

B U F F A L O P H Y S I C I A N

AUTUMN 2002

School of Medicine and Biomedical Sciences, University at Buffalo

Gray Matters

ROHIT BAKSHI, MD '91, GIVES MS A NEW IMAGE

Dear Alumni and Friends,

In August 21, 2002, new affiliation agreements between the University at Buffalo and its teaching hospitals were announced. These agreements mark a seminal event in the history of the UB School of Medicine and Biomedical Sciences because they represent a 'sea change' not only in the school's relationship with its affiliated teaching hospitals, but also with its faculty and residents.

By recalibrating these relationships to better support our school's primary mission, which is to educate students and train residents, we are putting in place girders upon which we can help build a healthcare system that more effectively serves our region.

The new affiliation agreements, which you can read more about on page 21 of this issue of *Buffalo Physician*, will result in our school's faculty being paid either through the state or through the faculty practice plan. Over time, it is hoped that this will result in faculty members establishing a primary allegiance to the school in lieu of the individual inpatient facilities with which they are affiliated in the community. If this change in culture can be accomplished, I believe it will greatly strengthen our school's foundation over the next 25 to 30 years.

With regard to graduate medical education, the agreements take the hospitals out of the educational system and place the onus for training residents squarely under the purview of the school, where it should be. This, in and of itself, is a historic change in view of the fact that the residency programs in New York State were originally sponsored by hospitals. In fact, UB did not sponsor any of the residency programs until the Buffalo Graduate Medical-Dental Consortium was formed in 1983, and even that was only a partial sponsorship. The hospitals had in essence taken ownership of residency training, so these new agreements bring our community—which was about 45 years behind the rest of the country—in line with where it should have been a long time ago.

Also, as I look to the future, I anticipate that the federal government will mandate changes in Medicare law. Under the new affiliation agreements, the school will be in a much better position to react in a timely way to these changes.

Lastly, from the community's perspective, there is now the potential to undertake strategic healthcare planning for our region, should its leaders have the critical will to do so. This will certainly require a willingness to give-and-take among the various hospitals. But if this flexibility can be managed, the school will have an opportunity to graft on to a single, high-quality clinical program rather than participate in multiple smaller programs, none of which can compete locally, regionally or nationally.

If this type of planning is made a priority, then I envision our school serving as an umbrella under which such initiatives can move forward. This does not mean that the school would be interested in dictating outcomes for healthcare in our region, but it does mean that it could serve as a facilitator for change in a new climate of cooperation where, ultimately, quality of patient care is the only measure of success.



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Letters to the Editor

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The staff reserves the right to edit all submissions for clarity and length.

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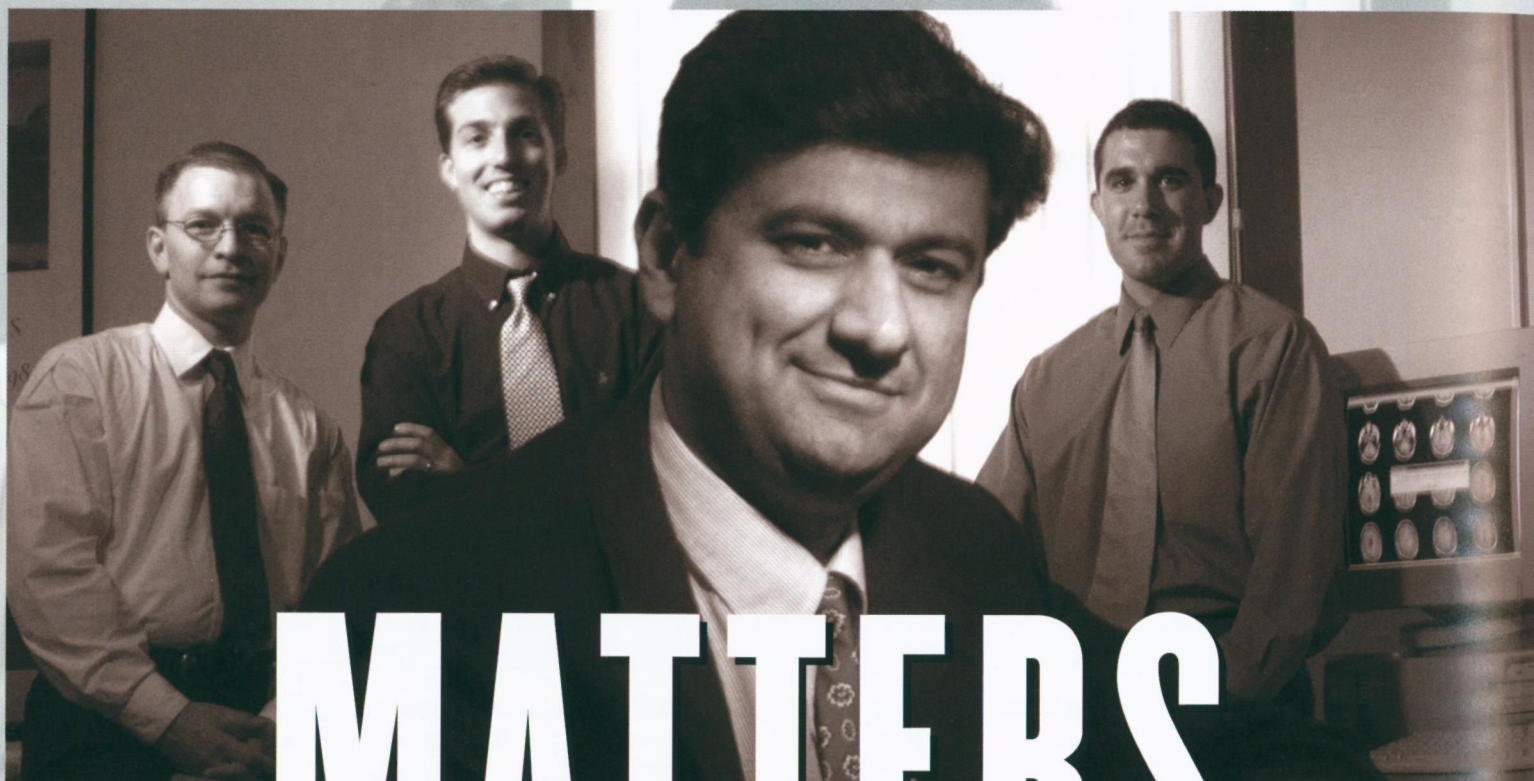
Stephen Pollack, MD '82, welcomes Jodi-Ann Oliver at the White Coat Ceremony. Jodi-Ann's twin, Lori-Ann, is also a member of the Class of 2006. For more on this event, turn to page 22.

