibitor is less present, and where the septum can be assembled. Finally, *C. crescentus* does not possess MinCD, while Eco does not have any MipZ; however, Xac does have minCDE on its genome and could well have a mipZ homologue. We wondered: does Xac have a functional MipZ? Is the Min system of Xac operational? Which system is in fact used for site division selection in Xac? In my talk I will show that the Min system indeed operates division site selection in Xac.