

# PROCEEDINGS

## 5<sup>th</sup> Annual Regional National Occupational Research Agenda (NORA) Young/New Investigators Symposium

Salt Lake City, Utah, USA  
April 19-20, 2007

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Many thanks and much appreciation go to Ms. Connie Crandall and Ms. Luz Dominguez for their major efforts in planning, advertising, and coordination of the conference. Particular thanks are due to Ms. Roanna Keough whose administrative abilities were indispensable in the organization of the conference and preparation of the conference proceedings.

The sponsors of the conference are also gratefully acknowledged for the funding and resources that made the conference a reality.

Donald S. Bloswick  
Editor and Conference Chair



# INTRODUCTION

The National Institute for Occupational Safety and Health (NIOSH), and its partners in the public and private sectors, have developed the National Occupational Research Agenda (NORA) to provide a framework to guide occupational safety and health research --not only for NIOSH but also for the entire occupational safety and health community. This attempt to guide and coordinate research nationally is responsive to a broadly perceived need to address systematically those topics that are most pressing and most likely to yield gains to the worker and the nation. Fiscal constraints on occupational safety and health research are increasing, making even more compelling the need for a coordinated and focused research agenda. NORA is a sector-based approach that reflects a remarkable degree of concurrence among a large number of stakeholders (<http://www.cdc.gov/niosh/nora/>).

This proceedings contains the presentations made at the 5th Annual Regional National Occupational Research Agenda (NORA) Young/New Investigators Symposium, held at the University of Utah on April 19 & 20, 2007. This was the fifth of an annual conference series intended to assemble interested students (undergraduate and graduate) and young/new investigators from the Intermountain Region (UT, WY, ND, SD, MT, CO) and other interested parties, in a forum where NORA-related research can be presented.

While the proposals and papers are reviewed, and a formal proceedings published, the goal of this conference is to facilitate research presentations by students and young/new investigators in a non-threatening atmosphere. It is expected that, for many students, it will be the first formal presentation of their research.



Thursday, April 19, 2007

- 7:45 - 8:00 CHECK-IN
- 8:00 - 8:30 CONTINENTAL BREAKFAST
- 8:30 - 8:40 Donald S. Bloswick, University of Utah  
*WELCOME*
- 8:40 - 9:40 Dr. Thomas Waters, NIOSH  
*MANUAL MATERIAL HANDLING: A NIOSH PERSPECTIVE*
- 9:40 - 10:10 BREAK
- 10:10 - 10:30 Phil Jiricko, University of Utah  
*CLANDESTINE METHAMPHETAMINE LABS RISKS FOR FIRST RESPONDERS*
- 10:30 - 10:50 Scott Collingwood, University of Utah  
*ERGONOMIC EVALUATION OF AN ENGINEERING CONTROL DEVELOPED TO REDUCE RESPIRABLE SILICA AND DUST EXPOSURES IN CONSTRUCTION WORKERS*
- 10:50 - 11:10 Cody Lallatin, University of Utah  
*INVESTIGATION OF SHORT-TERM DISSOLUTION RATES OF ZINC IN SIMULATED LUNG FLUID*
- 11:10 - 11:30 Troy Jones, University of Alberta  
*COMPARISON OF ERGONOMIC RISK ASSESSMENT OUTPUT IN A HIGH RISK SAWMILL OCCUPATION: SAW FILER*
- 11:30 - 11:50 Hasanat Alamgir, Occupational Health and Safety Agency for Healthcare (OHSAH)  
*COST-BENEFIT ANALYSIS OF THE OVERHEAD CEILING LIFTS IN REDUCING MUSCULOSKELETAL INJURY AMONG DIRECT PATIENT CARE STAFF*
- 11:50 - 12:50 LUNCH

