

Brown forum sheds light on molecular imaging

By Staff Writer

The Brown Forum for Enterprise's April conference shed some light on developments in the fields of molecular imaging and biophotonics.

"Biophotonics Conference: Entrepreneurship, Medicine and Light," drew a large crowd at the Brown University Faculty Club on April 28.

Biophotonics includes molecular imaging, noninvasive in-vivo examinations on a cellular level and photodynamic therapy – a light-based treatment for internal and external conditions.

Dr. Christian P. Schultz, director of molecular imaging for Siemens Medical Solutions, said several concepts are being fine-tuned to help with earlier detection of diseases.

"In-vivo examinations can help with early detection of disease and can therefore lead to efficient prevention and earlier diagnosis," Schultz said.

Siemens is working to integrate a patient's medical data with in-vivo and genomics within the next three years to help move toward "knowledge-driven health care."

One of the advances that could be on the horizon is a diagnostic tool that patients with cardiac disease could use at home and then transmit the information to their physician.

The goal of molecular imaging, Schultz said, is to try and find out the location of a disease – for example, exactly where an artery is damaged or blocked.

"New technology developments in the field – like the detection of genes, specific proteins and cells – act as drivers in the molecular imaging field," Schultz said. "We could delay the onset of Alzheimer's by 20 years if we could detect it."

Calling molecular imaging a "very, very important" part of health care, Schultz said the technique has the potential to be used in radiation therapy in cancer because doctors can efficiently treat a tumor if they know its precise location and size.

Amassing a large database of patient records could also lead to better treatment of the sick, Schultz said.

“Those databases will allow for the diagnosis of more people,” he said. “It will transform health care in a much more elegant way.”

Siemens continues to work to bridge the gap between clinical trials and clinical practice, mainly focusing on metabolism-enhancing agents.

Clinical and pre-clinical trials using molecular imaging are currently under way at Massachusetts General Hospital. Schultz said molecular imaging-based oncology diagnosis and optical MRIs are being examined.

Published 04/30/2005

Issue 20-03