

FRIDAY AFTERNOON DESIGN POSTERS 3:00 pm – 5:30 pm

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| 1 | Developing an Android Application to Determine Short-Term Induced Heart Rate Variabilities | Leah Acquaviva, Emma Hindinger, Abdullah Albakr |
| 2 | Skin Analyzer for Use in Low Resource Environments | Andrew Aldrich, Alan Haberern, Michael Rust |
| 3 | Design of a Canine Prosthesis | Norma Bachman, Mushtaq Al Zuhairi, Melanie Lasso, Oluwajomiloju Olaode, Elizabeth Walfield |
| 4 | Device for Assessing Plantar Neuropathy | Christina Banat, Alexandria Dispensiere, Kyle Goldberg, Aren Moy |
| 5 | Further Redesign of the Dingman Mouth Gag | Rachel Bean, Philip Stoddard, Judy Cezeaux |
| 6 | A Dedicated Venous Stent for May-Thurner Syndrome | Lauren Biernacki, Emily DiMartini, Alexa Magnotta, Caroline Wood, Christopher Wagner |
| 7 | Portable Automated Sterilization System | Tyler Bitman, Alexander Borg, Christopher Testa, Roy Nixon |
| 8 | Multiplexed optically thin impedance biosensors for multicellular constructs | Ashly Caredeo, Hannah Stewart-Wheeler, Scott Trautwein, Robert Gettens, Steven Schonholtz, Alan Moy, Anthony English |
| 9 | Facilitation of Upper Extremity Rehabilitation Using the Myo Armband | Logan Carlson, Evan Choquette, Brent Ulrey, Patrick Carley |
| 10 | Compress to Stretch: Activating the Golgi Tendon Organs of the Gastrocnemius to Increase Knee Range of Motion | Corinne Casey, Alexis Connor, Gerald Lamina |
| 11 | A Quantitative Approach to Assessing Athletic Performance | Brent Chase, Liam Herlihy |
| 12 | Flexible Electrodes for Microfluidic Diagnostics | Kyle Cheng, Matthew Kim |
| 13 | Biosensor to Measure Oxidative Stress in Marine Coral Populations | Rahul Daftari, Rishi Jain, Peter Cho |
| 14 | CerebroSense: Quantitatively Measuring Brain Pulsatility During Open-Brain Surgery to Reduce Intra- and Postoperative Complications | Andrew Falcone, David Ferrara, Maria De Abreu Pineda, Vikki Hazelwood, Glen Atlas |
| 15 | An acoustic perfusion bioreactor for cultivating three dimensional cancer cell clusters | Corianna DeLisi, William Faulkner, Kwasi Amofa, Erika Benlisa, Bart Lipkens, Steven Schonholtz, Alan Moy, Anthony English |
| 16 | The Implementation of Safety Systems into Ride-On Cars to Enhance Play Therapy for Children with Physical Disabilities | Celia Dunn, Alaa Eid, Miranda Mitchell, Joseph Maestri, Ying Sun |
| 20 | Assistive Consumer Product for Credit Card Use: The Card Commando | John Earl, Joseph Gucciardi, Judy Cezeaux |
| 21 | Sensor for Aortic Deformation in Situ | Mostafa Elkohil |
| 22 | Improved Ventriculo-Peritoneal Shunt System for Treatment of Hydrocephalus | Rebecca Gardner, Dimitrios Kastrinakis, Robert Gettens, Ryan Turner |

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| 23 | Five Fingered Augmenting Exoskeleton for the Human Hand | Christopher Gearhart, Benjamin Varone, Dayberkis Arias, Brett BuSha |
| 24 | Quantification of porcine aorta protein orientation using multiphoton fluorescent microscopy and image processing | Thomas Gillin, Kurosh Darvish , Ali Hemmasi, Bojana Gligorijevic |
| 25 | Intraocular Fluid Sampler | Allisen Goncalves, Patrick Nix, Andrew Browne, Michael Rust |
| 26 | A Discreet Facial Recognition Device for People with Prosopagnosia | Abhinav Goyal, Mary Kate Montgomery, Andrew Tsao, Katie Yang |
| 27 | Design of a Device for Credit Card Acquisition and Utilization | Joseph Gucciardi, John Earl, Judy Cezeaux |
| 28 | An acoustic centrifuge | Sean Hamilton, Bart Lipkens, Anthony English |
| 30 | Novel Therapeutic E-Textile Designed to Reduce Anxiety | Danielle Howe, Miriam Meller, Silas Rudderow, Ananya Sen |
| 31 | Reducing the Mortality of Pneumonia through Telemedicine | Anna Hughes, Kenny Song |
| 32 | Real-Time Post-Transplant Kidney Blood Flow Monitoring | Saisanjana Kalagara, Marina Adrianzen Fonseca, Cynthia Hale-Phillips, Regine Rosas |
| 33 | Laryngeal Mask Airway Pressure Characterization | Olivia Kane, Brianne Slade, Robert Gettens, Anthony Santamaria, Michael Bailin |
| 34 | Pattern Recognition of Dorsal Mounted Linear Vibrotactile Array | Sam Karnes, John Donahoe, Chris Morino, Eugene Chabot, Ying Sun |
| 35 | Radio Frequency Identification for the Development of a Smartphone Integrated Monitoring System for Hand Hygiene Compliance | Tou Khang, Jacques Dorval, Esteban Tamayo, Ying Sun, Brian Silver |
| 36 | Breast Subcutaneous Tissue Dilators and Retractors | Karissa Kozlowski, Steven Koss, Robert Gettens, Steven Schonholz |
| 37 | HeartInsole: A Remote Monitoring Device for Congestive Heart Failure Patients | Susanna Chen, Austin Lent, Brianna Rodgers |
| 38 | Endotracheal Intubation Assisting Device | Chase Lessard, Olivia Kane, Brianna Slade, Patti Ramos, Robert Gettens, Anthony Santamaria |
| 40 | Stabilizing, Temperature-variable And data-Recording Knee (STARKnee) Brace | Lauren Loggi, Simran Arjani, Lincy Philip, Monica Sharobeam |
| 41 | An Approach to Accurately Place Ear Bars for Rodent Stereotaxic Surgery using Bioimpedance Spectroscopy | Ryan Mabey, Carissa Mason, Joseph Capretta, George McConnell |

