

## "Temporal patterns of natural daylight for human physiology"



Katharina Wulff is University Research Lecturer (Departments of Radiation Sciences and Molecular Biology) Umeå University, Sweden.

Her laboratory studies 'life in context'. While life science advances greatly on molecular mechanisms, we know little about the interconnections with environmental exposures. My lab focusses on temporal physiological responses to changing environmental factors that affect the brain. Our studies have shown how sleep and circadian influence can be predictors of mental health outcomes, systems that themselves are regulated by environmental exposures, including light.

In this talk, she will describe recent data that show how aberrant timing and intensity of light exposure patterns are likely causal factors in sleep timing disturbances, by using objective long-term recordings of rest-activity, light exposure and melatonin data combined with mathematical models, and how this can be used to deliver personalised and acceptable light-dark interventions that normalises sleep-wake timing.