

CSB/SJU Faculty Interested in Participating in the 2009 Summer Research Exchange Program Between CSB/SJU and SWU.  
 INITIAL LIST: Last update - 12/4/09

**BIOLOGY**

Department	Professor	Tentative Title	Tentative Description
Biology - CSB/SJU	<a href="#">Steve Saupe</a> (web) <a href="mailto:ssaupe@csbsju.edu">ssaupe@csbsju.edu</a>	A Comparison of Airborne Pollens & Molds in China and Central Minnesota.	Details: compare the airborne mold, pollen, and particulate concentrations in China and central Minnesota. I envision sending our student to China with a series of Air-O-Cell sampling cassettes (Zefon Intl) and a small suction pump to collect air samples. Once together in China, the two students would ultimately determine the exact question/protocol to answer. For example, they could chose to sample molds/pollen in classroom spaces or in a local forest. They would then take the appropriate samples in China. When they return to MN they would take comparable samples here and then analyze the samples from both locations.
- SWU			

**BIOCHEMISTRY**

Department	Professor	Tentative Title	Tentative Description
Chemistry - CSB/SJU	<a href="#">Henry Jakubowski</a> (web) <a href="mailto:hjakubowski@csbsju.edu">hjakubowski@csbsju.edu</a>	Laboratory and computer modeling of synthetic peptide binding inhibitors of low molecular weight protein tyrosine phosphatase (PTP).	We have produced 4 different mutants of low molecular PTP. We will study the binding of small synthetic inhibitors of PTP as well as phospho-peptides derived from the sequence of natural binding proteins using molecular modeling and UV/Vis and fluorescence spectrophotometry to the mutant and wild type PTP.
- SWU			

## CHEMISTRY

Department	Professor	Tentative Title	Tentative Description
Chemistry - CSB/SJU	<a href="#">Michael Ross</a> (web) (Analytical) <a href="mailto:mross@csbsju.edu">mross@csbsju.edu</a>	photodecomposition of drugs and personal care products in surface water.	This project includes: a) the study of the photodecomposition rate and mechanism of these materials by direct as well as indirect mechanisms; b) a study to look at the levels of these materials within East Gemini Lake, which is the place the SJU Waste Water Plant dumps its outflow using LC, LC-MS and NMR.
- SWU			

## PSYCHOLOGY

Department	Professor	Tentative Title	Tentative Description
Psychology - CSB/SJU	<a href="#">Linda Tennison</a> (web) <a href="mailto:ltennison@csbsju.edu">ltennison@csbsju.edu</a>	Cross-cultural studies of social cognition using explicit surveys and the implicit associations task.	<a href="#">Linda Tennison</a> : Cross-cultural studies of social cognition using explicit surveys and the implicit associations task. Possible topics include cross-cultural comparisons of attitudes towards the aged (in participants of varying ages) and intercultural attitudes, social change and cultural contact (also potentially with different aged samples).
- SWU			

## PHYSICS

Department	Professor	Tentative Title	Tentative Description
Physics - CSB/SJU	<a href="mailto:jcrumley@csbsju.edu">Jim Crumley</a> <a href="mailto:jcrumley@csbsju.edu">jcrumley@csbsju.edu</a>	The Variation of Ion Cyclotron Waves during the Solar Cycle Due to Composition Effects	The students will work on an ongoing project to ion cyclotron waves in publicly available spacecraft data. The students will use existing software, as well as making minor alterations to it, in order to find the waves in electric and magnetic field data from NASA's FAST spacecraft. The waves will be compared to ion data obtained at the same time as well as to variations due to the eleven year solar cycle. There will also be comparisons to data from other spacecraft
- SWU			
Physics - CSB/SJU	Dean Langley <a href="mailto:dlangley@csbsju.edu">dlangley@csbsju.edu</a>	Laser Physics	
- SWU			
Physics - CSB/SJU	Adam Whitten <a href="mailto:awhitten@csbsju.edu">awhitten@csbsju.edu</a>	The Variation of Ion Cyclotron Waves during the Solar Cycle Due to Composition Effects	Ground-based solar spectrophotometry to measure total column ozone, atmospheric optical thickness, and total column water vapor. The total column ozone and atmospheric optical thickness will be compared with NASA satellite data.
- SWU			

