

Mayo Clinic, IBM Establish Medical Imaging Research Center
Collaboration aims to find high-tech solutions for quicker diagnosis, better treatments

ROCHESTER, Minn. and ARMONK, N.Y. (Jan. 9, 2008) – Today, Mayo Clinic and IBM (NYSE: IBM) announced the creation of a collaborative research facility aimed at advancing medical imaging technologies to improve the quality of patient care. The Medical Imaging Informatics Innovation Center (MI3C) is an extension of a Mayo-IBM research collaboration announced in 2007, the results of which have given physicians the ability to register medical images up to 50 times quicker and provide critical diagnosis, such as the growth or shrinkage of tumors, in seconds instead of hours.

“This facility will allow us to explore projects in medical imaging and radiology that can help to provide faster and better information for our physicians, and in turn, improved treatments for our patients,” said Bradley Erickson, M.D., Ph.D., head of Mayo’s Radiology Informatics Lab. “The collaborative potential of the MI3C gives us the opportunity to develop computationally intensive solutions for diagnostic problems we see every day, but that we at Mayo could not attempt to resolve on our own.”

Driving these patient-centered projects will be a full-time team of Mayo and IBM researchers and development staff. Together, they will tackle a long list of potential projects, including:

- Maximum-resolution organ imaging to provide physical (phenotype) information that parallels the current level of genetic detail available for the same tissue. This is designed to give physicians a much more complete impression of a patient’s condition.
- Image-guided tumor ablation to pinpoint and maximize efficiency of heat transfer probes used to destroy cancer tumors. By guiding physicians, this innovation can help to improve accuracy and minimize side effects.
- “Video swallow analysis” to see and compare how stroke patients swallow in order to better determine the severity of their disability and help provide proper physical therapy as well as protection against choking.
- Automated Change Detection and Analysis designed to allow physicians to compare a new image with a previous one, eliminate what has not changed and to better assess what change has occurred, helping to improve diagnostic speed and accuracy.

At the heart of the MI3C will be the latest in high-end imaging platforms and computational hardware, including IBM’s breakthrough computing system based on the Cell Broadband Engine™ and blade technology. The MI3C will showcase this capability along with Mayo’s leadership in medical imaging research and informatics.

“The MI3C is a physical manifestation of the larger set of skills and resources IBM and Mayo Clinic can collectively apply to the medical imaging space,” said Bill Rapp, IBM distinguished engineer and chief technology officer for IBM’s Healthcare and Life Sciences team. “IBM has world-class research and development teams focused on the fundamental algorithms that drive medical imaging informatics and hardware, while Mayo Clinic provides its expertise for exploiting these algorithms in applications that support a working, real-life radiology environment.”

The MI3C will be housed on the Mayo Clinic campus in Rochester, MN, and will bring

together clinicians, researchers and vendors in an environment where they can freely interact. By mutual agreement, third parties also will have future opportunities to collaborate with IBM and Mayo in the facility.

In addition to increasing interest and participation in imaging projects that can help to improve patient care, the MI3C also hopes to attract research grants for future investigations. The work will not only grow assets in imaging informatics at IBM and Mayo, including potential new graphics tools for visualization, but also lead to development of a software library for advanced medical imaging on high-end computer systems.

About Mayo Clinic

Mayo Clinic, a not-for-profit medical center, thoroughly diagnoses and treats complex medical problems in every specialty. It also conducts wide-ranging, interdisciplinary medical research with the sole goal of improving patient care. Mayo Clinic has campuses in Arizona, Florida and Minnesota.

About IBM

For more information on IBM, visit www.ibm.com.

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