

## 2012 BECC Conference: Poster Presenter Abstracts

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### ***A Novel System for Detecting and Analyzing the Interplay Between Real-Time Energy Consumption Feedback and Social, Hierarchical, and Geo-Spatial Networks in a Commercial Setting***

Increased affordability and technical advances of power metering devices have transformed workplaces into ripe environments for exciting new research at the nexus of behavioral psychology, network theory, and organizational theory. We introduce a system that tracks interactions between individuals and groups that have access to real-time energy consumption information. This system enables quantitative characterization of the impact of various external interventions (e.g. workplace directives, social influence, and technologically-oriented solutions) over time on workplace networks (e.g. personal/social, work-related, location). Individual attributes corresponding to various networks are collected by the system to further refine analysis and detect the effects of personal attributes on network performance. In addition, we have developed a method for tracking the impact of social networks on the management of shared resources (lighting, HVAC, water) at the workplace. Our approach is specifically designed to provide insight into how energy-related information spreads through and among networks in a commercial workplace setting. This approach combines a traditional survey driven analysis with an empirical approach to comprehensively measure network behavior. We intend to explore ways to utilize workplace networks to maximize energy efficient behavior in commercial settings.