



**6<sup>th</sup> International Ergonomics Conference**  
**ERGONOMICS 2016 – Focus on Synergy**  
**June, 15-18 2016**

**HOTEL CLUB FUNIMATON BORIK, ZADAR, CROATIA**

## **Final Program**

Dear authors and participants, we are very grateful that we finally reached moment of Conference beginning, and all your contributions are truly appreciated.

Before of program events and timeline presentation, let us define a few guidelines regarding the presentations:

**Oral presentation** - each paper is scheduled for 15 minutes total duration, which means that paper should be presented in 10 minutes timeframe, and 5 minutes is reserved for discussion. Discussion will follow immediately after each individual presentation.

It is recommended to bring an USB memory/CD with presentation just before the session, or even earlier in agreement with the desk personnel. The oral presentations will be given in the order in which they are listed in the program.

**Poster presentation** – posters should be handed in to the registration desk and we will affix it for you to the display boards. At the end of the poster session, we will bring all posters back to the registration desk, where you can collect your poster.

During the poster session, the author is required to be in the session for the whole duration of the session.

Authors should briefly (2-3 minutes) introduce their work.

Wednesday, June 15 <sup>th</sup> 2016	
18.00 – 21.00	Registration of Authors and Participants
21.00	<b>Welcome party</b> – Hotel Adriana - terrace

Thursday, June 16 <sup>th</sup> 2016	
8.00 – 13.00	Registration of Authors and Participants
<b>Conference Hall Bura</b>	
9.00 – 9.15	Opening ceremony
9.15 – 9.45	<b>Plenary lecture I</b> ; Chairman: A. Sušić Y. Fujita: TIME FOR CREATING NEW ARENAS FOR ERGONOMICS
9.45 – 10.15	<b>Plenary lecture II</b> ; Chairman: A. Sušić S. Leduc: ERGONOMICS AND ERGONOMISTS IN EUROPE: DISCIPLINARY APPROACHES AND JOB PRACTICES
