Photo by KC Kratt

The new building on the Buffalo Niagara Medical Campus is nearing completion, the scientific agenda has been solidified, corporate partners identified, and a formal organizational and governance structure adopted.

Although it always has been affiliated with the Center of Excellence, the Center for Computational Research (CCR) now has a direct reporting relationship, Holm says. The new arrangement, he adds, puts CCR in a better position to attract funding from the NIH and the state, while continuing to serve the needs of the broader university community.

The scientific discoveries made by center researchers will lead to new processes and products that are licensed to existing companies, as well as startup companies.

To facilitate technology transfer, the center has developed a commercialization resource network that includes such entities as the UB Office of Science, Technology Transfer and Economic Outreach (STOR); RPCI's Technology Transfer Office; CUBRC (Calspan–UB Research Center Inc.); Buffalo Niagara Enterprise; and BuffLink Inc., a private, nonprofit organization geared toward developing economic development opportunities in the life sciences, as well as corporate partners and other community-based organizations.

For example, the center is working with corporate partner GE Healthcare, Niagara Falls Memorial Medical, Niagara University and BuffLink to develop and evaluate the use of non-invasive approaches to cardiovascular disease, specifically regarding a new imaging system that can detect cardiac problems in 10 seconds, compared with traditional methods of inserting a catheter in the body, an invasive procedure that can take hours.

The center also is working on drug production with such corporate partners as Invitrogen, Amgen and Biogen. Holm points out that its work with the center has prompted Invitrogen, which supplies cell-growth material for biotech research, to keep its 550-job plant on Grand Island, and possibly add another 200 jobs.

Holm and Nowak advised staff in Albany working on legislation to create a $90 million economic development program tied to the centers of excellence. The program, Holm says, will provide funding to assist in the earliest stages of licensing and product development, before most venture capitalists are interested in investing.

In addition, the center has played a key role in numerous events designed to promote the work of the center and the advancement of the life sciences industry in Western New York.

Holm and Nowak spoke last October at the Western New York Technology and Biomedical Informatics Forum, a cross-industry forum that provided computer experts a chance to connect with life science researchers and explore partnership opportunities. The event drew more than 300 attendees and 50 exhibitors to the Niagara Falls Conference Center.

Center staff also assisted in planning and coordinating a conference, "Life Science Technologies: Innovations and Opportunities in Biotechnology, Biomedical Informatics and Medical Devices," held in Buffalo in March. Cosponsored by Senator Hillary Rodham Clinton, the conference attracted a large group of executives from the life-science units of GE, Intel and Oracle, as well as bioscience companies. BP

By Ellen Goldbaum

New Home for Structural Biology

Hauptman-Woodward Medical Research Institute Opens

Photos by Gloria Bal Bal

In May 2005, the Hauptman-Woodward Medical Research Institute (HWI) and its Structural Biology Research Center became the first building to open on the Buffalo Niagara Medical Campus.

Located on Ellicott and Virginia streets just north of downtown Buffalo, the 73,000-square-foot building also is the new home of UB's Department of Structural Biology.

While passersby stop to admire the HWI facility's gleaming curved facade, metallic aluminum panels and staggered window openings, it's the interior space that's already changing how the world beyond Buffalo sees the first piece of the life sciences complex.

"There are few things scientists care more about than the quality of the laboratory space they're going to inhabit," says George DeTitta, PhD, HWI executive director, CEO, principal scientist and chair of the Department of Structural Biology, a unit of the School of Medicine and Biomedical Sciences.

Noting that lab size is significantly limited in some of the nation's most prestigious institutions because of their location in dense population centers, DeTitta says that lab space in the new HWI facility is a major asset.

"My feeling is that, right now, we probably have some of the most spacious and well-designed laboratory space in the country," he says.

That's an automatic plus for recruitment. "We've recruited people into what was at the time still a concrete shell," he explains, "and once the UB and Roswell Park buildings are up, the three will represent what I think is premier laboratory space in the U.S." (See article on page 42.)

HWI plans to double its size within the next seven to 10 years, with the Department of Structural Biology also greatly increasing the number of faculty members.

DeTitta adds that the department is seeking to boost the number of its graduate students as well, from its current level of seven to between 20 and 25.

"We see it as part of an effort of the university to emphasize the biological sciences," he says. "Over the next few years, we hope to have a lot more students coming into the medical school through the Interdisciplinary Graduate Program in Biomedical Sciences, while we're also deliberately going after students who are strong in the physical sciences and want to become part of the biological revolution."

The $24 million HWI facility was designed to encourage interaction among scientists, both inside and outside the lab spaces. "When the architect asked what we wanted, I said I'd like a building in which you maximize the chances for people to meet one another and you minimize the chances of people 'hiding out,'" DeTitta recalls.

