

eHealth Applications to Support Shift Workers

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We are slowly moving towards a 24/7 society involving an increased demand for shift work. The resulting irregular work pattern and night shifts lead to substantial health risks, from cognitive impairment and fatigue on the short term to psychological disorders and diabetes on the long term. This project develops and tests interventions to minimize health risks associated with shift work.

The student will aid in the project and is free to pick a focus of interest. For example, the student could use machine learning techniques to identify workers who are most at risk for health risks, using continuous measurements such as physical activity, sleep, food intake, cognitive function and psychological examination. Alternatively, a student could focus on the design and test of personalized interventions (e.g., a virtual sleep coach). This could utilize technology such as smart-phone apps, smart-watches, virtual agents, conversational technology, and social robotics (Pepper, NAO). The student is expected to specify and evaluate their work with real users in the real world (for example with night-nurses in the hospital).