10.15 – 11.00	<b>Lectures in session A</b> ; Chairman: A. Sušić <ul style="list-style-type: none"> <li>• S. Hinrichsen, D. Riediger, B. Adrian: ERGONOMIC DESIGN OF PRODUCTION MACHINES – TRENDS AND EMPIRICAL RESULTS</li> <li>• M. Kleindienst, M. Wolf, C. Ramsauer, E. Winter, C. Zierler: DEMOGRAPHIC CHANGE AND ITS IMPLICATIONS FOR ERGONOMIC STANDARDIZATION</li> <li>• A. Unrau, S. Hinrichsen, D. Riediger: DEVELOPMENT OF PROJECTION BASED ASSISTANCE SYSTEM FOR MANUAL ASSEMBLY</li> </ul>
11.00 – 11.30	Coffee break
11.30 – 13.00	<b>Lectures in session B</b> ; Chairman: U. Reischl <ul style="list-style-type: none"> <li>• M.-C. Hsieh, L.-W. Li, E. M.-Y. Wang: THE EFFICIENT IMPROVEMENT STRATEGIES OF ADVERSE EVENTS BY TOPSIS IN THE EMERGENCY DEPARTMENT</li> <li>• J. H. Smith-Spark, H. B. Katz, A. Marchant, and T. D. W. Wilcockson: GUIDING HUMAN BEHAVIOR TO REDUCE QUALITY CONTROL ERRORS</li> <li>• E. Lógó, Á. Török, K. Hercegfí, I. Takács: QUALITATIVE ANALYSIS OF USABILITY RELATED HUMAN ERRORS IN A COLLABORATIVE VR ENVIRONMENT</li> <li>• S. Bragança, P. Arezes, M. Carvalho, S. Ashdown: IMPLICATIONS OF DYNAMIC WORKING POSTURES IN GARMENTS' COMFORT</li> <li>• S. Alimović: VISUAL ERGONOMICS IN AGING PEOPLE</li> <li>• M.-C. Chiu, T.-H. Huang: TARGET SHAPE AND SIZE EFFECTS ON REACH TO GRASP MOVEMENT FOR OLD ADULTS</li> </ul>
13.00 – 14.30	Lunch break
14.30 – 16.00	<b>Lectures in session C</b> ; Chairman: E. M.-Y Wang <ul style="list-style-type: none"> <li>• K. Kastelic, N. Šarabon: ASSESSMENT OF SPINE STABILITY AFTER AN EIGHT-HOUR OFFICE WORK PERIOD</li> <li>• M. Voglar, N. Šarabon: WORKING IN FLEXED POSITION CAN AFFECT TRUNK STABILITY AND INCREASE THE CHANCE FOR BACK PAIN</li> <li>• R. Iqbal, A. G. Thakurta, S. Maulik: BIOMECHANICS AND ENERGY EXPENDITURE INDEX OF WALKING WITH DIFFERENT MODES OF LOAD CARRIAGE AMONG INDUSTRIAL WORKERS</li> <li>• G. Thakurta, R. Iqbal, H.V. Bhasin, A. De, V. Khanzode, S. Maulik: STUDY ON GAIT PATTERN OF INDIAN ADULTS WITH RESPECT TO AGE</li> <li>• C.-W. Lu, C.-H. Kao: THE HUMAN RELIABILITY FOR PUMPING PROCESSES IN A CHEMICAL SHIP</li> <li>• H.-J. Chen, C. J. Lin, F.-W. Hsu: EFFECTS OF WORKING SURFACE HEIGHT ON MENTAL STRESS IN HIGH-VOLTAGE TRANSMISSION TOWER CONSTRUCTION ASSISTANTS AND MASTER WORKERS</li> </ul>
16.00 – 16.30	Coffee break

