

*2008 Conference on Undergraduate and Graduate Student Research—  
March 27, 2008*

**Morning Poster Session—Student Union Ballrooms B, C & D—9:30-11:30**

- 1 Robustness of Wireless Mote Communication —Computer Science, **Sudha Bhattarai**
- 2 Results and Examples Regarding Bifurcation with a Two-dimensional Kernel—Theoretical & Applied Mathematics, **Scott Kaschner**
- 3 Spam Image Identification Using an Artificial Neural Network—Computer Science, **Priscilla Hope** and **Jason Bowling**
- 4 Extending Rotation Scheduling—Computer Science, **David Poeschl**
- 5 Rotation Scheduling on Synchronous Data Flow Graphs—Computer Science, **Rama Krishna Pullaguntla**
- 6 WITHDRAWN
- 7 Energy Considerations of Fluid Flow through Nanotubes—Physics, **Brad Shindle** and **Michael Avon**
- 8 Peptide Fragmentation of Natural and Non-naturally Occurring Amino Acids—Chemistry, **Emily Frank**, **Alyson M. Leigh**, **Sara E. Whitson** and **Chrys Wesdemiotis**
- 9 Investigating Biomolecule-Biomolecule Nancovalent Interactions using Mass Spectrometry—Chemistry, **Dani-jela Smiljanic**, **Sara E. Whitson**, **Alyson M. Leigh** and **Chrys Wesdemiotis**
- 10 Characterization of Peptides Resulting from Trypsin Digestion by Mass Spectrometry—Chemistry, **Vincenzo Scionti**, **Alyson M. Leigh**, **Sara E. Whitson** and **Chrys Wesdemiotis**
- 11 A Comparison of In-solution and In-gel Proteolytic Digestion of Lysozyme using Matrix Assisted Laser Desorption Ionization Quadrupole-Time-of-Flight Mass Spectrometry (MALDI Q-ToF MS)—Chemistry, **Michelle Hornback**, **Sara E. Whitson** and **Chrys Wesdemiotis**
- 12 Characterization of Polypropylene Homopolymers by Mild Pyrolysis and MALDI-ToF-Mass Spectrometry—Chemistry, **David Dabney**, **Michael J. Polce** and **Chrys Wesdemiotis**
- 13 Classification and Regression Tree (CART) Analysis: Methodological Review and Its Application—Sociology, **Yinmei Huang**
- 14 The Stigma of HIV/AIDS among African American Males—Sociology, **Wesley Wilkins**
- 15 The Effects of Multiple Placements on Children in Foster Care—Family & Consumer Sciences, **Ashley Farrish**
- 16 The Columbian Magazine and Nationalism in Antebellum America—English, **Brittany Muffet**
- 17 High School Student Retention in the Biological Sciences—Biology, **Justin Brantner**
- 18 Child Sexual Abuse Prevention Education Program—Nursing, **Ruthie Youssefi** and **Donna Abbott**
- 19 Development of a Swine Model and the Evaluation of Novel Compounds for the Prevention of Pelvic Adhesions—Chemical & Biomolecular Engineering, **Maureen Cheung**
- 20 Analytical Prediction and Mechanical Design of a High-Altitude Intelligent Balloon—Mechanical Engineering, **Wai Moe**
- 21 Formation and Characterization of Porous Polyurethane Scaffold for Application in the Field of Tissue Engineering—Biomedical Engineering/Chemical & Biomolecular Engineering, **Manisha Shah** and **Dr. S. T. Lopina**
- 22 A Study Aimed at Enhancing our Understanding of the Quasi-Static and Cyclic Fatigue Deformation Behavior of an Emerging Titanium Alloy—Mechanical Engineering, **Mithun Kuruvilla**
- 23 Synthesis and Characterization of L-tyrosine Based Polycarbonates—Chemical & Biomolecular Engineering, **Nishita Mahendra** and **Stephanie T. Lopina**