COVER PHOTO BY K. G. KRATT



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GRAY



MATTERS

Photography by K.C. Kratt

by Lois Baker

New insights into how MS affects the brain

Ten years ago people with multiple sclerosis (MS) could expect little from the medical profession other than drugs to help relieve their symptoms and canes or walkers to help them get around as their physical disabilities mounted.

That was before researchers were able to focus the full power of advanced neuroimaging technologies on the disease.

By using the latest magnetic resonance imaging (MRI) methods in tandem with one of the most powerful supercomputing systems in the world, University at Buffalo researchers in the Buffalo Neuroimaging Analysis Center (BNAC) are providing insights into the disease that were never before possible.

Some are creating three-dimensional images of the brain and brain structures of MS patients that show the process of atrophy under the onslaught of the disease.

Others are linking stages of atrophy with physical and cognitive symptoms and are developing a "standardized" image of one affected brain structure, which will serve as a model for assessing disease stage and predicting progression.

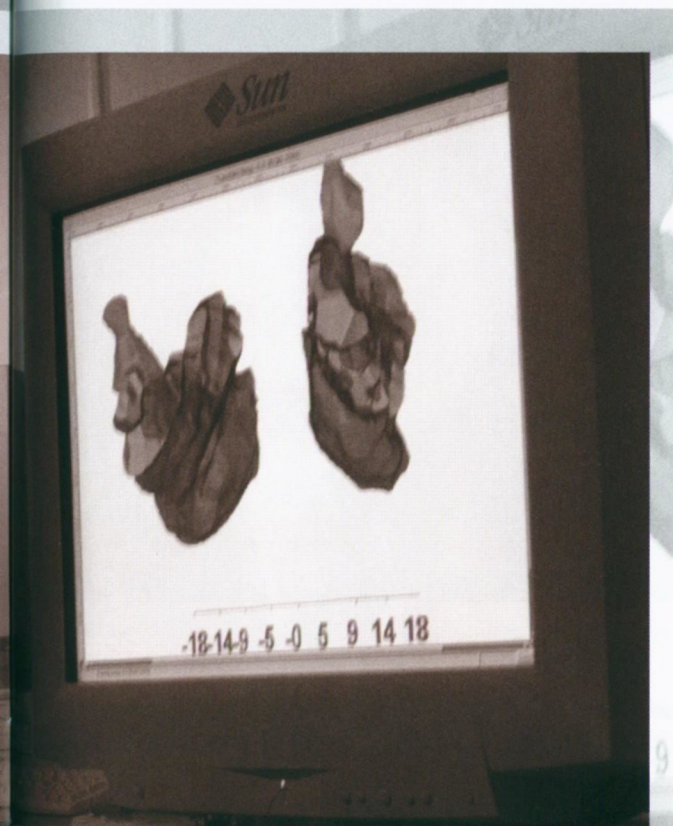
Still other scientists are using advanced imaging techniques and computing power to study the amount of whole-brain shrinkage that occurs in MS and to develop accurate ways to measure brain deterioration.

