

# PEO supporting human factors research project

BY MICHAEL MASTROMATTEO

PEO is supporting a research project studying the link between engineers and human factors specialists in the design of safer, more productive workplaces.

The research project, Human Factors and Engineering Design Tool Use Among Professional Ergonomists and Engineers, is a two-year collaborative effort among Ryerson University, the University of Waterloo, and the Swedish National Institute for Working Life.

It is being funded in the amount of \$209,000 by the Workplace Safety and Insurance Board (WSIB) of Ontario.

Saeed Zolfaghari, P.Eng., associate professor of industrial engineering, Ryerson University, is part of a five-person interdisciplinary research team led by Patrick Neumann, assistant professor of human factors engineering at Ryerson's department of mechanical and industrial engineering, and including a sociologist and biomechanist from the University of Waterloo and a Swedish production engineering researcher.

Neumann describes the project as an effort to identify gaps in the practice of human factors (or ergonomics) and engineering as they relate to assessing risk and human performance in the design of workplaces.

"The project lays the groundwork for the integration of human factors into a company's work system design processes," Zolfaghari says, "with the objective of reducing risk to employee health, while improving performance. We're also creating a detailed inventory of evaluation tools that are available to both ergonomists and engineers, as well as trying to better understand tools and practices that are actually in use today by members of these professional groups."

Ultimately, the team hopes to use this research to improve how human factors knowledge is used in the design of modern workplaces and production systems.

Phase one, which began in January 2007, involves a survey of ergonomics practitioners; phase two will concentrate on the experience of engineers.

Results from Ontario will be compared with similar research in Sweden, which is considered a world leader in the study of human factors. This will enable establishment of an Ontario benchmark in the ergonomics-design process area. Neumann is heading up the human factors portion of the research project. He said 45- to 60-minute telephone interviews are already underway for ergonomists, and a protocol is being developed for engineers.

PEO CEO/Registrar Kim Allen, P.Eng., said benefits of the research to the engineering community "will be the improved processes and approaches to sustainable production systems from a human perspective. Tool utilization amongst engineers and ergonomists will be an important venture, which seeks to join two separate disciplines together for better communication and understanding. PEO hopes that the project will raise the profile of tool usage issues among the professional community and facilitate a better process for management decision making."

The two researchers hope to recruit professional engineers from all disciplines and sectors to participate in the study. PEO members involved in work design processes are especially encouraged to take part in the surveys.

"By sharing your experiences with us, you can help improve engineering practice in Canada," Zolfaghari told *Engineering Dimensions*. "If you are an active engineer engaged in design, we would like to hear from you."

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