CDB SEMINAR

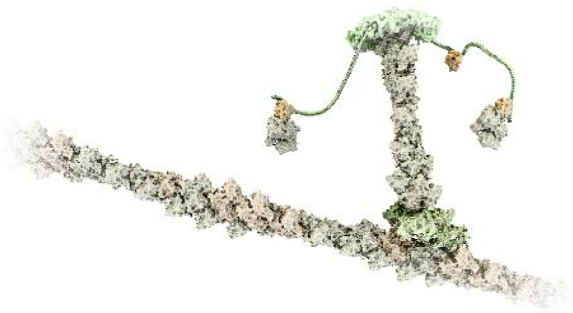
Dan W. Nowakowski

Dept. of Cell Biology,
Harvard Medical School

Monday, December 8, 2008
15:15~15:45 A7F Seminar Room

Biologists in the Director's Chair: Communicating with Maya Animation Software

Our depiction of scientific findings represents a spectrum of interpretation: sometimes we present raw data without additional analysis (e.g. a microscopy image), other times we refine and distill our interpretation of the data (e.g. by showing a diagram of a molecular mechanism). The degree of visual complexity (from simple diagrams to immersive animations) is an added dimension that informs our interpretive aperture - we weigh what information to include or leave out based on the intended message and target audience. Faced with these decisions, biologists today have the distinct opportunity to take the film 'director's chair' as they strive to convey data in more powerful and cinematic ways. For example, as the number of available molecular structures obtained through EM/X-ray/NMR grows, and our computing hardware and software advance, an increasing number of biologists can turn to 3D animation software borrowed from the entertainment industry to visualize their data. This talk will focus on the Maya animation program, prominently used by entertainment studios, and how it can be adopted by scientists to import and animate data. Maya's integration of modeling, animation, dynamics, rendering, and programmability will be exposed through a chosen set of example molecular movies. In using such powerful software tools, we find that the visualization process itself often casts new light on data. As a result, unique opportunities arise for reflecting upon results and hypotheses as scientists and 3D animators collaborate and seek to better understand each other's methods. Empowering scientists to use the advanced 3D software arsenal at their disposal may therefore represent a unique opportunity to improve our scientific communication and educational goals.



Host:
Masatoshi Takeichi
Cell Adhesion and Tissue Patterning, CDB
takeichi@cdb.riken.jp
Tel:078-306-3116
(ext:1321)