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| 42 | Characterizing Ankle Proprioception with Embedded Sensor Balance Board | Thomas Jancura, Kelley Magill, Ryan Buckley |
| 43 | Diabetic Breathalyzer: Miniaturization and Automatic Volume Sampling | Dominick Marino, Michael Zyla, Benjamin Perry, Ronny Priefer, Michael Rust |
| 44 | Adjustable Lightweight Transcranial Magnetic Stimulation Helmet for Brain Injury Rehabilitation | Rachel McAteer, Alex Gianos, Daniel Wec |
| 45 | An Android Based Device for Preventing Foot Ulcers and Monitor Weight of Diabetic Patients | Brian McHugh |
| 46 | Autonomous Control System for Left-Ventricular Assist Devices | Byron Held, Mark Liotta, Kathleen McGuire, Brian McNamara, Lauren Shultz |
| 47 | Reattachment device for rotator cuff repair | Alexandra Czamara, Anne McLoughlin, Kyra McNamara, Lindsay Schneider |
| 48 | 1Haler: The Pocket Rescue Inhaler Revolutionizing Asthma Care | Melissa Mendoza, Taylor Agnello, Laura Alderfer, Chantel Charlebois, Stephen Choi |
| 50 | VenTech Respirator Mask | Alexander Loukianov, Dominique Michalec |
| 51 | Exercise Regime for Developing Countries | Fatima Mourad, Michaela Modlish, Judy Cezeaux, Christian Salmon |
| 52 | Triaxial Electrogoniometer for Knee Motion | Ryan Mulligan, Colin Navickas, Nickita Alexiades, Juan Carlos Cao Yao |
| 53 | An Ultrasonic Sensor Based Portable Height Measuring Device | Alexander Nguyen |
| 54 | Simple Visual Pathogen Detection on Paper Strips | Lisa Nguyen, Carmen Li |
| 55 | Image-based Open/Closed Eye Status Determination for Embedded System | John Paquet III, Andrew Rosenberg, Rory Makuch |
| 56 | Optimizing Calcium Phosphate Particles for Growth-Factor Delivery | Shaheer Piracha, Shahd Bawarith, Lidia De Barros, Sruti Raja, Fiza Shaukat, Christopher Wilson |
| 57 | Integrated EOG and EMG Front-End for Differentiating Intentional and Unintentional Blinks | Mark Plugovoy, Matthew Forde, Tanya Wang, Eugene Chabot, Ying Sun |
| 58 | Modified Pessary and Delivery Device Design for Advanced Stages of Pelvic Organ Prolapse | Deanna Quackenbush, Carla Souza, Mona Asfar, Karrison Connors |
| 60 | Image Processing for Identifying Recurrent Brain Tumors versus Radiation Necrosis | Erin Rafferty, Robert Gettens, Ryan Turner |
| 61 | Fabrication of a 3D Printed Transparent Skull for Traumatic Brain Injuries | Hiren Rana, Kyrollos Saad, Murad Elias, Saad Ali, Abdus Ali, Bryan Pfister |