16.30 – 17.45	<p><b>Lectures in session D;</b> Chairman: Y.-C. Shih</p> <ul style="list-style-type: none"> <li>• P. Andraši, D. Novak, T. Bucak: ERGONOMIC ASPECT OF LCD DISPLAY PANELS IN FLIGHT TRAINING DEVICES</li> <li>• M.-C. Lin , Y.-H. Lin , M.-S. Chen , S.-F. Liu: A STUDY ON THE INTERFACE DESIGN OF HEAD-UP DISPLAY FOR IN-VEHICLE NAVIGATION SYSTEMS</li> <li>• L.-Y. Hong, M.-Y. Wang , M.-C. Hsieh, W.-C. Chao, M.-J. Kao, C.-C. Yang, T.-Y. Kuo: THE INVESTIGATION OF LED LIGHTING COMFORT AND PREFERENCE ON DIFFERENT AGE AND GENDER</li> <li>• B. Michez, S- Le Gal: RETURN OF EXPERIENCE ABOUT THE INTEGRATION OF THE HUMAN FACTOR IN ENGINEERING PROJECTS. CONDITIONS FOR THE SUCCESS AND RESULTS EXAMPLES</li> <li>• T.-P. Wang, E. M.-Y- Wang: USING CONCEPT MAP TO ASSESS THE EFFECT OF DIFFERENT EXPERTISE COMMUNICATION: A STUDY IN <i>HIP</i> MODEL</li> </ul>
<b>Conference Hall Novi Park</b>	
17.45 – 18.30	<p><b>Poster session I;</b> Chairman: Z. Skenderi</p> <ul style="list-style-type: none"> <li>• A. Sušić, H. Wolf: IS IT POSSIBLE TO EFFECTIVELY IMPLEMENT ERGONOMIC CONSIDERATIONS IN PRODUCT DEVELOPMENT?</li> <li>• B. Antulov-Fantulin, T. Bucak, B. Juričić: THE SIGNIFICANCE OF ERGONOMIC APPROACH IN DESIGNING WORKING ENVIRONMENT OF AN AIR TRAFFIC CONTROLLER</li> <li>• Y.-Y. Cheng, Y.-H. Hwang: EFFECTS OF LIGHTING ENVIRONMENT ON VISUAL SENSITIVITY, COGNITION MEMORY, PERFORMANCE, FATIGUE AND COMFORT IN LITHOGRAPHY AREA</li> <li>• H. Haramina, I. Ljubaj, I.Toš: AN ANALYSIS OF TRAIN DRIVER'S COGNITIVE WORKLOAD RELATED TO CROATIAN NATIONAL SIGNALLING SYSTEM</li> <li>• S. Kirin, T. Sabic: INVESTIGATION OF NOISE LEVEL IN THE PROCESS OF WATER BOTTLING</li> <li>• Z.-C. Wu, Y.-Z. Zhao, J.-J. Wu, J- Bao, J. Zhou: RESEARCH ON AN INDIRECT VISION DRIVING SYSTEM FOR SPECIAL VEHICLES</li> <li>• M. S. Žebec, I. Crnko, D. Sumpor: SELECTIVE ATTENTION OF CROATIAN RAILROAD ENGINEERS FROM 25 TO 59 YEARS OF AGE: EMPIRICAL FINDINGS AND IMPLICATIONS</li> <li>• M. S. Žebec, V. Palavra, D. Sumpor: PERCEPTUAL SPEED OF CROATIAN RAILROAD ENGINEERS FROM 25 TO 59 YEARS OF AGE: EMPIRICAL FINDINGS AND IMPLICATIONS</li> <li>• D. Sumpor, M. Mikulčić, M. Modrić: FEMALE STUDENTS' BODY SEGMENTS RATIOS</li> <li>• I. Šabarić, B. Brlobašić Šajatović: THE IMPACT OF ANTHROPOMETRIC VARIABLES ON FEMALE BODY SHAPE AND GARMENT FIT</li> <li>• I. Salopek Čubrić, G. Čubrić, V. M. Potočić Matković: THERMOGRAPHY ASSISTED ANALYSIS OF TEXTILE MATERIALS AS A PREDICTOR OF HUMAN COMFORT</li> <li>• I. Salopek Čubrić, T. Vilus, G. Čubrić: INVESTIGATING MECHANICAL PROPERTIES OF FILAMENT YARNS USED FOR HEALTH PRESERVATION</li> <li>• K. Oshita, S. Yano: A POTENTIAL NEW USE FOR CLOTHING TO ENHANCE LOCOMOTIVE ABILITY THROUGH HAPTIC SENSORY INPUT</li> <li>• S.-Y. Lu, J.-J. Jiang, Y.-H. Lin, C.-L. Lee: EVALUATION OF ISOLATION EFFECTIVENESS DURING THE USE OF GLOVES IN JACKHAMMER OPERATING</li> <li>• Y.-H. Lin, S.-Y. Lu: INFLUENCE OF TASK AND DURATION ON LOWER LEG CIRCUMFERENCE AND SUBJECTIVE DISCOMFORT DURING SQUATTING/KNEELING TASK</li> </ul>
20.00 – 23.00	<b>City Zadar tour</b>

