Imaging Science and Engineering Program

Donald L. Snyder, Director

- Certificate Program
- Interdisciplinary
  - Electrical Engineering
  - Computer Science
  - Systems Science and Math
  - Biomedical Engineering
  - Physics

IS&E Academic Theme

- **Draws on Strengths Across University**
- **Emphasizes Fundamentals**
  - Sensor Physics, Instrumentation, Modeling, Restoration, Image Processing, Computations, Image Display, Psychophysics, Compression, Transmission, Representation, Interpretation, Evaluation
- **Flexible Structure --&gt; Easily Incorporated Into Degree Programs**

Christensen, Joshi, Wang, and Miller. 10/93

Data Courtesy of Vannier and Raichle, et. al.
IS&E Requirements in EE

- Seminar in Imaging Science and Engineering (Fall) (0 units)
- Practicum in Imaging Science and Engineering (1 unit)

- Probability and Stochastic Processes
- Detection and Estimation Theory
- Quantitative Image Processing

One of
- Machine Vision
- Optical Imaging
- Tomographic Imaging
- Ultrasound Imaging Systems
IS&E Practicum Experience

One Semester Research Laboratory Experience

- Applied Research Laboratory (CS)
- Computer and Communications Research Center (EE/CS)
- Computational Research Laboratory (Math)
- Division of Nuclear Medicine (Radiology)
- Electronic Radiology Laboratory (Radiology)
- Electronic Signals and Systems Research Laboratory (EE)
- Image Processing Laboratory (Radiology)
- Hyperspectral Imaging Laboratory (EPS)
- Laboratory for Computational Science (CS)
- Machine Vision Laboratory (SSM)
- Neuroimaging Laboratory (Radiology)
- Radiopharmaceutical Development Laboratory (Radiology)
- Visualization Laboratory (CS)
ESSRL

R. Martin Arthur
Ultrasonic Imaging, Electrocardiography

Daniel R. Fuhrmann
DNA Sequence Imaging, Sensor Array Processing, Hyperspectral Imaging

Robert E. Morley
Low Power VLSI, Digital Hearing Aids

Donald L. Snyder
Statistical Signal and Image Processing, Radiological, Optical, Hyperspectral Imaging

John C. Schotland
Diffusion Imaging, Optical Imaging, Near Field Imaging

Joseph A. O’Sullivan
Information Theory, Imaging Science, CT Imaging, Hyperspectral Imaging, Automatic Target Recognition, Magnetic Information Science