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| 62 | Engineered Adipose Tissue That Can Grow | Tyler Ryan, Samantha Chua, Melissa Garcia, Margaret Ann Bolick |
| 63 | pMPC, a Synthetic Crosslinked Polymer Biolubricant | Wali Sabuhi, Kamila Drezek, Archana Jeyaram, Janne Mäkelä, Benjamin Cooper, Mark Grinstaff, Brian Snyder |
| 64 | Training Skateboard | Connor Sas, Robert Gettens, Susan Lachowski |
| 65 | A 3D Dynamic Diagnostic Tool for Detection of Patellar Maltracking | Angelo Popper, Jobin Kalappura, Kimberly Savitsky, Sydney Jacobson |
| 66 | Construction of a Cost-Effective Organ Printer | Cassandra Shedd, Brent Ulrey |
| 67 | Impact of Placement of Facial PPG Sensor on Pulse-Rate Monitoring Accuracy | Colton Smaldone, Matthew Bailey, Eugene Chabot, Ying Sun |
| 68 | 3-Dimensional Middle Ear Model for Stapedectomy | Nahyun Son, Haeju Son, Devin Pittman, Sierra Drummond, Brandon Kamrava, Steven Zuniga, Ruth Ochia, Pamela Roehm |
| 70 | GUI-Based Optic Disc and Cup Characterization from Fundus Images | Samuel Spink, Mitchel Apatow, Scott Goyette, Ying Sun, Jiang Wu |
| 71 | Infant Cranial Monitoring System for the Prevention of Positional Plagiocephaly | Joseph Falvo, Julia Stika, Chris Sciancalepore, Leah Spaulding, Michelle Zanone |
| 72 | Preventing Occupational Lift Injury in First Responders | Ryan Bardeer, Vanessa Paz, Kaitlyn Sullivan, Arden Servidio |
| 73 | Short-Term, High Intensity Plyometric Training Improves Balance in Young Adults | Malavika Suresh, Shaniel Bowen, Alexandros Mathioudakis, Krystyna Gielo-Perczak |
| 74 | Muscle Recovery Massage Apparatus Abstract | Melissa Tamarin, Amanda Dileo, Elizabeth Morris, Austen Young, Peter Lescaille, Rebecca Di Santi |
| 75 | Sensor Driven Pedicle Feeler Design & Analysis | Zoe Tamton, Jessica Iannacone, Tim Dana, Matthew Levine, Joseph Saputo, Pingshi Huang |
| 76 | Radio Frequency Identification and Mobile Technologies for Personnel Tracking in a Hospital Environment | Robert Thottam, Joshua Powers, Michael McAfee, Tanya Wang, Ying Sun, Brian Silver |
| 77 | Alleviation of Arthritic Symptoms through Thermal Therapy | Aakash Trivedi, Avi Shah, Tarek Hamid, Steven Ayala, Brett BuSha |
| 78 | Design and fabrication of a small in vivo biomechanical testing device: The portable in vivo tissue tester (PIVTT) | Anita Singh, Thomas Zamorski, Bridgette Saverine, Tobi Odesanya, Veronica Schimp, Michael Tarquini |

SATURDAY MORNING DEISGN POSTERS 9:30 am – 11:30 am

- 1 Fabrication of a Carbon Fiber Microelectrode through Interfacing with the Brain Ayesha Ali
- 2 Evaluation of K-bioactive Glass Series for Osteoporotic Applications Bushra Almishari
- 3 HydraPulse 2.0 Charmi Patel, Henry Cabral
- 4 Cerebral Shunt with Continuous Failure Monitoring Alexander Crain, Alexandra Hamlin, Liam Feeney, Hunter Johnstone, Eldred Lee
- 5 Research and Development of an Artificial Left Ventricle for Total Artificial Heart Implantation using a Mock Circulatory Loop Courtney Dye, Jack Phlipot, Jaydip Desai
- 6 Arm Motion Tracker Jasmin Elsagr
- 7 Equine Lung Function Testing Lucy Garvey, Lubna Hassan, Kyla Nichols, Allison Paquin
- 8 Design of a Universal Microscope Incubator for Drug Screening of 3D Models of Engineered Myocardium Marianne Kanellias, Rachel Connolly, Heather Stratica, Megan Chrobak, Katrina Hansen, Glenn Gaudette, George Pins, John Sullivan
- 10 Seven Degrees of Freedom Impedence Controller for Assistive Rehabilitation Myton Macachor
- 11 A Reflectance Sensor Holder to Measure Reflected PPG Signals from the Chest Nicholas McNary, Tori Claverie, Cobi Finkelstein
- 12 Evaluation of a Novel Se-bioactive Glass Series for Chemotherapeutic Applications Rebecca Potts, Kapil Raghuraman, Aisling Coughlan
- 13 An Auditory Gaming Application: AudIQ Dhara Rana, Jennifer Rochette, John Palmieri, Neha Syal, Antje Ihlefeld
- 14 Development of an EMG Controlled Robotic Hand Prosthesis Adam Reust, Jaydip Desai
- 15 Characterization of a Silver Containing Bioactive glass Lawrence Sanders, Aisling Coughlan, Emily Krull, Richard Olekanma
- 16 Automatic Recognition of Glioblastoma Using Blob Detection in MATLAB Yutong Zhang