

SPRING 2007 AME UNDERGRADUATE RESEARCH CONFERENCE

May 4, 2007

2:00 to 5:00 pm

DeBartolo Hall

Rooms 117, 118 and 119

TIME	SESSION A CONTROLS ROOM 117 Session Chair: Charlie Penninger	SESSION B AEROSPACE ROOM 118 Session Chair: David Stephens	SESSION C BIOENGINEERING ROOM 119 Session Chair: Justin Deuerling
2:00	Jesse Batsche: "Vision Based Robotic Control Systems"	Thomas Pavlak: "Use of Boundary Element Method to Solve the Acoustic Scattering Problem and Determine Acoustic Green's Function"	Carl Berasi IV: "Effects of Pre-Existing On- and Off- Axis Damage on Failure Behavior of Bovine Trabecular Bone"
2:15	David Rowinski: "Path-Tracking of a Wheeled Robot via Ceiling Cues"	Bryan Delaney: "Drag Reduction on a Flat Plate Due to Air Bubbles Created Through a Mesh Surface"	Constance Slaboch: "Transverse Damage and Failure Behavior of Trabecular Bone"
2:30	Jesse Brawer, Adam Currie: "Robotic Digging to Accomodate Remote-User-Specified Requirements"	Andrew Hank: "Outside Rear-View Mirror Unsteady Surface Pressure Measurements"	Caitlin Feely: "Collagen Cross-Links in Cortical Bone"
2:45	Andy O'Connor, Todd Ptacek: "Dimensioning Verification with CNC Machines"	Robert McQuiston, Tom Harkins: "Flow Control on an Airfoil Section Used on a Wind Tunnel - Part I Force Measurements"	Matthew Meagher: "Characterization of a Precipitated Barium Sulfate Nanoparticle Contrast Agent"
3:00	BREAK	Jeff Mikrut, Vania Rodriquez: "Flow Control on an Airfoil Section Used on a Wind Tunnel - Part II Pressure Distribution"	John Souder: "Hydroxyapatite Whisker Formation on Porous Metal Substrates"
	SESSION D DESIGN ROOM 117 Session Chair: Charlie Penninger		
3:15	Laurén Shuttleworth: "Analytical Methods for Quantifying Element Concentrations of Groundwater Colloids from Bénin, West Africa"	BREAK	BREAK
		SESSION E HEAT TRANSFER ROOM 118 Session Chair: Julia Stephens	
3:30	Philip Moss: "GM 4L60E Automatic Transmission"	Eric Sabelhaus: "An Analysis of Residential Energy Consumption"	
3:45	Patrick Fox: "Variable Fidelity Optimization"	Roberto Ayala, Alfredo Tuesta: "Introduction to the Concepts of Constant and Variable Order Differential Calculus"	
4:00	Bradley Shervheim: "Determination of Feasibility of Air Driven Rotary Engine for Application of Atkinson Cycle on Mainstream Combustion Engines"	Daniel Driscoll: "Thermal Rectification in Radial Systems With Linear Temperature Dependence of the Thermal Conductivity"	
4:15	David Lettieri: "Topology Optimization of Aeroelastic Airfoil"	Frederick Thwaites: "Stability of Synchronized States in Rooms with Thermostatic and PI Control"	
4:30	Philip Moss: "ME Senior Design Team Communication"	Kevin Hederman: "An Electronic Packaging Design of Integrated Circuits"	