**Friday, June 17<sup>th</sup> 2016**

8.00 – 13.00	Registration of Authors and Participants
<b>Conference Hall Bura</b>	
9.00 – 9.30	<b>Plenary lecture III;</b> Chairman: Y. Fujita Eric Min-yang Wang: THE INSPIRATION OF “SMALL IS BEAUTIFUL”: APPROPRIATE ERGONOMICS FOR LOCAL PEOPLE
9.30 – 10.00	<b>Plenary lecture IV;</b> Chairman: Y. Fujita U. Reischl, O. Salinas, M. Siemon, R. Oberleitner : REMOTE STUDENT PERFORMANCE ASSESSMENT USING A NOVEL SMART-PHONE APPLICATION
10.00 – 11.00	<b>Lectures in session E;</b> Chairman: S. Leduc <ul style="list-style-type: none"> <li>• Y.-C. Shih, Y.-C. Kuo, C.-W. Ou, C.-J. Chao: THE INFLUENCE OF BODY FAT ON MAXIMAL OXYGEN CONSUMPTION OF TAIWAN MALE MILITARY PERSONNEL</li> <li>• J. Reinten, M. Hornikx, A. Kohlrausch, H. S.M. Kort: AUDITORY DISTRACTION AND HOSPITAL NURSES’ COGNITIVE PERFORMANCE: AN OBSERVATIONAL CASE</li> <li>• S. Mukhopadhyay, V. Pathak, S. K. Das, T. Chakraborty: QUALITY OF LIFE OF NURSES WORKING IN INDIAN HOSPITALS</li> <li>• S. K. Das, S. Mukhopadhyay: INCIDENCES OF WORK-RELATED MUSCULOSKELETAL DISORDERS IN PHYSICIANS AND SURGEONS</li> </ul>
11.00 – 11.30	Coffee break
11.30 -13.15	<b>Lectures in session F;</b> Chairman: B. Mijović <ul style="list-style-type: none"> <li>• C. S. Mammas, G. Kostopanagiotou, A. S. Mamma, G. Saatsakis, C. Lemonidou, E. Patsouris, D. Chasiakos: THE DIGITAL MICROSCOPY IN ORGAN TRANSPLANTATION: ERGONOMICS OF THE TELE-PATHOLOGICAL EVALUATION OF THE UTERUS GRAFT</li> <li>• S. Yu , W. Zhou , G. Gu H. Wu: EFFECT OF EFFORT-REWARD IMBALANCE AND SLEEP QUALITY ON DEPRESSIVE SYMPTOMS RISK IN TRAIN DRIVERS IN CHINA</li> <li>• K. W. Li, C. C. Chen, L. Liu, C.-Y. Chen: ERGONOMIC RISK ASSESSMENT AT WORK-SITE: A CASE STUDY IN A FACTORY</li> <li>• M. Wichtl, C. Aringer, W. Ambros, H. Rausch: HOW CAN SMES BE MOTIVATED TO ENGAGE IN THE TOPIC OF AGE-BASED WORKPLACES? EXPERIENCES AND FINDINGS OF A PROJECT IN AUSTRIA</li> <li>• S. Ullmann, L. Fritzsche: DESIGNING ERGONOMIC WORKSTATIONS FOR PEOPLE WITH RESTRICTED ABILITIES USING <i>EMA</i> SIMULATION SOFTWARE</li> <li>• H. C. Chung, Y. T. Li: EFFECT OF HANDLE POSITION AND HANDLE ANGLE ON BI-MANUAL LIFTING TASKS WITH IPSILATERAL HANDLES</li> <li>• N. Concepción, J. Plocharski, V. Gerónimo, P. Diaz Villa, H. Hertel, J. Pugliese, J. Venditti: ERGONOMIC ANALYSIS IN THE MANUFACTURE OF FLOOR TILES</li> </ul>
13.00-14.30	Lunch break
<b>Conference Hall Novi Park</b>	
14.30 - 16.00	<b>Research and Project Space;</b> Chairman: T. Bucak <ul style="list-style-type: none"> <li>• N. Rebernik, L. Moody, J. Saunders, S. Staskowiak, A. Kadyrbaeva: ERGONOMICS AND DISABLED EMPLOYEES – A FORGOTTEN DIMENSION? HOW CAN WE FACE IT THROUGH COLLABORATION BETWEEN ACADEMIA AND BUSINESS</li> <li>• N. Sarabon, A. Panjan, M. Voglar: A NOVEL MEASUREMENT SYSTEM FOR TESTING TRUNK NEUROMUSCULAR FUNCTIONS RELEVANT IN BACK PAIN</li> <li>• R. Iqbal: LABORATORY FACILITY, RESEARCH POTENTIAL AND SCOPE FOR COLLABORATION WITH OTHER RESEARCHERS</li> <li>• D. Domljan: UNIVERSITY MANUAL “QUALITY AND TECHNICAL DESCRIPTIONS OF WOOD PRODUCTS – VOLUME I – EQUIPPING EDUCATIONAL FACILITIES”</li> </ul>

