



International Society for
Occupational Ergonomics & Safety



THE XXXIIIRD ANNUAL OCCUPATIONAL ERGONOMICS AND SAFETY CONFERENCE

CONFERENCE PROGRAM

SEPTEMBER 16-17, 2021

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**International Society for
Occupational Ergonomics & Safety**

2021 ISOES CONFERENCE SCHEDULE

All times are US Central Daylight Saving Time (CDT) / GMT-5

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THURSDAY, SEPTEMBER 16, 2021

Welcome session – Conference Opening	8:00	8:10
Keynote Speaker – Dr. Waldemar Karwowski Topic: Human and Artificial Intelligence and Safety at Work	8:15	9:15
<i>Break</i>	9:15	9:30
Session 1: Vibration and Occupational hazards Chairs: Steve Fleming and Clarence Rodrigues		
<i>Presentation 1</i> <i>Locomotive Whole-Body Vibration Exposure For North American Train Crews: An Update</i> Steve Fleming, George Page and Greg Weames	9:30	9:50
<i>Presentation 2</i> <i>Changes in Physiological Stress and Muscle Damage Biomarker Expression After the Completion of Repetitive Cycle Exercises with and without Compression Arm Sleeves</i> Amber Rohrer, Daniel Conde and Gabriel Ibarra-Mejia	9:55	10:15
<i>Presentation 3</i> <i>Range of Motion from Four Passive Shoulder Exoskeletons</i> Nils A. Hakansson, Michael Jorgensen, Jaydip Desai, Aaron Hodson and Trent Madden	10:20	10:40
<i>Break</i>	10:40	11:00
Session 2: Biomechanical Assessment and Postural Analysis Chairs: Marc Snell and Priya Dasguta		
<i>Presentation 4</i> <i>Safety and Ergonomics Risk Assessment (SERA): A Customized Ergonomics Assessment Tool for Automobile Manufacturing</i> Marc Snell, Arman Dehghani, Fabian Guenzkofer and Stefan Kaltenbrunner	11:00	11:20

<p><i>Presentation 5</i> <i>An Empirical Study indicating Occupational Exposure Leading to Lung Related Diseases and COVID-19 Incidences in Louisiana Parishes</i></p> <p>Priyadarshini Dasgupta, Debarshi Roy and Jullian Perrone</p>	11:25	11:45
<p><i>Presentation 6</i> <i>A Proposed Method for Improving Ergonomic Risk in Maintenance Jobs</i></p> <p>Ted Desmarais and Richard Wyatt</p>	11:50	12:10
<p><i>Presentation 7</i> <i>Estimation of Moments in Simulated Dental Cleaning Task in 4 Working Positions.</i></p> <p>Juan Carlos Hugues, Carlos Adorno and Gabriel Ibarra-Mejía</p>	12:15	12:35
<p><i>Lunch</i></p>	12:35	1:30
<p>Session 3: New Methods/Technologies for Risk Assessment & Accident Prevention</p> <p>Chairs: Jaejin Hwang and Anand Subramanian</p>		
<p><i>Presentation 8</i> <i>Whole Body Vibration Exposure of Haul Truck Operators – A Case Study</i></p> <p>Soumyadeep Paty, Kaushik Dey and Ashis Bhattacharjee</p>	1:30	1:50
<p><i>Presentation 9</i> <i>Designing a Safety Knowledge Management Prototype to Assess and Review Fall-Related Safety Risks for Indian Construction Companies</i></p> <p>Vigneshkumar Chellappa and Urmi Ravindra Salve</p>	1:55	2:15
<p><i>Presentation 10</i> <i>Using Virtual Reality to Inform Fall Risk Prevention in Patient Rooms</i></p> <p>Saaransh Vatsa and Andrew Merryweather</p>	2:20	2:40
<p><i>Break</i></p>	2:45	3:00
<p>General body meeting (all members invited)</p>	3:00	3:30
<p>End Day 1</p>		

