

HST.584 / 22.561 – Final Class Project

Due: Presentations will be given May 17 / 2006 in class

Rationale: One of the stated goals of this course is to equip students with enough familiarity with the basics of MRI and its many applications that they can read and understand current papers published from across the field. The goal of this final project is to demonstrate such competency.

Assignment: You are asked to select a recent paper that somehow involves MRI or one of its applications and give a well-formulated and thoughtful presentation of this paper to the class. This description of the topic is intended to be vague to give you a wide degree of freedom in choosing a paper that interests you. The possible range could include papers of technical interest (i.e. coil or sequence development, reconstruction algorithms, contrast agent development / use), MRI applications (i.e. an fMRI study, a diffusion-weighted imaging study of some physiological or neural feature, MRI spectroscopic imaging) or clinical relevance (i.e. a study of the brain / heart / lungs / liver / some other organ system or tissue). Be creative in your selection of topic, but where at all possible try to relate the paper back to the concepts learned in class to demonstrate your mastery of the material. Journal suggestions include Science, Nature (and the rest of the Nature family), Magnetic Resonance in Medicine, Journal of Magnetic Resonance, Journal of Magnetic Resonance Imaging, Magnetic Resonance Imaging, Journal of Neuroscience, Neuroimage and Neuron, although this list is only a sampling.

Outcome: In the final class of the term, you will give a 15 minute presentation on the paper you selected. You will be graded on your ability to clearly explain the paper using the concepts developed over the semester in the lectures, including any relevant background theory, the hypothesis or rationale for the study, the results obtained and the significance of said results. Additionally, you will submit a one-page written Executive Summary of the paper summarizing these same ideas. It is strongly recommended that all students run their selected paper past one of the instructors or the TA prior to embarking on any substantial amount of work. Please bring copies of the paper to share with the other students in class.