Instruction for symposia presentation submission

Symposia title: Ergonomics in extraordinary population
Moderator/s name: Dr. Deepak Sharan
Moderator/s affiliation/organisation, COUNTRY: RECOUP Neuromusculoskeletal Rehabilitation Centre, Bangalore, Karnataka, INDIA.

Theme: Ergonomics in design, extraordinary ergonomics.

Objectives: The concept of a normal person underlies standard industrial practice. Most of the ergonomics practices are focused on normal working population and special populations like children, elderly, pregnant women and disabled are usually not considered. This symposia is aimed at looking at various ergonomic issues pertaining to these special populations.

Expected number of papers to be included (titles and authors if known):
1. Dr. Deepak Sharan – Ergonomics for Children
2. Mr. Mathankumar Mohandoss – Ergonomics for Elderly population
3. Dr. Deepak Sharan – Ergonomics for Persons with Disabilities
4. Mr. Jerrish A Jose – Ergonomics for Pregnant Women
5. Mr. Mathankumar Mohandoss – Ergonomics for Small and Big Persons

Length of symposia: 90 minutes

Target audience and expected level of interest: Ergonomists from various fields including occupational physicians, physiotherapists, health and safety officers, engineers and researchers who are working in the field of risk identification

Type of room and/or facilities required: Standard lecture room which can occupy up to 50 to 75 participants. LCD projectors with video players.

Materials needing to be provided (if any): none

Abstract:
Most ergonomics knowledge applies to “regular adults” in the age range from 20 to 50 years. Regular working adults are considered people qualified, fully trained, and able satisfactorily to perform any and all phases of the work under customary conditions at a pace representative of average. There is a need to accommodate groups who are “extra-ordinary” as well which includes pregnant women, children, elderly, small and big persons and persons with disabilities. The basic task is, first, to identify the critical human attribute (sometimes several) and, second, to accommodate.

Pregnancy alters the body's shape, and thus, its interaction with the workspace. As pregnancy progresses, a woman must lift and manoeuvre items further away from her body. This means that prior to the pregnancy a woman working in a manufacturing environment might have to reach 15 inches to her workstation. But to accommodate her growing abdomen, the same woman in her third trimester of pregnancy might have to reach 20 inches or more to access the same workstation.

Proper use of ergonomic data about children and adolescents in the design process is important for ensuring that the final products suit their users. Designing for safe openings, furniture’s, play stations and computers etc. are important.

A variety of changes commonly occur with primary and secondary aging, affecting, for example, visual, hearing, and cognitive powers. Although older persons tend to compensate for these changes
behaviourally, there are also ways to accommodate these changes through good workplace design so that the effects of these changes are minimized.

People come in greatly differing body sizes. The immense variability applies not only to overall size but also to the way in which body segments are combined. Anthropometry tables give measurements of different body parts for men and women, and split into different nationalities, and age groups, from babies to the elderly.

Around 100 million Indians have disabilities (10% of population). In recent years, IT has opened tremendous employment opportunities for PWD. In USA, 58 to 66% of paraplegics worked, while the corresponding figure is 41 to 51% in Japan, and 23% in Finland. So ergonomic considerations for different types of disability becomes important.