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**Theses** 

**Spring 2011 – Fall 2014** 

Fall 2014

Exergetic Life Cycle Assessment of Electrospun Polyvinylidene Fluoride

**STUDENT:** Abbasi, Salman **ADVISOR(S):** Durham, Delcie

# Exploration of Electrodeposition of Aluminum-Nickel Alloys and Multilayers in Organic

**Chloroaluminate Ionic Liquids** 

**STUDENT:** Waqar, Ammar Bin **ADVISOR(S):** Cai, Wenjun

*Spring 2014* 

<u>Asymmetric Unilateral Transfemoral Prosthetic Simulator</u>

STUDENT: Ramakrishnan, Tyagi

**ADVISOR(S):** Reed, Kyle

# A Recreation and Ballistic Evaluation of Otto Schneeloch's Firearm Curiosity – the .307

**Triangular** 

**STUDENT:** Shukitis, Amber **ADVISOR(S):** Wilkinson, Stuart

Fall 2013

Biomechanical Comparison of Titanium and Cobalt Chromium Pedicle Screw Rods in an

<u>Unstable Cadaveric Lumbar Spine</u>

**STUDENT:** Doulgeris, James

**ADVISOR(S):** Hess, Daniel / Lee, William

#### Static and Dynamic Components of Droplet Friction

**STUDENT:** Griffiths, Peter **ADVISOR(S):** Crane, Nathan

#### The Biomechanics of the Tendu in Closing to the Traditional Position, Plie and Releve

**STUDENT:** Masters, Nyssa **ADVISOR(S):** Dubey, Rajiv

Summer 2013

## Design, Manufacturing, and Assembly of a Flexible Thermoelectric Device

**STUDENT:** Martinez, Christopher **ADVISOR(S):** Crane, Nathan

## A Wearable Motion Analysis System to Evaluate Gait Deviations

**STUDENT:** Martori, Amanda **ADVISOR(S):** Carey, Stephanie

# Aspect Ratio Effect on Melting and Solidification During Thermal Energy Storage

STUDENT: Sridharan, Prashanth

ADVISOR(S): Rahman, Muhammad / Goswami, D. Yogi

## Effect of Bolted Joint Preload on Structural Damping

**STUDENT:** Xu, Weiwei **ADVISOR(S):** Hess, Daniel

**Spring 2013** 

## Reliability Assessment of Ion Contamination Residues on Printed Circuit Board

STUDENT: Nguyen, Minh

**ADVISOR(S):** Kumar, Ashok / Doss, Kantesh

## Shield Design for Maximum Deformation in Shape-Shifting Surfaces

STUDENT: Perez, Daniel ADVISOR(S): Lusk, Craig

Fall 2012

#### Chemical Mechanical Planarization of Electronic Materials

**STUDENT:** Atiquzzaman, FNU

ADVISOR(S): Dubey, Rajiv / Kumar, Ashok

#### Crack Analysis in Silicon Solar Cells

STUDENT: Echeverria, Maria

ADVISOR(S): Kumar, Ashok / Thomas, Sylvia

#### Environmental and Energy Saving Technologies of Vinyl Chloride Production

**STUDENT:** Kurta, Mykola **ADVISOR(S):** Volinsky, Alex

#### Investigation of Various Surface Acoustic Wave Design Configurations for Improved Sensitivity

**STUDENT:** Manohar, Greeshma **ADVISOR(S):** Guldiken, Rasim

#### Design of Contact Line Friction Measurement Machine Apparatus

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Human Motion Tracking for Assisting Balance Training and Control of a Humanoid Robot

STUDENT: Manasrah, Ahmad

**ADVISOR(S):** Guldiken, Rasim / Reed, Kyle

Encapsulation of High Temperature Phase Change Materials for Thermal Energy Storage