Perhaps the most important development to come out of the center to date is the researchers' discovery that the brain's gray matter, where higher functioning is centered, is involved in MS.

A Neuro Image of Atrophy

Perhaps the most important development to come out of the center to date is the researchers' discovery that the brain's gray matter, where higher functioning is centered, is involved in MS.

"Traditionally, MS was thought to be strictly a 'white matter disease,'" explains Rohit Bakshi, MD '91,



In addition to pursuing his own research, Rohit Bakshi, MD, University at Buffalo associate professor of neurology, front, has assembled a group of energetic student researchers to work in the Buffalo Neuroimaging Analysis Center. "The students are the lifeblood of the center," says Bakshi. "Their enthusiasm, dedication and fresh ideas make our research go forward."

Pictured, back row, left to right, are medical students Michael Sanfilippo, Rob Bermel and Andrew Fabiano.

UB associate professor of neurology and director of the BNAC. We thought it affected only the 'roadways' in the brain." (White matter, or myelin, is the covering that allows various gray matter structures to communicate with each other.)

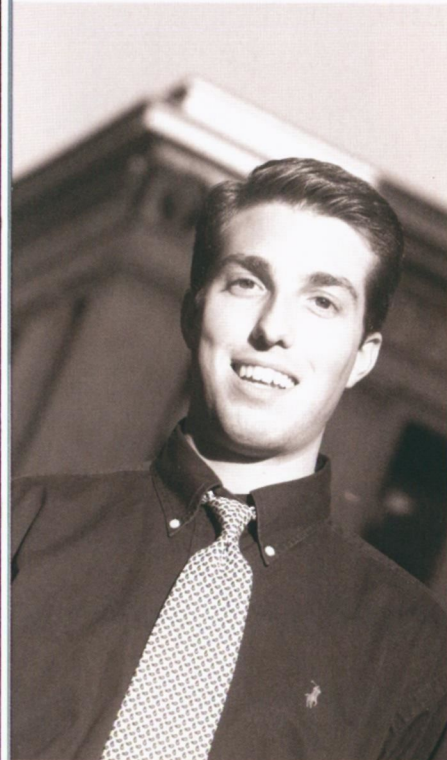
This finding resulted from the researchers' work with a brain structure situated deep in the gray matter called

associated with the amount of white matter damage.

"If we are going to treat this disease," he says, "we have to know where the damage is."

MS strikes people primarily between the ages of 20 and 40, and there is no cure. The most common cause of progressive neurologic disability in young adults, the disease is most prevalent in mid-North America and Northern Europe. Symptoms vary widely, depending on where and how much brain damage is involved.

A leap forward in treatment occurred in 1996 when a



Rob Bermel
Class of 2003

ROB BERMEL, a fourth-year medical student at the University at Buffalo School of Medicine and Biomedical Sciences, has been chief research assistant at the Buffalo Neuroimaging Analysis Center since May 2000. His work includes an honors thesis on the use of MRI in detecting brain atrophy in multiple sclerosis (MS), mentored by Rohit Bakshi, MD '91. This research was funded by student grants from the American Academy

of Neurology, Alpha Omega Alpha medical honor society and the University at Buffalo.

In May 2001, Bermel was awarded the American Academy of Neurology's G. Milton Shy Award for medical student research in clinical neurology, based on studies he conducted on the use of the bicaudate ratio as an MRI marker of brain atrophy in MS.

While pursuing his bachelor of arts degree in biology at UB, Bermel

conducted research in neuropharmacology as a Howard Hughes Undergraduate Research Fellow. In 1998, he worked at the U.S. Department of Energy's Brookhaven National Laboratory, where he studied addiction control and breast cancer therapy using brain positron emission tomography.

Bermel is interested in pursuing a residency in neurology following graduation from medical school.

the caudate nucleus, an important nerve center for controlling movement and cognitive processing. Other laboratories have studied the role of the caudate nucleus in Alzheimer's Disease and Huntington's Disease; however, the BNAC is the only center studying it in MS patients with state-of-the-art MRI techniques.

