



WORKSHOP ON HUMAN ENGINEERING

ADDRESSING BACK PAIN AT WORKPLACE:
MEASUREMENT AND INTERVENTION

Introduction

Work-related musculoskeletal disorders (WMSDs) have become one of the major occupational health issues in the industrial world, including Malaysia. Among musculoskeletal disorders, back pain causes the highest burden. According to recent studies, the prevalence of back pain in Malaysia ranged from 12% to 60%. This will result in an incremental cost of health care and an indirect cost due to lost productivity. This workshop will explore the use of cutting-edge research technologies to address issues of back pain in the workplace. The risk of occupational injuries will be evaluated from work postures and movements. Multiple wearable sensor technologies are combined with advanced simulation software to provide accurate and validated data in evaluating design solutions in engineering and health technology. During the workshop, we will demonstrate this integration and discuss some experience with these tools.

TOPIC COVERED

Work-related musculoskeletal disorders (WMSDs) and back pain at workplace: Background and causes

Introduction to measurement and ergonomic risk assessment methods

Software tools for occupational biomechanics and ergonomic research

Muscle load: Electromyography (EMG) analysis of sEMG

NIOSH guidelines for the management of low back pain at work

Exercise as prevention and intervention for low back pain

Demonstrations of wearable sensors technology in assessing the task conditions at workplace

Application of measurement and evaluation of task conditions at workplace – Two case studies

Objective

At the end of the workshop, participants should be able to:

- Acquire a basic understanding and practical skills in assessing the occupational risks by analysing human movement with current wearable sensor technology
- Perform quantitative analysis of human motor control and human behaviour using multiple biosensor data
- Use advanced modeling and simulation software

MORE INFO



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OLIVE TREE HOTEL, PENANG

Please contact for
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