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- 24 An Application of Laser Sensors for Three-dimensional Modeling of Hard Connective Tissues—Biomedical Engineering, **Prachi Kanabar**, *Anand Parikh* and *Glen Njus*
- 25 Detection of Signal Parameters and Analysis of Backscattering Polarimetric Imaging Signatures using Molecular Optical Contrast Agents and Preclinical Liquid Phantoms—Biomedical Engineering, **Vandana Adya** and *George C. Giakos*
- 26 Theoretical Study of Two-phase Annular Flow Characteristics in Micro-channels—Mechanical Engineering, **Zhenpeng Qin**, *Guo-Xiang Wang* and *Yueshe Wang*
- 27 Evaluation of Tensile Strength of Cement Augmented Bone Screws After Fatigue Testing in Osteoporotic Bones—Biomedical Engineering, **Sajal Raikar**
- 28 Green Polymer Chemistry: Telechelic Poly(ethylene Glycol)s via Enzymatic Catalysis—Polymer Science & Engineering, **Mustafa Sen**
- 29 Biocompatibility Studies of Novel Polyisobutylene-Based Biomaterials—Polymer Science & Engineering, **Elizabeth Foreman**, *Judit E. Puskas*, *Mirosława El Fray*, *Piotr Prowans* and *Marta Piatek*
- 30 Synthesis of Star-branched Polyisobutylenes from Hexaepoxysqualene—Polymer Science & Engineering, **Serap Hayat** and *Judit E. Puskas*
- 31 Synthesis of a Polyisobutylene-Farnesyl Pyrophosphate Macroinitiator for in vitro Synthesis of Polyisobutylene-b-cis-1,4-polyisoprene—Polymer Science & Engineering, **Cheng Ching Chiang**, *Judit E. Puskas* and *Chrys Wesdemiotis*
- 32 Online Monitoring of the Inimer-type Raft Polymerization of Styrene Mediated by Vinylbenzyl Dithiobenzoate—Polymer Science & Engineering, **Andrew Heidenreich**, *Judit E. Puskas*, *Alina M. Alb* and *Wayne F. Reed*
- 33 Surface Dynamics of Homopolymer Brushes—Polymer Science & Engineering, **Gokce Ugur**, *Bulent Akgun*, *Zhang Jiang*, *Suresh Narayanan*, *Heeju Lee*, *Sanghoon Song*, *William J. Brittain*, *Sunil K. Sinha*, *Hyunjung Kim* and *Mark D. Foster*
- 34 Assessment of the Diabetic Foot—Nursing, **Amy Grebenstein**
- 35 The Importance of Performing & Documenting Vital Signs on a Physical Examination—Nursing, **Lisa Kniska** and *C. Sutter*
- 36 Antibiotic Resistance—Nursing, **Barbara Daum**
- 37 Getting with Guidelines for Diabetes Management—Nursing, **Erin Daly**
- 38 Smoking Status as a Vital Sign—Nursing, **Amy Yee**
- 39 Sexually Transmitted Diseases: One Less—Nursing, **Shannon Davis** and **Tiffanie McCourt**
- 40 Adolescent Immunizations—Nursing, **Rebecca Michaels** and **Jamie L. Thomas**
- 41 Nutrition in Toddlers—Nursing, **Jennifer Prebish**
- 42 Preschoolers Play a Hand in Infection Control—Nursing, **Jennifer Eggert** and *Laura Crouse*
- 43 The Effect of Animal Therapy on Comfort and Pain Scores in Hospitalized Children—Nursing, **Carrie Majka**

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**Afternoon Poster Session—Student Union Ballrooms B, C & D—1:15-3:15**

- 1 Fabrication of Nanofibrous Membranes via Electrospinning of Novel L-tyrosine Based Polyurethane—Biomedical Engineering, **Rachel Manthe**, Parth N. Shah and Yang H. Yun
- 2 Synthesis of Conductive Block Copolymers for Organic Photovoltaic Devices—Polymer Science & Engineering, **Li Feng**
- 3 Estimation of Solubility Parameters for Inorganic Modified Epoxy and Surface Active Acrylics—Polymer Science & Engineering, **Elif Alyamac** and Mark D. Soucek
- 4 Surface Modification of Biodegradable PLGA Scaffolds for Wound Healing and Drug Delivery Applications—Biomedical Engineering, **Jacob Iselin**
- 5 Development of Anhydrous Proton conducting Polyelectrolytes Based on Sulfonated Bisphenol A Polyetherimide and 1H-1,2,4 Triazole—Polymer Science & Engineering, **Soma Guhathakurta**
- 6 Strengthening of Polyolefins by Bottom-up Self-assembly of POSS Nanoparticles—Polymer Science & Engineering, **Byoung-Jo Lee**
- 7 Biomechanical Evaluation of an Osteoporotic Humeral Shaft Fracture Fixation System using the LCP Combination Approach—Biomedical Engineering, **Subash Mannan**
- 8 Selective Sulfonation of Poly(styrene-butadiene-styrene) Block Copolymers for Direct Methanol Fuel Cell Membranes—Polymer Science & Engineering, **Yuqing Liu**
- 9 Hydrolysis and Condensation of Triethoxysilyl End-Functionalized Polyisoprene using Phase Transfer Catalysts—Polymer Science & Engineering, **Lei Feng**
- 10 Thin Films of PDMS-containing Block Copolymers: The Role of the Opposing Block on the Morphology—Polymer Science & Engineering, **Maurice Wadley** and Kevin Cavicchi
- 11 Cancer Class Discovery using the 1-D Wavelet Transform and Gaussian Mixture Modeling—Biomedical Engineering, **Adarsh Jose**
- 12 PARAFAC Modeling of Fluorescence Excitation-Emission Matrices to Quantify Chlorine Reactivity with Dissolved Organic Matter—Civil Engineering, **David Johnstone**
- 13 The Space Elevator Concept with Robotics—Electrical & Computer Engineering, **Courtney Gras**, Jeff Aynes, Michael Beavers, Kyle Hamblin, James Kirkwood, Lindsay Leyo, Michael Ludwig and Michael Prechel
- 14 Ballistocardiogram Artifact Removal in EEG-fMRI Signals using Hermite Functions—Biomedical Engineering, **Anandi Mahadevan**
- 15 A Novel Technique to Obtain the Cross Correlation of Two Digital Signals Based on Digital Hermite Functions—Biomedical Engineering, **Lalit Subramanian**
- 16 Monitoring Ischemic Changes in Electrocardiograms using Discrete Hermite Function—Honors College, **Maiko Arichi**
- 17 Application of Kalman Filtering in Weather-Balloon Telemetry—Electrical & Computer Engineering, **Hamza Abubakari**
- 18 Detection of the Onset of Nocturnal Hypoglycemia in Type 1 Diabetic Patients—Biomedical Engineering, **Ian Zuzarte**
- 19 Image Based Facial Expression Classification System using Committee Neural Networks—Biomedical Engineering, **Gayatri Paknikar**
- 20 Using First-Order Reversal Curves (FORC's) to Better Characterize the Rock-magnetic Paleoenvironmental Record from Lake Bosumtwi, West Africa—Geology, **Elizabeth Mack**

