Syllabus for BIO 5084

Course Title: Molecular Motors and Single Molecule Techniques

Schedule: Thursdays at 12 PM
264 McDonnell Medical Sciences Building

Course master: Michael Greenberg
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Course Description: Molecular motors in the cell harness chemical energy to generate mechanical work in a host of processes including cell motility, DNA replication and repair, cell division, transcriptional regulation, and intracellular transport. The purpose of this course is to discuss recent advances in the field of molecular motors. Special emphasis will be placed on understanding and critically evaluating single molecule studies. The course will consist of both journal club presentations and small group discussions.

Course Format: Once a month, there will be an informal discussion of papers. Participants are to come prepared to give a 5-minute overview of a paper. On the other weeks, there will be a formal presentation and in depth discussion of a selected paper for ~1 hour. Each student will present at the formal session at least once per semester and they must email their selected paper to greenberg@biochem.wustl.edu by the Sunday night preceding their presentation. The presenter is responsible for giving sufficient background so that the group can understand both the biological question as well as the techniques used to address that question. Non-presenting students are required to have read the paper ahead of time and to come prepared to ask questions (at least one per class).

Student evaluation: Students will be evaluated based on their participation in three areas. (1) Each student will lead at least 1 full (~1 hour) discussion of an assigned paper. (2) Students will come prepared to ask thoughtful questions on presented papers. (3) Students will present one paper once a month in a short (5 minute) presentation.

Course website: The syllabus, presentation schedule, and list of papers that were presented in short format can be found on the course website, which is accessible through: http://biochem.wustl.edu/studentinfo/courses. Presenters are should email their papers to greenberg@biochem.wustl.edu.