



「生命の樹」セミナー
ショウジョウバエ精子のプロテオーム解析
平成 27 年 4 月 27 日(月)11 時~12 時
総合研究棟A 公開会議室 A110
The Sperm Proteome as a Tool for Understanding
Paternal Effects in *Drosophila*
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As a central player in the reproductive success of sexually reproducing organisms, sperm represent a focal point in providing organismal fitness through its known role in fertilization. However, the potential roles for spermatozoa both during and following fertilization is far from clear as recent results clearly establish that sperm are much more than “DNA-delivery” vehicles. These studies represent a potential new paradigm shift in our understanding of fertilization and early development as it pertains to sperm-egg interactions both during, and following, the fertilization process. Because the entire sperm enters the egg upon fertilization (a common event across all animal taxa), knowledge of the behavior and fate of the sperm following fertilization has changed the way we think about the fertilization process. Therefore, each fertilization event represents the introduction of an entire sperm proteome into the egg. The recent elucidation of the *Drosophila melanogaster* sperm proteome has provided a wealth of new, and often surprising, insights into the proteins that make up functional, mature spermatozoa. I will describe our research program that uses a combination of high throughput proteomics, molecular genetics and cell biology to screen the *Drosophila* sperm proteome for “paternal effects”, i.e., identify specific functions for those proteins delivered to the egg by the sperm.

Selected papers: E. R. Wasbrough et al. (2010) *J. Proteomics* 73: 2171-2185; B. Loppin et al. (2005) *Nature* 437: 1386-1390; B. Loppin et al. (2004) *Current Biology* 15: 87-93.

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