***AERONAUTICS AND SPACE SCIENCE***

Chairperson: Michaela Lucas

NASA Nebraska Space Grant & EPSCoR, University of Nebraska at Omaha

**SESSION B**

Olin Hall Room 224

8:00 a.m. 1. UNL ROBOTICS MINING COMPETITION TEAM 2017/2018. Ethan Brush, Department of Mechanical and Materials Engineering, University of Nebraska, Lincoln.

8:10 2. AUTONOMOUS FLIGHT AND OBJECT TRACKING FOR UNMANNED AERIAL VEHICLES. Daric Teske\* and Elliot Sandfort, Department of Computer Science and Engineering, University of Nebraska, Lincoln.

8:20 3. DEVELOPMENT OF A DEPLOYABLE AND RETRACTABLE BOOM AND SOLAR PANEL ARRAY FOR SPACE PLATFORMS. Amy Price\*, Elizabeth Balerud, Michael Cox, Zach Bonick, Kyle Fitch, Ryan Green, Nate Jensen, Ethan Krings, Augie McClenahan, Brandon Warren, and Renick Wilson, Department of Materials and Mechanical Engineering, Andrew Reicks, Michael Fay, and Daniel Van Kirk, Department of Electrical and Computer Engineering, Alexa Aikens, Department of Information Science and Technology, Torri Osantowski, Department of Economics, Megan Pamperin, Department of Biological Systems Engineering, University of Nebraska, Lincoln.

8:304*.* DEVELOPMENT OF A 3-LEG 6-DOF ROBOT IN RRRS CONFIGURATION.

Nathan Jensen\* and Carl Nelson, Department of Mechanical and Materials Engineering, University of Nebraska, Lincoln.

8:40 5. RASPBERRY PI ROVER. Christopher Armstrong, Department of Information Technologies, Western Nebraska Community College, Scottsbluff.

8:50 6. INFLUENCING ROBOT SWARMS VIA EXTERNALLY INJECTED ROBOTIC AGENTS. Ryan Lankin, Department of Computer Science, University of Nebraska at Omaha.

9:00 7. INFORMED PATH PLANNING FOR MULTIPLE ROBOTS UNDER COMMUNICATION CONSTRAINTS. Brad Woosley\* and Raj Dasgupta, Department of Computer Science, University of Nebraska at Omaha.

9:10 BREAK/POSTER PRESENTATIONS

9:30 8. IMPROVED REWARD ESTIMATION FOR EFFICIENT ROBOT NAVIGATION USING INVERSE REINFORCEMENT LEARNING. Olimpiya Saha\* and Raj Dasgupta, Department of Computer Science, University of Nebraska at Omaha.

9:40 9. TOWARDS ROBUST CLASSIFICATION IN ADVERSARIAL LEARNING USING BAYESIAN GAMES. Anna Buhman\* and Raj Dasgupta, Department of Computer Science, University of Nebraska at Omaha.

9:50 10. SUPERPOSITIONING WITH HIGH POWER LASERS FOR MID-AIR IMAGE FORMATIONS. Auston Viotto, College of Engineering, University of Nebraska at Omaha.

10:00 11. INTERFACIAL ION TRANSPORT UNDER NANOCONFINEMENT IN ENERGY CONVERSION DEVICES USED FOR SPACE SHUTTLE APPLICATIONS. Shudipto Konika Dishari, Department of Chemical and Biomolecular Engineering, University of Nebraska, Lincoln.

10:10 12. CONDUCTIVE CONCRETE ELECTRICAL FILTER FOR ANECHOIC CHAMBER APPLICATIONS. Mikayla Schlegel\*, Emiliano Montemayor, and Lim Nguyen, Department of Electrical and Computer Engineering, University of Nebraska, Lincoln.

10:20 13. GEOLOGICAL PROPERTIES OF ROCK ANALOGS FOR THE MARS 2020 ROVER MISSION. Miles Chasek\* and Michael Leite, Department of Physical and Life Sciences, Chadron State College, Chadron.

10:30 BREAK/POSTER PRESENTATIONS

10:50 14. SAND TABLE HURRICANE EXPERIMENT. Rebecca Kraxberger\* and Jolee Smith\*, Department of Education, Jeremy Weremeichik and Ann Buchmann, Department of Physical and Life Sciences, Chadron State College, Chadron.

11:00 15. SPACE MATERIALS SCIENCE MENTOR-INTERN PAIR EXPERIENCE. Madison Royse\*, Department of Chemical Engineering, Jowe Tombi, Department of Electrical Engineering, Audrey Vega and Julianna Rodriguez, Department of Bio Systems Engineering, University of Nebraska, Lincoln.

11:10 16. USING SATELLITE IMAGERY TO CHARACTERIZE LAND COVER CHANGE IN THE DISMAL RIVER HEADWATERS REGION OF THE NEBRASKA SANDHILLS. Chris Meehan\* and Mary Ann Vinton, Department of Environmental Science, Creighton University, Omaha.

11:20 17. USING NASA-BASED TOOLS TO STUDY ADAPTATION, RESILIENCE AND SUSTAINABILITY IN NATURAL AND SOCIAL SYSTEMS IN THE NEBRASKA SANDHILLS. Mary Ann Vinton\*, Department of Biology and Environmental Science, James Leighter, Department of Communication Studies and Sustainability Studies, Creighton University, Omaha.

11:30 18. DOES WILDLIFE BEHAVIOR CHANGE IN RESPONSE TO A SOLAR ECLIPSE? Robert Ritson\*, Nate Bickford, and Dustin Ranglack, Department of Biology, University of Nebraska at Kearney.

11:40 19. REGOLITH SIZE SORTING IMPROVES PLANT GROWTH IN MARTIAN SIMULANT SOIL. Marc Albrecht, Department of Biology, University of Nebraska at Kearney.

11:50 20. CURRICULAR AND CO-CURRICULAR ACTIVITIES TO INCREASE STUDENTS’ ENTHUSIASM IN NEW ENVIRONMENTAL SUSTAINABILITY MINOR. Ganesh Naik, Department of Chemistry, College of Saint Mary, Omaha.