

2012 BECC Conference: Poster Presenter Abstracts

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A Mobile-based Platform for Measuring Indoor Environmental Quality in Commercial Buildings

Although increasingly sophisticated systems are being developed to collect, analyze, and use information on building energy consumption, there remains a lack of empirical data reporting building performance from the perspective of building users or from physical measurements of Indoor Environmental Quality (IEQ). This research seeks to address this need by developing a mobile app to collect real-time occupant subjective feedback paired with physical measurements of IEQ in new and retrofit commercial office environments. The objective of this technology is to provide physical and subjective feedback data to building stakeholders with the level of spatial and temporal granularity needed to assess, validate, and improve the performance of environmental building technologies and design strategies. The poster will present measured data collected using a prototype of the technology to evaluate the daylighting effectiveness of a “high-performance” commercial office building. Key findings will be discussed in regard to the applicability of this approach to contextualize building energy use with human-factors data to inform decision-making for the design and operation of low-energy commercial buildings