16th Annual Regional National Occupational Research Agenda (NORA) Young/New Investigators Symposium

University of Utah’s Rocky Mountain Center for Occupational and Environmental Health (RMCOEH) and The Department of Mechanical Engineering

April 19-20, 2018
# 16th Annual NORA Symposium Schedule

**Thursday, April 19, 2018**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tr>
<td>7:45 - 8:00</td>
<td>CHECK-IN</td>
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<td>8:00 - 8:30</td>
<td>CONTINENTAL BREAKFAST</td>
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| 8:30 - 8:45 | WELCOME  
Andrew S. Merryweather, University of Utah |
| 8:45 - 10:00 | Keynote Speaker  
**Director: NIOSH Office of Agriculture Safety and Health**  
**Brad Husberg, BSN, MSPH**  
**NIOSH, NORA and Robots** |
| 10:00 - 10:20 | BREAK  
Session 1 |
| 10:20 - 10:40 | Molly Hischke  
| 10:40 - 11:00 | Chuan Zhao  
*Fuzzy Logic Approach to Improve The Accuracy of Rapid Entire Body Assessment(REBA) Method* |
| 11:00 - 11:20 | Robert Chestnut  
*Ergonomic Assessment and Abatements to Reduce Risk of Musculoskeletal Disorders in Production Line Workers in Utah* |
| 11:20 - 11:40 | Jacob Thomas  
*Pilot Study Predicting Body Core Temperatures in Hot Work Environments Using Thermal Imagery* |
| 11:40 - 12:00 | Duyen Dinh-Dang  
*Cardiovascular Strain Among Hotel Room Cleaners* |
| 12:00 - 1:00 | LUNCH |

**The full program can be downloaded at** [https://nora.mech.utah.edu/program/](https://nora.mech.utah.edu/program/)
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**Session 2**

1:00 - 1:20  
Adelmarie Bones  
*Effectiveness of Biocide Substitution and Management Plan Implementation for the Control of Legionella pneumophila in Cooling Tower Waters*

1:20 - 1:40  
Aaron Cox  
*Characterization of CO and NO₂ Exposures of Ice Skating Rink Maintenance Workers*

1:40 - 2:00  
Danielle Mecate  
*Temperature Inversion and Ultrafine Particulate Matter Concentrations in the Salt Lake Valley*

2:00 - 2:20  
Alexandra Cox  
*Development of an Empirical Formula for Describing Human Inhalability of Airborne Particles at Low Wind Speeds and in Calm Air*

2:20 - 2:40  
Hasanat Alamgir  
*Traumatic life events and development of Post-Traumatic Stress Disorder among female factory workers in a developing country*

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**BREAK & Poster Session**

1. Indoor Marijuana Grow Operations: Estimation of Fungal Burden Utilizing the Environmental Relative Moldiness Index (ERMI) (Kyle S. Root)

2. The Art of Sound: Sound Exposures of School Musicians and Conductors (Baylee Schell)

3. USF Health Faculty & Staff, Health & Well-being Assessment: Highlighting The Current (Carli)

4. Ergonomic Concerns at a Leading Manufacturer of Medical Imaging Equipment (Aaron Cox, Kyle Christian, Devin Owens, Charlotte Robison-Hanchett)

5. Health Hazards in a Personal Hygiene Manufacturing Facility (Alex Cox, Benjamin Heaton, Danielle Mecate)

6. Health Hazards in a Composite Components Manufacturing Facility (Jesse Zmoos, Ben Borsh, Cody Jackson, Michael Fitch, Naomi Riches)

7. Dual-task interference during gait on irregular terrain in people with Parkinson’s disease (Hang Xu)

8. Risk Analysis for Occupationally-Acquired Bloodborne Pathogens among Medical Trainees at the University of South Florida: Application of the WHO model (Kourtni L. Starkey)

9. Compliant Flooring Surfaces Study Aimed at Reducing Fall Injuries in Hospitals and Elderly Homes (Rohan Srinivas, Nathan Leddige)

10. A Testbed to Study Neck Stiffness and Concussion Risk following Acoustic Warnings (Mohammad Homayounpour)

11. Biomechanical Characterization of the Hand Touch Corrective Behavior of the Frail Elderly During Bed Egress (Dorothy Taylor, Alex Tatom)

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Session 3

3:20 - 3:40  Mitja Trkov
             Real-time Monitoring of Injury Risk During Manual Material Handling
             Using Wearable Sensors

3:40 - 4:00  Ruoliang Tang
             Functional Limitations of Assistive Reachers: Pilot Results from Simulated
             Wheelchair Users

4:00 - 4:20  Mario F Garcia
             The Effect of Object Surfaces and Shapes on Hand Grip Function for
             Heavy Objects

4:20 - 4:40  Colleen Brents
             Inertial measurement units and low back posture during keg handling

4:40 - 5:00  Charlotte Robison-Hanchett
             Comparison of dynamic coefficient of friction between normal and slip-resistant
             footwear using an ankle/foot simulator robot

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### Special Presentation

**15th Annual Paul S. Richards, MD, Endowed Distinguished Visiting Lectureship in Occupational Medicine**

- **8:30 - 9:30**
  - **James Lockey, MD**
  - *How Results from a 30 year U.S. Study of Workers Exposed to Vermiculite Drove U.S. Public Health Policy*

### Session 4

- **10:00 - 10:20**
  - **Robert Chestnut**
  - *Prevalence of Opioid and Benzodiazepine Use Among Truck Drivers*

- **10:20 - 10:40**
  - **Charles Miller**
  - *The Effect of 5 Mechanical Gaming Keyboard Key Switch Profiles on Typing and Gaming Muscle Activity, Performance and Preferences*

- **10:40 - 11:00**
  - **Hasanat Alamgir**
  - *Restaurant Inspection reports as a proxy measure for Occupational Health and safety: South Asian restaurant workers in New York City*

- **11:00 - 11:20**
  - **Aybuke Kovuncu**
  - *The Impact of Heavy Load Carrying Practices on Musculoskeletal Health Among Sand Miners in Nepal*

- **11:20 - 11:40**
  - **Logan Van Engelhoven**
  - *Evaluation of an Adjustable Support Shoulder Exoskeleton*

### Wrap-Up

- **11:40 - 12:00**

### Lunch

- **12:00 - 1:00**

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