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- 21 A Comparison of Carbonate Contents of Pink Inclusions to Those of Surrounding Gray Glacial Sediments in Eastern Ohio—Geology, **Caitlin Nay** and *Belinda Franko*
- 22 Tidal Rhythmites: A Study of an Ancient Ohio Tidal Environment—Geology, **Julie Gouin**
- 23 Overweight and Obesity Awareness—Nursing, **Victoria Corell**
- 24 PolyPharmacy: A Safety Issue in Primary Care—Nursing, **Christen Gunder**
- 25 WITHDRAWN
- 26 Metabolic Syndrome: How Can Nurse Practitioners Improve Patient Outcomes?—Nursing, **Heidi Daugherty**
- 27 WITHDRAWN
- 28 Use of the Framingham Risk Assessment in the Primary Care Setting—Nursing, **Rachel Petrick**
- 29 Fever Phobia, Does it Still Exist?—Nursing, **Lisa Davis**
- 30 A Theory and Evidenced-based Approach to Mental Health Promotion/Disease Prevention: Tom's Story—**Frances Snell**
- 31 A Theory and Evidenced-based Approach to Mental Health Promotion and Disease Prevention—Nursing, **Edreia Jones**
- 32 A Theory and Evidence Based Approach to Mental Promotion/Disease Prevention: Santina's Story—Nursing, **Anthony Shumway**
- 33 Clinical Preventive Health Maintenance Services—Nursing, **Maureen Kolasky**
- 34 Crisis at Summit Mall—College of Fine and Applied Arts, **Elizabeth Powers**
- 35 The University of Akron and Upsurge in Off-campus Crime—School of Communication, **Mili Banerjee**
- 36 Crisis and The University of Akron's Infocision Stadium—School of Communication, **Ashley Ahlborn**
- 37 Using Lichens to Look into Akron's Polluted Past—Biology, **William Davis**
- 38 Chemical Composition of Graminoid Plant Species after Application of Fertilizer and Presence of Plant Litter—Biology, **Brittany Widner**, *Jean Pan* and *Rebecca Drenovsky*
- 39 Geochemical and Faunal Variability of Ostracode Faunas from Saline Ponds on San Salvador Island, Bahamas—An Integrated Taxonomic and Geochemical Atlas—Geology, **Emily Woodward**
- 40 Effects of Nutrient Type on am Fungal Communities in an Old-field Grassland—Biology, **Stephanie Short**
- 41 The Morphology of the Jaw of the Parasitic Rotifer, *Proales werneckii*—Biology, **Ryan Folk**
- 42 Temperature Effects on Crypsis in *Entomacrodus Striatus*—Biology, **Brittany Heflin**, *Laura Young* and *Richard Londraville*
- 43 The Effects of Testosterone on Mesenteric Artery Constriction in WKY and SHRy Males—Biology, **John Reho**
- 44 Blends of L-tyrosine Based Polyurethanes and Polyphosphate for Biomedical Applications—Chemical & Biomolecular Engineering, **Parth Shah**, *Dr. Stephanie T. Lopina*, *Dr. Yang H. Yun* and *Dr. Anirban Sengupta*