

Project Year

2002

Project Team

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Project Title

Cellular and Molecular Neuroscience

Audience

Each year, around 80 students enroll in the *Cellular and Molecular Neuroscience* course. The searchable database that we propose to develop will also be relevant to the approximately 25 students in the more advanced *Cellular and Molecular Neurophysiology* course, as it addresses the need for relevant images for the frequent in-class collaborative presentations on developments in neuroscience research.

Pedagogical Issue

This course focuses on the cellular and molecular mechanisms underlying nervous system function, specifically the structure and function of neurotransmitter receptor channels. The course material is complex and difficult to grasp; interactive online supplements would enhance student comprehension.

Solution

This team proposes to develop an image database for course use. By using WebCT as a portal for this database, students will be able to discuss research topics and pose questions in a discussion forum. Hundreds of images used in the class will be posted online in a searchable, user-friendly format. Students will no longer be limited to seeing channel structures in two dimensions; the three-dimensional intricacies of the channels covered in the course will be depicted with RasMol, an interactive molecular graphics viewer that allows interactive rotation of entire channels. This viewer will allow the students to see in-depth structural comparisons of different channels and develop a greater understanding of channel function.

Technologies Used

WebCT, RasMol