

# Physics Seminar

Wednesday 2/16/2011, 4:30 pm  
Science & Engineering Building Auditorium

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## **Determining Proper Size of an Endoprosthesis for Total Ankle Replacement Using Finite Element Analysis**

In the currently popular total ankle replacements (TARs), the size of the endoprosthesis is based on X-rays or a CT scan of the patient. In the operation room (OR) if the endoprosthesis does not fit well, the definitive solution is to remove more bone or scale up the size of the implant. This adjustment will cause the bones of the implanted joint to weaken; eventually it may cause bone fracture or collapsing of the joint. The purpose of this study is to propose a new method to determine a proper size for each individual patient depending on his or her bone density, ankle structure and body load.

*Please join us for light refreshments at 4:15pm outside SEB 203.*