

# Smart Bed for Monitoring Patient Vital Signs

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## Technology description

With the ever increasing average age of the population, it becomes more and more important to be able to automate biomedical measurements thereby freeing up staff to concentrate on critical care. The concept we are investigating is a bed with integrated sensing to be used for patient monitoring. The smart bed would monitor patient movement (necessary to determine whether externally induced changes of position are needed to prevent the occurrence of bed sores), respiration rate and pulse rate. In this work, we combine an interferometric integrating fiber optic sensor, matched spatial filtering to optimize signal to noise ratio, a low cost laser pointer, a low cost digital camera, a portable laptop PC, and original software

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