Magnetic Resonance Imaging Facility

Weldon School of Biomedical Engineering

Biomedical Engineering Imaging Facilities Committee:

George R. Wodicka
Charles A. Bouman
Thomas M. Talavage
Edward J. Delp
Lynetta Freeman
William E. Schoenlein
Zygmunt Pizlo
Magnetic Resonance Imaging

in Action

InnerVision 1.5T MRI
(Lafayette, IN)
Magnetic Resonance Imaging (MRI) at Purdue West Lafayette

- **What is MRI?**
  - An MRI scanner is a software programmable device for medical imaging that does not use X-rays.

- **Why is MRI important to Purdue?**
  - MRI can be used for:
    - Safe human research studies
      - Functional neuro-imaging (fMRI)
      - Sports medicine and kinesiology studies
    - Animal studies
      - Clinical
      - Scientific
    - Engineering research of imaging physics/algorithms/physiology
  - MRI infrastructure enables NIH/NSF funding opportunities

- **What is the challenge?**
  - Cost
  - History of MRI funding stream
Bringing a 3T MRI to Purdue

• The goal
  – The Weldon School of Biomedical Engineering will provide a **low-cost** high-quality MRI facility for use by all of Purdue-West Lafayette

• The plan
  – Local health care organization seeking partner to share cost burden
  – Leverage relationship with GE Healthcare to enhance impact
  – Facility in Research Park for easy academic and commercial access

• The status
  – Site work began on December 11, 2006
  – MRI facility interior is being designed
  – Use agreements and contracts have been signed
  – Facility will be complete by Fall 2007
Research Park Site for MRI
Research Park Facility for MRI

MRI Facility
Site and Interior Plans

Interior Layout of MRI Suite
What is available?

• State-of-the-art, GE 16 channel 3.0T MRI
  – High-quality clinical magnet
  – High-resolution capability (<1 mm)

• What can you do with it?
  – Structural MRI
    • Musculoskeletal
    • Joint
    • Breast
  – Diagnostic MRI
    • Oncology
    • Cardiac
  – Functional MRI
    • Neuroimaging
  – MR Spectroscopy
    • Proton ($^1$H)
When is it available?

• Purdue access: **46 hours per week**
  
  – Monday through Wednesday 8 PM - 2 AM

  – Thursday through Sunday 5 PM - Midnight

  – Daytime, weekend hours "as available"
How do I get access?

• Qualifications:
  – Member of Purdue Faculty/Staff
  – Authorized by BME Imaging Facilities Committee
    • Charles A. Bouman, Chair
    • Thomas M. Talavage, Financial Manager
    • Edward J. Delp, Research Liaison
    • Lynetta Freeman, Clinical Liaison
    • William E. Schoenlein, Safety Manager
    • Zygmunt Pizlo, Member-at-large

• Authorization Process:
  – Project has appropriate IRB or PACUC approval (if required)
  – Identify a person qualified in MRI usage and safety to be present
  – Provide an account number to which expenses may be charged
Operational Philosophy

• YOU ARE THE CUSTOMER!
  – This is your facility
  – We're here to meet your needs
  – We'll help you get started
  – We want to make it work for you

• EVERYDAY LOW PRICES!
  – Everyone pays the same LOW rate
  – We want to reduce your costs
  – We want to enhance your funding capacity