

# EE 691: Advanced MRI

Instructor: Krishna Nayak, [knayak@usc.edu](mailto:knayak@usc.edu)  
EEB 406, 213-740-3494

Meeting Time: Tues & Thurs 9:30 - 10:50am

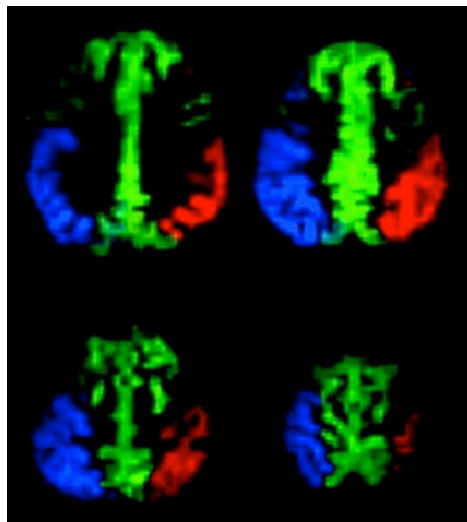
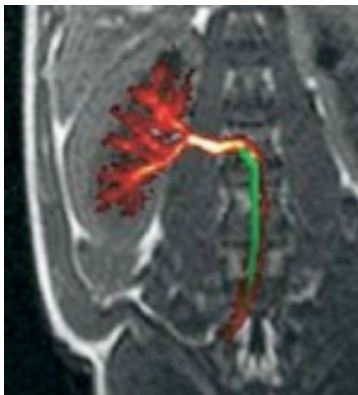
Course Materials: <http://ee-classes.usc.edu/ee691/>

Prerequisites: EE 591 (or equivalent)

This course is meant for individuals interested in pursuing advanced research related to the development and/or use of new MRI techniques. An emphasis will be placed on recent developments that 1) have had high impact on the field and/or show strong promise, 2) involve novel pulse sequence design or image reconstruction methods, and/or 3) enable imaging of anatomy and function in a way that surpasses what is currently possible with any modality.

The format will be similar to that of a journal club. There will be one or two handouts or online lectures assigned each week. Each class meeting will consist of a 30 minute discussion, followed by a problem solving, often involving Matlab programming. Topics will include:

Compressed Sensing MRI  
Arterial Spin Labeling  
RF Pulse Design  
New Strategies for Motion Encoding  
New Strategies for Angiography  
Starting an MRI Business



what's so special about these images? take this class to find out!