

## セミナーのお知らせ

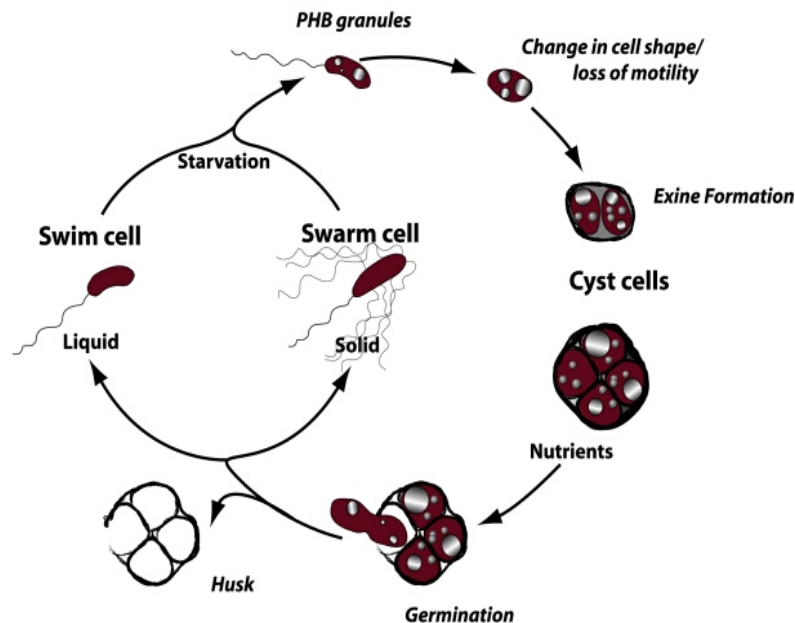
2014年10月3日(金) 14:00-15:00 B2棟4階大会議室

米国インディアナ大学の Carl Bauer 教授をお招きし、細菌のシスト(嚢胞)形成の分子メカニズムに関するセミナーを開催します。細菌における cGMP のシグナリング、Chemotaxis センサーが嚢胞形成をも制御する機構など面白い話題について話される予定です。ふるってご参加下さい。

### Controlling cyst development in the $\alpha$ -proteobacterium *Rhodospirillum centenum*

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*Azospirillum* species are known to be members of the plant root rhizosphere where they provide plants with fixed nitrogen as well as bacterially synthesized growth hormones. Inoculation of crop seeds with *Azospirillum* cells is known to promote plant root formation and enhance subsequent crop yields. These cells exhibit a complex developmental life-cycle featuring three morphologically distinct cell types; swim cells, swarm cells and metabolically dormant cysts that are capable of surviving desiccation. To provide efficient delivery of *Azospirillum* cells to the field, we have been studying how a photosynthetic member of the *Azospirillum* clade, *Rhodospirillum centenum*, controls cyst development. Using a combination of genetic, biochemical and genomic studies, we have found that the production of cGMP has a major role in controlling cyst development. We have also identified a number of transcription factors that are involved in controlling the cyst developmental process in *R. centenum*.



Marden JN, JE Berleman & CE Bauer (2011) Cyclic GMP regulates encystment in *Rhodospirillum centenum*. *Mol. Micro.* 79:600-615

He K, JM Marden, EM Quardokus & CE Bauer (2013) Phosphate Flow between Hybrid Histidine Kinases CheA<sub>3</sub> and CheS<sub>3</sub> Controls *Rhodospirillum centenum* Cyst Formation. *PLoS Genetics*, DOI: 10.1371/journal.pgen.1004002

問い合わせ : バイオセンター 増田真二 内線 5737