

**IEEE
ENGINEERING IN
MEDICINE AND
BIOLOGY**

**Tuesday, October
21st, 2008**

Hosted by: IEEE, SFO



THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC.



San Francisco Chapter Presents:

"Quantifying Brain Anatomy Using Deformation Morphometry"

DATE & TIMES:

*Tuesday, Oct 21st
No-host bar at 6:00 PM
Dinner at 7:00
Presentation at 7:30*

PLACE:

*Sinbad's Restaurant
Pier 2 Embarcadero St.,
San Francisco, CA 94111
www.sinbadsrestaurant.com*

COST: (includes dinner)

*\$10 students
\$15 members,
\$25 non-member.*

RSVP by Oct 20

*to Bob Giebeler at
b.giebeler@ieee.org
For more information:
415-252-7214*

Our presenter, Dr. Valerie Cardenas, will discuss:

Computational shape analysis of structural MRI data that identifies anatomical changes in the brain has the potential to identify patterns of atrophy due to normal aging or disease, and identify how different clinical or cognitive testing variables are related to specific brain structures. Nonlinear, nonrigid image registration techniques have been widely used to warp the 3D MRI of one brain into the space of a reference brain or atlas while accounting for the anatomical variations between them. This approach has been also used to measure the longitudinal change between sequential MRIs of the same subject. Deformation morphometry is a method for analyzing and quantifying the relationship between brain anatomy and disease or function, typically by computing statistics voxel-by-voxel using three-dimensional (3D) maps of local anatomical size derived from nonrigid image registration methods. In this talk, an overview of deformation morphometry methodology will be presented, as well as numerous examples using deformation morphometry to study clinical populations.

Valerie Cardenas received her B.S.E. in Biomedical Engineering from The University of Iowa in 1988, and her Ph.D. from the UCB/UCSF Joint Bioengineering Graduate Group in 1994. She is a Research Scientist at the Northern California Institute for Research and Education and Assistant Adjunct Professor at UCSF, and specializes in using image processing of MRI of the brain to study neurodegeneration.

Dr. Catherine Klifa, UCSF, Program Organizer