2014 GE Catalyst Awards

GE Healthcare – Summer 2014

GE Healthcare Catalyst Grants are targeted at advanced computational imaging and related technologies. Four awards were announced in the summer of 2014 in the second round of the program.

Jake Luo expertise is in data-driven predictive analysis using machine algorithms applied to improving healthcare. Luo's project is targeted at extracting more information from medical images and text to reduce repetition in medical records and streamline continuity of care. A successful outcome of the semantic association project would include integration into medical decision support systems as well as in new disease onset patterns detection systems for early diagnosis.

Adel Nasiri brings expertise in power electronics and control. Nasiri will continue to explore load leveling techniques, applied in other settings, for use in imaging systems. The concept could lower the burden on electrical systems that supply power for imaging systems, making them less expensive to install and maintain.

Jun Zhang hopes to reduce the cost and complexity of imaging systems by applying his expertise in signal processing techniques. Imaging systems no longer use film; instead, they employ closely packed detector arrays that are expensive and difficult to manufacture. In this project, Zhang will explore whether advanced signal processing techniques to better manage temperature drift of CT detectors.

Jun Zhang hopes to provide high resolution image enhancement by applying signal processing techniques to low resolution medical images. High resolution medical imaging system require a significant amount of closely packed detectors. Zhang's project has the potential to reduce the number of detectors required to achieve high resolution medical images.