FRIDAY, SEPTEMBER 17, 2021

ISOES Executive Committee Meeting	7:30	8:10
Session 4: Ergonomic Risks, Exoskeleton, and Others		
Chairs: Shuping Xiong and Gabe Ibarra-Mejia		
<i>Presentation 11</i> <i>The Effect of Passive Shoulder Exoskeletons on Shoulder and Torso Muscle Electromyographic Activity During Simulated Overhead Drilling Tasks</i>	8:15	8:35
Michael Jorgensen, Nils Hakansson, Jaydip Desai, Andrea Martinez, Michael Nguyen and Trevor Owen		
<i>Presentation 12</i> <i>Effect of Task Characteristics on Maximum Voluntary Contraction Recovery Time During a Lifting Task</i>	8:40	9:00
Vamsi Krishna Varma Pusapati, David Imuetinyan and Fereydoun Aghazadeh		
<i>Presentation 13</i> <i>Analysis of Lower Back Compression Forces at Elbow Height During Lifting on the Ground and a Scaffold</i>	9:05	9:25
David Imuetinyan, Vamsi Krishna Varma Pusapati and Fereydoun Aghazadeh		
<i>Presentation 14</i> <i>Comparative Study of Rivet Gun Vibrations on Riveters with and without a Side Handle</i>	9:30	9:50
Nandhaguru Durai, William Carmen, Vamsi Krishna Varma Pusapati, David Imuetinyan and Fereydoun Aghazadeh		
<i>Presentation 15</i> <i>Electromyographic Analysis of Golfer's Elbow in Tennis Players in Serve</i>	9:55	10:15
Ondrej Labik, Min Pun-Kayat, Vamsi Krishna Varma Pusapati, David Imuetinyan and Fereydoun Aghazadeh		
<i>Break</i>	10:15	10:30
Session 5: Occupational Health and Safety: Case Studies		
Chairs: Richard Wyatt and Jim Borchardt		
<i>Presentation 16</i> <i>Effects of Proper Helmet Wearing on the Protection Performance for Industrial Helmets</i>	10:35	10:55
John Wu, Christopher Pan, Clayton Cobb, Andrew Moorehead and Bryan Wimer		

<p><i>Presentation 17</i> <i>Evaluation of the Pull Test Method for the Measurement of Static Coefficient of Friction</i></p>	11:00	11:20
<p>Oren Masory</p>		
<p><i>Presentation 18</i> <i>Ergonomic Assessment of Grip Force at the Hand Interface with Housekeeping Spray Bottles</i></p>	11:25	11:45
<p>Majed Zreiqat, Wanda Minnick, Luz Marin Ramirez, Christopher Shultz and Amber A. Vaughan</p>		
<p><i>Presentation 19</i> <i>Criterion Referenced Factor Analysis (CRFA): Method Description & Illustrative Application</i></p>	11:50	12:10
<p>Alvah Bittner</p>		
<p><i>Lunch</i></p>	12:10	1:10
<p>Session 6: Safety/Assistive Product and Evaluation</p>		
<p>Chairs: Clarence Rodrigues and Chao Wang</p>		
<p><i>Presentation 20</i> <i>Concrete Buggy Operator Presence Control 3-Dimensional Convergence of Accident Reconstruction Technology</i></p>	1:10	1:30
<p>Dennis Brickman and Erick Knox</p>		
<p><i>Presentation 21</i> <i>The Effectiveness of Back-Up Alarms in Preventing Backing Vehicle-Pedestrian Accidents</i></p>	1:35	1:55
<p>Chiemezie Anthony Udemba, Renita Tahsin and J. P. Purswell</p>		
<p><i>Presentation 22</i> <i>A Review of Risk Perception in Construction Industry</i></p>	2:00	2:20
<p>Karla Gomez-Bull, Gabriel Ibarra-Mejía and María Vargas-Salgado</p>		
<p><i>Presentation 23</i> <i>Speech Intelligibility Parameters for Perceptual Evaluating Perception Background Noise of Open-Plan Office Users: Study Case</i></p>	2:25	2:45
<p>María P. Serrano-Ruiz, José A. Yarza-Acuña and Gabriel Ibarra-Mejía</p>		
<p>Conference End</p>		