STUDENT: Nath, Rupa

ADVISOR(S): Goswami, D. Yogi / Rahman, Muhammad

Macroencapsulation of Phase Change Materials for Thermal Energy Storage

STUDENT: Pendyala, Swetha

ADVISOR(S): Goswami, D. Yogi / Rahman, Muhammad

Cell Adhesion and Migration on NDGA Cross-Linked Fibrillar Collagen Matrices for Tendon

<u>Tissue Engineering</u> **STUDENT:** Rioja, Ana

**ADVISOR(S):** Gallant, Nathan / Koob, Thomas (MiMedx Group)

Experimental and Numerical Investigation of an Electrospray RF Ion Funnel

**STUDENT:** Tridas, Eric

**ADVISOR(S):** Guldiken, Rasim / Schlaf, Rudiger

Effects of Random Cross-Sectioned Distributions, Fiber Misalignment and Interphases in Three-

Dimensional Composite Models on Transverse Shear Modulus

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**Spring 2012** 

A Novel Ultrasonic Method to Quantify Bolt Tension

**STUDENT:** Martinez, Jairo **ADVISOR(S):** Guldiken, Rasim

Multistable Shape-Shifting Surfaces (MSSSs)

**STUDENT:** Montalbano, Paul **ADVISOR(S):** Lusk, Craig

# A Statically Balanced Shape-Shifting Surface

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Analyses of Variable Refrigerant Flow and Exergy in Air Conditioning Systems

STUDENT: Alshatti, Rashid

**ADVISOR(S):** Rahman, Muhammad

Steady and Transient Heat Transfer for Jet Impingement on Patterned Surfaces

STUDENT: Dobbertean, Mark

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Stress Corrosion Cracking Evaluation of Candidate High Strength Stainless Steels for

**Prestressed Concrete** 

**STUDENT:** Fernandez, Joseph **ADVISOR(S):** Sagues, Alberto

Energy Recovery Devices in Seawater Reverse Osmosis Desalination Plants with Emphasis on

Efficiency and Economical Analysis of Isobaric versus Centrifugal Devices

STUDENT: Guirguis, Mageed

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Utilizing a Computational Model for the Design of a Passive Dynamic Walker

**STUDENT:** Honeycutt, Craig **ADVISOR(S):** Reed, Kyle

A Remotely Operated Multi-Tracked Vehicle for Subterranean Exploration of Gopher Tortoise

**Burrows** 

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Asymmetric Passive Dynamic Walker Used to Examine Gait Rehabilitation Methods

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Surface Functionalization and Analysis Thereof for an Ovarian Cancer Diagnostic Biosensor

STUDENT: Ahmad, Asad

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Modeling of Solar-Powered Single-Effect Absorption Cooling System and Supermarket

Refrigeration/HVAC System STUDENT: Bahman, Ammar

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Thermal Response of Lithium Tantalate for Temperature Measurement

**STUDENT:** Agastra, Ardit **ADVISOR(S):** Pyrtle, Frank III

Numerical Simulations of Heat Transfer Processes in a Dehumidifying Wavy Fin and a Confined

Liquid Jet Impingement on Various Surfaces

**STUDENT:** Elsheikh, Mutasim **ADVISOR(S):** Rahman, Muhammad

Design and Testing of a Motion Controlled Gait Enhancing Mobile Shoe (GEMS) for

**Rehabilitation** 

**STUDENT:** Handzic, Ismet **ADVISOR(S):** Reed, Kyle

Design and Analysis of an Innovative Semi-Flexible Hybrid Personal-Body-Armor System

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Sub-Cooled Pool Boiling Enhancement with Nanofluids

**STUDENT:** Rice, Elliot

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Modeling and Parameter Study of Bistable Spherical Compliant Mechanisms

**STUDENT:** Smith, Chester **ADVISOR(S):** Lusk, Craig

Polydimethylsiloxane Mechanical Properties Measured by Macroscopic Compression and

Nanoindentation Techniques STUDENT: Wang, Zhixin

**ADVISOR(S):** Gallant, Nathan / Volinsky, Alex