## COMPUTER SCIENCE

Department	Professor	Tentative Title	Tentative Description
CS - CSB/SJU	<a href="#">Jim Schnepf</a> (web) <a href="mailto:jschnepf@csbsju.edu">jschnepf@csbsju.edu</a>	Source Code Plagiarism Detection	This project will analyze and compare existing techniques for code plagiarism detection. This system would work similar to term paper detection systems such as "EVE Plagiarism Detection System" ( <a href="http://www.canexus.com/">http://www.canexus.com/</a> ) and Turn It In ( <a href="http://www.turnitin.com">http://www.turnitin.com</a> ). Compare alternative methods to tokenize source code for efficient analysis of possible plagiarism. Several techniques have been proposed to compare files for similarity, most of which replace the actual code with a set of tokens that represent common processes. Without this, students may avoid detection by making trivial changes to their code such as changing variable or function names or even the comments in the code to make it appear as if the code was different (if one only did straight text comparisons). Experimental studies have shown inconsistencies among results produced by source code plagiarism detections systems. We intend to research existing techniques and analyze the different methodologies proposed to see if some methodologies are more promising than others
- SWU			

## THEATER (working on funding)

Department	Professor	Tentative Title	Tentative Description
Theater- CSB/SJU	<a href="#">Kaarin Johnston</a> <a href="mailto:kjohnston@csbsju.edu">kjohnston@csbsju.edu</a>	Creating new pieces of theater for young People (children ages 6-9; 10-12; 13-16)	<p>These types of theater can include carefully improvised sections to teach specific skills. They can also be created stories, classic tales from many cultures or set in the future. This a major focus of my own research work—using theater as a tool. Interactive theater is a new area I am working on this summer and will be teaching as a Topics course in the fall.</p> <p>If there are any students who would be interested in any form of American Dramatic Literature (Asian-American, Hispanic, Native American, Women's Theater, African-American, plays on the Holocaust, etc.) as a cultural creation—I'd be delighted. I start teaching a one-credit readings course each semester focusing on one genre or drama from a specific culture this spring. Whatever they would like to research, I could focus on to help me prepare to teach that particular focus</p>
- SWU			

**MODERN ANDN CLASSICAL LANGUAGES (working on funding)**

Department	Professor	Tentative Title	Tentative Description
<p>Modern and Classical Languages- CSB/SJU</p>	<p>Zihui Sophia Geng  <a href="mailto:sgeng@csbsju.edu">sgeng@csbsju.edu</a></p>	<p>comparative study of Chinese folklores in Chinese literature and Chinese immigrant/ Chinese American literature</p>	<p>At SWU, student researchers will locate and collect well-known Chinese folklores such as Cai Ji, Wang Zhaojun, Cowboy and the Weaving Goddess (niu lang zhi nu), One Thousand Year Old Fox (qian nian hu). They will compare the differences among various versions in the history books (shi shu), mainstream media, oral history and vernacular culture (in this case, in Chuan Yu culture).</p> <p>At CSB/SJU, student researchers will read the same folklores in Chinese immigrant and Chinese American literature. Works include Maxine Hong Kingston's <i>Woman Warrior</i>, Amy Tan's <i>The Joy Luck Club</i>, Gish Jen's <i>The Love Wife</i>, and Rui Yang's <i>Spider Eaters</i>. They will do textual analysis and compare the differences of these folklores in Chinese literature and Chinese immigrant/Chinese American literature in terms of plot, theme, language usage and function. In addition, student workers will brainstorm and find reasons why the folklores are used differently, what purposes they served in its particular contexts.</p> <p>Students will design a roadmap for a research paper on the different usages of folklores in Chinese literature and Chinese immigrant/Chinese American literature, including an annotated bibliography</p> <p>bond forged in the summer exchange program, finalize the paper, and look for opportunities to present the research paper as co-authors</p>
<p>- SWU</p>			