"In the little time we've been here, just since mid-April, I've sensed that even though the new building is much larger than the old one, people meet one another more frequently," he observes.

Those interactions are not only occurring within the building's atrium area and its grand central stairway, they also are taking place in the core facility, which houses scientific instrumentation and which is available to all of the building's scientists.

"We built the lab space around a very robust common space so the core facility serves all of the scientists," says DeTitta. "What you see is maximum interaction and minimum turf-building." BP

By Lois Baker

Illustration by Stephanie Carter

Counting Sleep

Diagnostic technology for sleep apnea commercialized

The University at Buffalo has signed an agreement with Sleep Solutions, Inc. to commercialize and distribute an innovative diagnostic testing technology for obstructive sleep apnea (OSA) and Cheyne-Stokes respiration (CSR) that was developed by researchers in the School of Medicine and Biomedical Sciences.

"This technology represents a substantive advancement in the way OSA can be diagnosed," says Michael J. Thomas, president and CEO of Maryland-based Sleep Solutions, Inc. (SSI), a medical device and health-care services company providing direct-to-patient testing services. "It will broaden our portfolio of services of less expensive, more patient-friendly diagnostic testing products delivered directly to OSA patients in their homes."

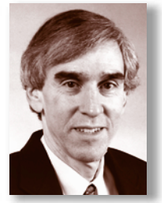
The UB technology is a software algorithm that uses a form of artificial intelligence, a "neural network," to detect obstructive sleep apnea and Cheyne-Stokes respiration using a pulse oximetry signal.

Ali El-Solh, MD, associate professor of medicine, and Brydon J. Grant, MD, professor of medicine, in the UB School of Medicine and Biomedical Sciences, and Jacek Dmochowski, formerly with UB, developed the software programs and algorithms. The technology is based on analysis of the oximetric recordings of 213 sleep studies. The software has demonstrated very high sensitivities and specificities for diagnosing CSR and OSA.

Robert J. Genco, DDS, PhD, UB interim vice president for research and director of the UB Office of Science, Technology Transfer and Economic Outreach (STOR), says there is "a growing worldwide clinical need to provide a cost-effective solution for diagnosis of obstructive sleep apnea and Cheyne-Stokes respiration. We are very confident that Sleep Solutions will be able to bring this novel technology to the marketplace resulting in a lower-costing, easier-to-implement diagnostic tool for the public good."

UB's STOR filed for patent protection on behalf of the Research Foundation of the State University of New York. The technology has been issued two patents and an additional patent application is pending. BP

Dear Fellow Alumni,



With the conclusion of Spring Clinical Day, I assume the mantle as president of your Medical Alumni Association (MAA). I look forward to this upcoming year, and want to thank Colleen Mattimore MD '91, our immediate past-president, for her terrific work over the last year. I am pleased that Colleen will continue to play an active role as past president.

The weather was perfect for this year's reunion weekend (always a relief in Buffalo!). The Friday night cocktail party, sponsored by the Medical Alumni Association, was held in Harriman Hall on the South Campus. We received many favorable comments from those in attendance about how much they enjoyed coming back to campus. For some, it was decades since they have returned.

Our Spring Clinical Day scientific program, organized by Helen Cappuccino MD '88, was titled "Back to Basics: Back Pain—The Scope of the Problem and State-of-the-Art Management."(See page 56 for a list of program presenters.) For all of us who have ever complained, "Oh, my aching back!", the symposium Saturday morning provided a wide-ranging discussion on the causes of back pain and treatment options.

On Saturday evening, over 250 alumni and guests gathered at the Pierce Arrow Car Museum for dinner and dancing. It was a wonderful event that conveniently provided a final send-off for Margaret W. Paroski, MD '80, former interim dean and vice president for health sciences, who accepted the position of executive vice president and chief medical officer for the Kaleida Health System. I want to personally thank Dr. Paroski for serving as Class Chair for 1980, and on behalf of the entire Medical Alumni Association, I extend our sincere gratitude for her most loyal and steadfast support of the association.

With the conclusion of our reunion weekend, we now turn our attention to fall events and the Distinguished Alumni Award. It gives me great honor to announce that Robert Milch, MD '68, has been selected to receive this year's award. Dr. Milch, who trained in surgery and now is medical director for Hospice Buffalo, has become a pioneer in developing palliative care programs for patients with terminal illnesses. The dinner to honor Dr. Milch will be held on Friday, September 23. Please save the date. More information will follow.

I am excited about the upcoming year and serving you as president of the Medical Alumni Association. If you have concerns or questions that you feel I can address on behalf of the association, please feel free to contact me at any time by calling the association's office at (716) 829-2778.

Martin L. Brecher, MD '72
President, Medical Alumni Association