## INGERSOLL-RAND

Endowed Lecture Series 2016/2017



& Systems Engineering





Dr. Svend Erik Mathiassen Professor and Research Director Center for Musculoskeletal Research Department of Occupational and Public Health Sciences University of Gävle, Sweden

Monday, September 26, 2016 I:30 p.m. – 2:30 p.m., 260 Durham Hall

## Physical Variation – A Magic Pill in Repetitive and Constrained Work?

Trends in global working life suggest an increasing occurrence of jobs characterized by repetitive operations or low-level physical workloads for extended periods of time. More variation in physical workload is considered both by researchers and practitioners to be an effective intervention against fatigue and musculoskeletal disorders in such jobs. This talk will review the validity of this conviction, on the basis of a recent scientific review requested by the Swedish Work Environment Authority. As a second objective, the talk presents a framework for quantifying and investigating physical variation, based on explicit definitions of variation as "the change in exposure across time" and diversity as "the extent that exposure entities differ".

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**Svend Erik Mathiassen** is currently the coordinator of the National Centre of Excellence "The Body at Work – from Problem to Potential". He has served on expert committees at the Swedish Research Council for Health, Working Life and Welfare and The Swedish Council on Health Technology Assessment, and he was Chief Secretary of the scientific advisory committee on work environment policy formed by the Swedish government 2008-2011. His main interest in research is physical activity variation in working life and leisure: how to measure "variation", effects of different types of variation on performance, fatigue and disorders, and interventions in working life promoting or obstructing variation. His interest in exposure variability has also led to frontline research on cost-efficient strategies for collecting and analyzing data on physical load. He has published more than 300 scientific papers and has been invited to present his research in keynotes at major international conferences on ergonomics.

## Light reception to follow seminar in 260 Durham from 2:30p.m. – 3:00 p.m.