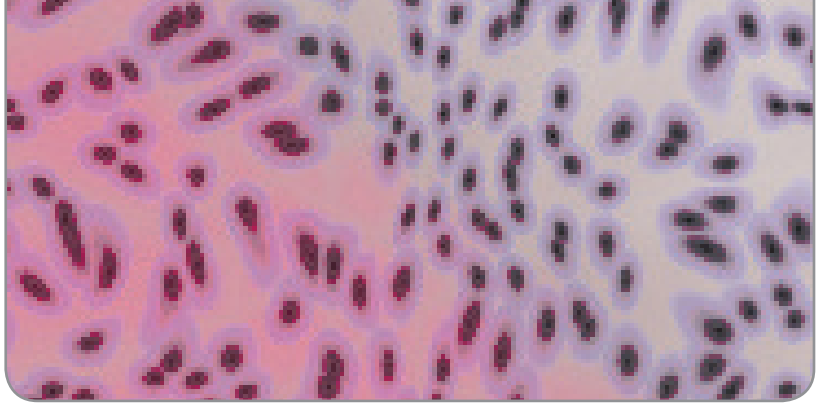

VM2M: Improving the fight against cancer

OSC Partners:
- The Research Institute at Nationwide Children's Hospital
- Childrens Hospital Los Angeles
- Children's Oncology Group

Research Title:
Integrated Virtual Microscopy and Molecular Analysis Software for Enhanced Cancer Diagnosis

Funding Source:
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Principal Investigator:
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The acronym VM2M might stand for Virtual Microscopy to Microarray, but for cancer researchers it means revolutionizing a part of the investigative process.

Expert pathologists depend on microscopy, or the latest use of microscopes, to examine and review diseased tissue. Their conclusions help oncologists form the foundation for treatments.

"The different research teams involved are working to create a tool that provides multi-modal views of cancer biopsies that show pathologies of cancerous cells alongside their genetic information," said Dave Billiter, PMP, The Research Institute at Nationwide Children's Hospital. "Our portion involves taking microscopy data virtual, by digitizing the slides of the cancerous biopsies and providing a tool to view them via the Web."

After The Research Institute at Nationwide Children's Hospital creates the microscopy image from the specimen, the tissue sample is sent to the Childrens Hospital Los Angeles, where that research team creates the microarray portion of the project by identifying the genetic information for each tumor.

The Ohio Supercomputer Center researchers, meanwhile, are expanding the capabilities of VIPER (Virtual microscopy Image Pilot Endeavor), which is the pathology review component of VM2M. The Web-based portal they created enables pathologists to review, annotate, and share tissue specimen images.

Ultimately, VIPER and VM2M will provide cancer researchers with searchable, clinical-genomics software and data-acquisition tools. Multi-modal views of cancer biopsies will show pathologies of cancerous cells alongside their genetic information, an unparalleled - and currently unavailable - resource. Once FDA approval is obtained, the project's collaborators fully expect physicians to use the genetic information available through VM2M to create custom treatments for each person, based on his or her unique situation.