# Revolutionary imaging software offers more detailed, clearer scans of heart conditions

EurekAlert!

Innovative software has been developed that greatly enhances the detail quality and field of view of conventional ultrasound images. It could improve the diagnosis of heart disease and deliver big savings for the NHS.

The software, called 'IDF Echo', is being unveiled at Healthcare Innovation Expo 2013, taking place at London's ExCel Centre on 13th-14th March 2013 (IDF stands for Intelligent Data Fusion). It will be located on the National Innovation Centre (NIC) stand.

While widely and routinely used, standard ultrasound scans can be prone to image quality problems and have a limited field of view, meaning that a single view of the entire organ is impossible to obtain and that a definitive diagnosis cannot be made.

IDF Echo tackles this problem by generating a composite image from a number of scans. This image delivers better-quality information than the individual component scans. The key benefit is that this can make diagnosis possible without the need for referral to MRI or CT scans, which are many times more expensive than ultrasound. Standard practice in cardiac care is currently to perform an initial ultrasound scan and then an MRI or CT scan if it isn't conclusive.

IDF Echo builds on work led by Professor Alison Noble and her team at the Institute of Biomedical Engineering at the University of Oxford and originally funded by the Engineering and Physical Sciences Research Council (EPSRC). It has been launched by Intelligent Ultrasound, a spin-out company set up by the University of Oxford.

IDF Echo is now available for equipment manufacturers to incorporate into their ultrasound machines. Evaluations have already been undertaken with the involvement of clinical groups in Oxford and Intelligent Ultrasound is now looking to extend evaluations to other NHS hospitals.

As well as leading the research, Professor Noble is Intelligent Ultrasound's Chief Technology Officer. She says: "Although ultrasound is a very well-established, cost-effective medical scanning technology, there's a limit to the quality of image it can generate. Pinpointing some cardiac conditions requires a follow-up scan using a more expensive technology. By improving the initial diagnostic power of ultrasound, IDF Echo improves the likelihood of earlier diagnosis and quicker treatment for the patient, and has the potential to help NHS budgets by extracting maximum value from low-cost scanning equipment."

Andy Hill, Intelligent Ultrasound's CEO, says: "We've worked very closely with clinical groups to ensure that the images generated by IDF Echo provide the sort of

information that will significantly aid clinical decision-making. Moreover, because the software uses standard 3D/4D ultrasound scanners and doesn't require costly hardware upgrades, it should be easier for its use to gain acceptance within the NHS. We would welcome interest from any groups interested in being part of further evaluation studies."

The company is currently developing similar products designed to enhance the use of ultrasound in other areas of healthcare, such as obstetrics.

Intelligent Ultrasound has also received a £200,000 Development Award from the NHS (NIC) to underpin its initial funding. The NHS established the NIC to identify and support the development of new and innovative health technologies and secure their early uptake.

As well as two EPSRC grants, the initial work on the software benefited from the involvement of researchers studying at the RCUK-funded Centre for Doctoral Training in Healthcare Innovation, based at the Institute of Biomedical Engineering, University of Oxford.

Original release:
http://www.eurekalert.org/pub_releases/2013-03/eaps-ris031413.php [1]

**Source URL (retrieved on *12/12/2013 - 11:31pm*):**
http://www.ecnmag.com/news/2013/03/revolutionary-imaging-software-offers-more-detailed-clearer-scans-heart-conditions?qt-recent_content=0

**Links:**
[1] http://www.eurekalert.org/pub_releases/2013-03/eaps-ris031413.php