	<p><b>Poster session II; Chairman: T. Bucak</b></p> <ul style="list-style-type: none"> <li>• A. Draghici, A. Gaureanu, B. Cirjaliu: A PROPOSED APPROACH FOR THE ERGONOMICS USABILITY INTERVENTIONS EVALUATION</li> <li>• A. Draghici, L. Ivascu, A. Gaureanu, M. Mocan: SYNERGY OF KNOWLEDGE MANAGEMENT AND ERGONOMICS FOR OCCUPATIONAL RISKS MITIGATION</li> <li>• M. Leber, G. Lapuh, S. Sršen: DEVELOPMENT OF A METHODOLOGY FOR IDENTIFYING ERGONOMIC RISKS IN THE WORKPLACE</li> <li>• Y. Li, L. Xie, Q. Yan, H. H. Qu: ANALYSIS OF KINEMATIC CHARACTERISTICS USING MULTIPLE RGB-D SENSORS</li> <li>• N. Šimunić, T. Jurčević Lulić: STABILITY ANALYSIS OF DENTAL GUIDES</li> <li>• C.-L. Lee, S.-Y. Lu, P.-C. Sung, C.-Y. Wu: EFFECTS OF DIFFERENT REST PERIODS AND LOAD WEIGHTS ON UPPER LIMB MUSCLE FATIGUE RECOVERY FOR A HAND TRANSFER TASK</li> <li>• H. C. Chung, S. P. Wu: EFFECT OF HAND CONDITION AND CARRYING FREQUENCY ON COMBINED CARRYING TASKS</li> <li>• G. Budzik, Ł. Przeszłowski, T. Dziubek, W. Budzik, A. Dobrowolska: DESIGN AND RAPID PROTOTYPING OF ERGONOMIC PRODUCTS</li> <li>• E. Zdraveva, B. Mijovic, Z. Skenderi: DESIGN PROCESS OF ELECTROSPUN LIGHTWEIGHT THERMO-INSULATING MATERIAL</li> <li>• B. Čabradi, D. Čurko, T. Jurčević Lulić, D. Domljan: DESIGN OF THE SCHOOL CHAIR MECHANISM FOR DYNAMIC SITTING</li> <li>• P. G. Horvath, R. M. Antal, D. Domljan, L. Denes: SEAT COMFORT ANALYSIS AT UNIVERSITY OF WEST HUNGARY BY BODY PRESSURE DISTRIBUTION SYSTEM</li> <li>• S.E.H. Davies: ENERGETIC AND PERCEPTUAL RESPONSES DURING VARIABLE WALK CONDITIONS: IMPLICATIONS FOR ERGONOMIC ASSESSMENT AND PLANNING</li> <li>• K. Pawłowska-Cypriasiak: WORK ABILITY AMONG YOUNG MOTHERS WITH DIFFERENT TYPES OF DISABILITIES</li> <li>• K. Hildt-Ciupińska: POSITIVE VS. NEGATIVE WORK - HOME INTERACTION AND ITS RELATIONSHIP WITH WORK ABILITY AMONG EMPLOYEES, WHO TAKE CARE ON DEPENDENT PERSON</li> <li>• M. Młynarczyk, T. Jankowski: THE EQUIVALENT TEMPERATURE MEASURING BY THERMAL MANIKIN AS AN INDEX FOR ASSESSMENT OF A VENTILATION DEVICE</li> <li>• M. Młynarczyk: THE EVAPORATIVE RESISTANCE VS. SWEAT RATE - SWEATING MANIKIN WEARING SPECIAL SKIN IN NON-ISOTHERMAL CONDITIONS</li> <li>• P. Łach: RELATIONSHIP BETWEEN THE SPEED OF NERVE FIBERS CONDUCTION AND THE LEVEL OF MUSCLE ACTIVITY AMONG WORKERS OF DIFFERENT AGE GROUPS</li> </ul>
16.00 – 16.30	Coffee break
16.30	<b>Closing ceremony</b>
17.30 – 19.30	<b>Surprise excursion – Nin Saltworks</b>
20.30	<b>Conference gala dinner - Restaurant Funimation</b>
<b>Saturday, June 18<sup>th</sup> 2016</b>	
	Excursion to National Park Plitvice Lakes (optional)