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FOR IMMEDIATE RELEASE

INNEROPTIC AND KITWARE TO DEVELOP NEEDLE-GUIDANCE SYSTEM THAT TARGETS HEPATIC TUMORS

Hillsborough, NC (May 8, 2012) – InnerOptic Technology, a leader in 3D visualization for image-guided procedures, and Kitware, a leader in open-source software and solutions development, today announce Phase II SBIR funding from the NIH for the development of a needle guidance system for hepatic tumor ablation. The operating room ready system will provide novel 3D visualizations for needle guidance in soft tissues.

Using InnerOptics' Spotlight™ technology, which was developed during Phase I of this grant, intra-operative ultrasound images will be fused with pre-operative computed tomography (CT) images. The Spotlight system renders opaquely and in sharp detail only the portions of the CT data that are in the vicinity of the ultrasound probe or the needle trajectory. This is analogous to a spotlight on stage: illuminating the scene of interest, while the rest of the stage is transparent and out-of-focus to be less distracting.

During liver lesion ablations and other image-guided procedures, surgeons and interventional radiologists currently mentally integrate information from several imaging modalities. While CT imaging has excellent diagnostic value, breathing and surgical manipulation can cause tissues to move and deform. Additionally, intra-operative ultrasound images are real-time but have a limited field-of-view and can be less effective than CT at distinguishing tissues and pathologies. Physicians must therefore alternate between viewing annotated pre-operative CT images or live ultrasound images on separate monitors, with no interaction between them. The newly awarded Phase II grant will extend Spotlight with registration algorithms that will keep the CT and ultrasound images continuously aligned. The work will result in a radically improved workflow for using CT and ultrasound images in image-guided soft tissue procedures.

"InnerOptic is pleased to receive this NIH grant, enabling us to significantly advance our visualization technology for minimally invasive procedures," said Brian Heaney, InnerOptic's CEO. "We are excited to work with Kitware to integrate their innovative registration algorithms with Spotlight, our patented CT-ultrasound visualization system.
"We are thrilled to take part in this project and to assist InnerOptic in its product development," said Stephen Aylward, PI for Kitware. "The vessel-based registration algorithm has been a part of our in-house research for many years, and we look forward to seeing it incorporated into a commercial system. Through this work, we aim to reduce

surgery time and patient recovery time, while increasing the effectiveness of needle ablation, localized drug delivery, and needle biopsy."

About InnerOptic Technology

Founded by world-renowned researchers at the University of North Carolina at Chapel Hill, InnerOptic Technology is revolutionizing image-guided medical procedures with its 3D visualization inventions and products. InnerOptic's products include AIM™, a "GPS" for needle guidance; and Spotlight™, a guidance system that fuses CT/MR data sets with real-time ultrasound. A privately held company, InnerOptic is headquartered in Hillsborough, NC. More information is available at http://www.inneroptic.com/.

About Kitware

Kitware is an open-source solutions provider for research facilities, government institutions, and corporations worldwide. Founded in 1998, Kitware specializes in research and development in the areas of visualization, medical imaging, computer vision, quality software process, data management, and informatics. Kitware is headquartered in Clifton Park, NY, with offices in Carrboro, NC and Villeurbanne, France. More information can be found at http://www.kitware.com.

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