

# XXXth Annual International Occupational Ergonomics and Safety Conference

June 7-8, 2018, Pittsburgh, PA, USA

## Conference Program

Thursday, June 7, 2018		
<b>Registration</b>		<b>9:00 am to 4:00 pm</b>
<b>Welcome Session</b>		<b>9:30 am to 9:45 am</b>
<b>Keynote Speech</b>		<b>9:45 am to 10:45 am</b>
<b>Speaker:</b>	<b>Dr Bruce Bradtmiller</b> President, Anthrotech ( <a href="https://anthrotech.net/meet-the-team/">https://anthrotech.net/meet-the-team/</a> )	
<b>Title:</b>	<b>Human Dimensional Variability: A Safety Problem and Opportunity</b>	
<b>Short Summary:</b> We often think of anthropometry in the realm of personal comfort, fit of clothing and adjustments on the power seats in our automobiles. But human variation is very much a safety problem in the workplace. Protective equipment needs to fit a wide – and widening – range of human body size and shape, and the workplaces themselves must accommodate a diverse workforce. In this overview of anthropometry in the context of safety, we will consider some previous work in the area of fall protection, respiratory protection and workspace layout. We will also see what can be learned from the US military in trying to protect very different populations. The talk will conclude with a discussion of changing body size and shape in the US and abroad.		
<b>Break</b>		<b>10:45 am to 11:00 am</b>
<b>Session I - Occupational Ergonomics</b> <b>Session Chair: Dr. S. N. Imrhan</b> <b>Co-chair: Dr. D. Schwerha</b>		<b>11:00 am to 12:30 pm</b>
#	Title	Authors
1	Exploring Mental Model Differences Between Firefighters and Public Health Researchers to Inform Exposure Reporting System Design	B. Millet
2	Association between Stress and Intensity of Low Back Pain among Thai Nursing Students	C. Sopajareeya
3	An Examination of the Musculoskeletal Impact of Residential Solar Panel Installation	V. Guinsler, D. Schwerha
4	Analysis of Injuries from Sports and Recreational Equipment in the US	S. N. Imrhan
5	Ergonomic Assessment of Cleaning Spray Bottles for the Hotel Housekeeping use	M. Zreiqat, L. S. Marin, W. Minnick
<b>Lunch</b>		<b>12:30 pm to 1:30 pm</b>

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<b>Session II - Biomechanics and Work Physiology</b>		<b>1:30 pm to 3:00 pm</b>
<b>Session Chair: Dr. R. V. Maikala</b> <b>Co-chair: Dr. P. Dasgupta</b>		
#	Title	Authors
1	Caregiver Trunk and Upper Limb Kinematics When Using Three Different Patient Transport Chairs	A. Vijayvargiya, H. Kulich, J. Slowik, S. Bass, J. Griscavage, A. M. Koontz
2	Effect of Wrist Extension Angles and Low Velocity Ulnar Deviation Movements on Muscle Activities	A. Ardiyanto, S. Subagyo, H. Herianto
3	Kinematic Variables in Operating a Computer Game Controller	S. N. Imrhan, F. Proma
4	Evaluation of shoulder strain during multi-directional forceful arm exertions	M. Barnette, A. D. Nimbarte
5	Association Between Heart Rate Variability and Perceived Physical Exertion	D. Conde, J. S. Moore, K. Browne, G. Ibarra-Mejia
<b>Break</b>		<b>3:00 pm to 3:15 pm</b>
<b>Session III - Workplace Safety and Health</b>		<b>3:15 pm to 4:15 pm</b>
<b>Session Chair: Dr. R. Wyatt</b> <b>Co-chair: Dr. M. Zreiqat</b>		
#	Title	Authors
1	Predictors of occupational injuries at continuous miner worksite: An epidemiological study	A. Senapati, A. Bhattacharjee
2	Evaluation of Performance of Metacarpal Gloves used in the Mining Industry under Impact Loads	E. M. Sosa, J. M. Dean, J. R. Brady
3	Lateral Reaching on Stepladders and the Belly Button Rule	A. DiDomenico
<b>Break</b>		<b>4:15 pm to 4:30 pm</b>

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<b>Thursday, June 7, 2018</b>		
<b>Session IV: Case Studies and Applications</b>		<b>4:30 pm to 5:30 pm</b>
<b>Session Chair: George B. Page</b>		
<b>Co-chair: Dr. B. Millet</b>		
<b>#</b>	<b>Title</b>	<b>Authors</b>
1	Stump Grinder Accident Reconstruction and Design Testing Methodology Analysis	D. B. Brickman, A. C. Mathias, J. M. Roberts
2	Railroad Hand Switch Stand Operation – An Update	G. B. Page, S. Fleming, G. G. Weames, J. Vanderpool,
3	Free Resources for Ergonomic Analyses from the National Institute for Occupational Safety and Health	M. Hayden
4	Informing Design of Clinical Trials Website	B. Millet, K. Grinfeder, S. Morgan
<b>ISOES General Body Meeting</b>		<b>5:30 pm to 6:00 pm</b>
<b>ISOES EC Meeting</b>		<b>6:00 pm to 6:30 pm</b>
<b>Dinner Banquet and Presentation</b>		<b>6:30 pm to 8:00 pm</b>
<b>Speaker:</b>	<b>Dr. Kurt E. Beschorner</b> <b>Associate Professor, Bioengineering Department</b> <b>University of Pittsburgh</b>	
<b>Title:</b>	<b>From Research to Design: Footwear and Ladder Design for Preventing Falling Accidents</b>	
<p><b>Short summary:</b> Falling accidents are among the leading causes of occupational injuries. Between 2002 and 2015, the number of injurious falls to working aged adults has increased by 29%. Design solutions that can be integrated into the workplace are urgently needed to reverse these trends. Our research group has utilized rigorous methods in biomechanics and tribology (the study of friction) to understand the causes of falling accidents. Importantly, this research has also focused on modifiable risk factors and on solutions that can be translated to the workplace. These efforts have led to recommendations for assessing tread on work shoes, determining when worn shoes should be replaced, and assessing the design of ladders for safety. It is expected that these solutions will reduce falling accidents in order to improve worker safety and reduce employer costs.</p>		

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<b>Friday, June 8, 2018</b>		
<b>Registration</b>		<b>9:00 am to 9:30 am</b>
<b>Session V: Special Topics in Ergonomics &amp; Safety</b> <b>Session Chair: Dr. S. D. Choi</b> <b>Co-chair: Jim Borchardt</b>		<b>9:30 am to 11:15 am</b>
<b>#</b>	<b>Title</b>	<b>Authors</b>
1	Analysis of Managerial Heuristics through the Last Few Decades	J. Muhammad, J. Chaudri, P. Dasgupta
2	Winning the Ergonomic Justification Battle: Recognizing and Measuring Labor and Cost Saving Potential: A Case Study	R. Wyatt
3	Are there Different Perceptions of Ergonomic Programs between Managers and Workers in Construction?	S. D. Choi
4	Quantifying Grip Strength Requirements While Riding Freight Cars during Slack Action Events	S. D. Fleming, G. B. Page, G. G. Weames, J. M. Vanderpool
5	Hospital Industry and High Reliability: Strategies in Preventing Caregiver Injuries	R. V. Maikala
6	Wearable Technology for Design and Safety Evaluation of Aerial Adventure Attractions: Focusing on Acceptable Acceleration and G-Force Limits	S. Sicut, K. Woodcock, A. Ferworn
<b>Conference Adjourns</b>		<b>11:30 am</b>