

BMES General Meeting

10/21/09

Announcements:

- Recap:
- National Conference: went to leadership workshops, met with other BMES chapters, went to lectures on cutting-edge research
- Back by popular demand: powerpoint trick of the week
- Habitat for Humanity sign-ups start tonight 10/21/09, contact Tasha for more details at benkovich@wisc.edu
- Mayo Clinic Trip, Oct. 23rd, contact Amy or Deb at allenz@wisc.edu, yagow@wisc.edu for details, get a tour of the hospital, a panel with graduate students
- Tomotherapy Tour, Monday Oct. 26th, contact Amy or Deb at e-mails above, get to tour the manufacturing plant and talk to some employees
- SWE Fall Ball, Friday Oct. 23rd, Pre-Dance Party at Rob's house, e-mail rbjerregaard@wisc.edu
- Lazertag!, Monday Nov. 2nd 7-11pm, a tournament with other engineering orgs, with pizza and prizes
- Outreach Opportunities, Science Olympiad every Thursday at 2:45pm, contact Kara at kbarnhart@wisc.edu
- River Food Pantry every Friday 4:45-8:30p, contact Tasha at benkovich@wic.edu
- Community Day Sale, Saturday, Oct 25th at Boston Store at the West Towne Mall contact Val at maharaj@wisc.edu
- JSM Discounts for BMES, 3% off rent, 50% of security deposit plus a donation to BMES
- Distinguished Member Watch: Alice Tang, Kara Barnhart, Andrew Dias

Ray Vanderby, Phd.

Email: vanderby@ortho.wisc.edu

- Topic: Acoustoelasticity and it's application to US image analysis....
- His research started with a graduate student who wanted to work on a particular project, on acoustoelasticity
- Goal: Identify tissue types & measure function via material properties and loading
- Acoustoelasticity: when a tissue is deformed, two things happen, change in geometry and change of acoustic properties due to stiffness change and stress
- More signal bounces back when a tissue is under load, magnitude of echo waves indicates relative stiffness
- Did experiments with pig tendons immersed in a water bath and applied loads and received echo signals back from transducers
- Also, analyzed acoustic properties of difference types of tumors using mice models

Q&A

1. Are you looking to use your research for sports medicine?

We've looked into it, we have done analysis on injured athletes before. It is of interest.

2. Can you determine whether the cancer is malignant or not?

All the tumors we've studied are malignant, we are working on determining if the tumor is malignant earlier on. There are other modalities, most of the time they end up doing a biopsy anyway. Professor Keely is looking at whether or not changes take place before the tumor exists.

3. Are you able to identify tumors in all parts of the body?

Receive tumors from multiple animals from multiple places, each tumor has had different characteristics and so forth.