- 12:50 - 1:10 Josh Quincy, University of Utah  
*METHODS AND PROCEDURE VALIDATION OF TRANSVERSE PLANE SLOPED SURFACE WALKING GAIT: A KINEMATIC AND KINETIC ANALYSIS*
- 1:10 - 1:30 Lynn Ellsworth, University of Utah  
*COMPARISON OF REAL-TIME INSTRUMENTS TO MONITOR AIRBORNE PARTICULATE MATTER*
- 1:30 - 1:50 Nancy Johns, University of Utah  
*FIELD RESEARCH AND DEVELOPING HEALTH COMPUTING HABITS*
- 1:50 - 2:10 Bryan Howard, University of Utah  
*VERTEBRAL BODY AND DISC RESPONSE IN THE LUMBAR SPINE TO CHRONIC OCCUPATIONAL VIBRATION EXPOSURE*
- 2:10 - 2:30 Bradley J. Husberg, CDC, NIOSH Agriculture, Forestry, and Fishing Sector Program  
*AN INDUSTRY SECTOR APPROACH TO AGRICULTURE, FORESTRY AND FISHING SAFETY AND HEALTH*
- 2:30 - 3:00 BREAK
- 3:00 - 3:20 Andrew S. Merryweather, University of Utah  
*A CALCULATION OF BACK COMPRESSIVE FORCE: IMPLEMENTING LOAD DISPLACEMENT VELOCITY*
- 3:20 - 3:40 Eric M. Wood, University of Utah  
*LIFESTYLE RISK FACTORS IN COMMERCIAL DRIVERS*
- 3:40 - 4:00 Minu Shikha Gandhi, University of Utah  
*DESIGN AND VALIDATION OF A PORTABLE VIBRO-TACTILE THRESHOLD TESTER FOR WORKPLACE SCREENING OF CARPAL TUNNEL SYNDROME*
- 4:00 - 4:20 Jennie Gober, Colorado State University  
Taylor Moore, Colorado State University  
*DEVELOPING AND IMPLEMENTING AN ERGONOMIC PROCESS IN A SMALL MANUFACTURING FACILITY*
- 4:20 - 4:40 Seth Paul, University of Utah  
Derrick Franklin, University of Utah  
Jonathan White, University of Utah  
*INVESTIGATION OF ERGONOMIC IMPROVEMENTS FOR MANUAL MATERIAL HANDLING OF HEAVY AWKWARD LOADS ON A LOADING DOCK*
- 4:40 - 5:00 Jennifer Tolbert, University of Utah  
*SIMPLIFIED EQUATION FOR THE REVISED NIOSH LIFTING EQUATION*

Friday, April 20, 2007

- 7:45 - 8:00 CHECK-IN
- 8:00 - 8:30 CONTINENTAL BREAKFAST
- 8:30 - 9:30 ***Special Presentation***  
Dr. Philip Harber  
4<sup>th</sup> Annual Paul S. Richards, MD, Endowed Distinguished Visiting  
Lectureship in Occupational Medicine  
*100 YEARS OF OCCUPATIONAL LUNG DISEASE: 1950-2050*
- 9:30 - 10:00 BREAK
- 10:00 - 10:20 Matthew S. Thiese, University of Utah  
Stephanie Patton, University of Utah  
*OCCUPATIONAL HEALTH RELATED COSTS AND COST  
POTENTIAL IN A GARAGE DOOR MANUFACTURING  
LOADING DOCK*
- 10:20 - 10:40 Britton Hayden, University of Utah  
MODIFIED HAND TRUCK STABILITY ANALYSIS
- 10:40 - 11:00 Jerry Dzugan, Alaska Marine Safety Education Association  
*SKILLS RETENTION IN FISHING SAFETY TRAINING*
- 11:00 - 11:20 Matthew Thiese, University of Utah  
*INDIVIDUAL FACTORS ASSOCIATED WITH PREVALENCE OF  
LOW BACK PAIN*
- 11:20 - 11:40 Sharon Davis, University of Utah  
Michael Zorn, University of Utah  
*ADDRESSING ERGONOMIC AND SAFETY CONCERNS ON A  
LOCAL MANUFACTURING PRODUCTION LINE WITH  
INCREASED PRODUCTIVITY DEMANDS*
- 11:40 - 12:00 Richard Sesek, University of Utah  
Scott Collingwood, University of Utah  
Eric Wood, University of Utah  
*ACADEMICS TO PRACTICE (A2P): COLLABORATION  
BETWEEN INTERDISCIPLINARY ACADEMIC TEAMS AND  
INDUSTRY*
- 12:00 - 12:05 WRAP-UP
- 12:05 - 1:00 LUNCH