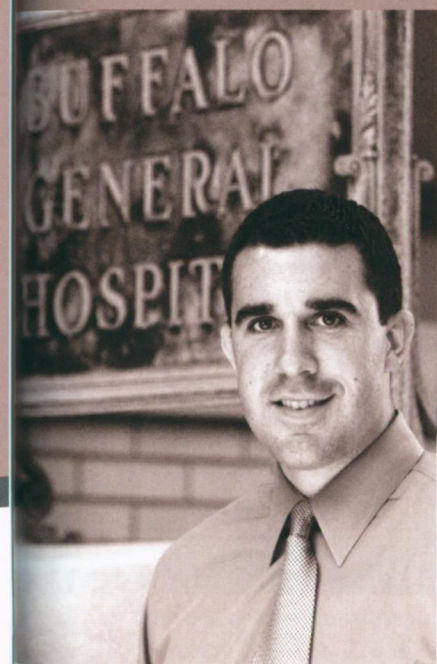
"Through our computerized imaging analysis capabilities we have been able to visualize the caudate nucleus in MS patients in new ways, and we found it was atrophied," explains Bakshi. "Moreover, the atrophy is not

drug developed by the late Lawrence Jacobs, MD, chair of UB's Department of Neurology, was approved by the Federal Drug Administration after several years of clinical trials that were supervised by Jacobs. The drug, interferon beta-1a (Avonex), slows progression of disability in the relapsing-remitting form of the disease and reduces the frequency of flare-ups. It is now the most widely prescribed treatment for MS.

"Our challenge today is to uncover mechanisms in the brain that could lead us to a new therapy, building on

“We’ve been able to correlate gray matter hypointensity with brain atrophy and physical impairment. This leads us to think that hypointensity in the deep gray matter is a strong predictor of disability, progression of the disease and subsequent brain atrophy.”

Andrew Fabiano
Class of 2004



ANDREW FABIANO, a third-year medical student at the University at Buffalo School of Medicine and Biomedical Sciences, has been a research assistant at the Buffalo Neuroimaging Analysis Center (BNAC) since May 2001.

A native of Buffalo and the third of six children, Fabiano attended St. Joseph's Collegiate Institute in

Kenmore, New York, before matriculating to the University of Illinois at Chicago (UIC). While at UIC, he participated in research with Dr. John Ilekis and Dr. Erol Onel, isolating novel genes involved in spermatogenesis. He also contributed to research at the UIC Medical Center on positron emission tomography screening for coronary calcification.

After five semesters, Fabiano graduated with Highest Departmental Distinction and was elected to Phi Beta Kappa.

Fabiano's work at the BNAC focuses on assessing gray matter damage in multiple sclerosis and diabetes using MRI diffusion imaging and T2 relaxation.

Dr. Jacobs's work," says Bakshi. "One possibility might be a drug cocktail that includes interferon and a neuroprotective agent to target and preserve the gray matter."

Bakshi's own research could point to one possible drug approach. He is first author on a study published in the January 2002 (Vol. 59) issue of *Archives of Neurology* that reports that brains of MS patients appear to contain excess iron deposits.

"In our imaging studies, the gray matter structures of MS patients appear very dark on one type of MRI scan," says Bakshi. "This evidence points to high levels of iron in the brain, which suggests that iron could be causing cell damage. The brain's mechanism to regulate iron could be impaired or shut down in MS.

"We've been able to correlate gray matter hypointensity with brain atrophy and physical impairment," he adds. "This leads us to think that hypointensity in the deep gray matter is a strong predictor of disability, progression of the disease and

subsequent brain atrophy.”

If these findings hold up through longitudinal studies, a treatment designed to prevent iron buildup could prove beneficial.

Student Scientists

In addition to pursuing his own research, Bakshi has assembled a group of energetic student researchers from various disciplines to work with senior neurologists on several projects.

“The students are the lifeblood of

the BNAC,” says Bakshi. “Their enthusiasm, dedication, and fresh ideas make our research program go forward.

“Our goal is to train the students in the necessary neuroimaging analysis techniques and then rapidly help them to develop their own line of investigation under supervision,” he continues.

“This mentor-mentee approach has led to each student taking the lead on projects, including data analysis and interpretation, presentation of data at national research meetings, and manuscript preparation.”

Among the researchers is Robert Bermel, a fourth-year medical student at UB, who is concentrating on the caudate nucleus. Bermel is collaborating with specialists in UB’s Center for Computational Research who are taking



Michael Sanfilipo
Class of 2005

MICHAEL SANFILIPO, a second-year medical student at the University at Buffalo School of Medicine and Biomedical Sciences, joined the Buffalo Neuroimaging Analysis Center (BNAC) in 2002 to perform quantitative MRI research in multiple sclerosis (MS).

A native of Buffalo, Sanfilipo earned his bachelor’s and master’s degrees in psychology from Syracuse University. After completing a psych-

ology internship at the Manhattan Psychiatric Center, he was a research associate at New York University, where he conducted neuroimaging research (PET, MRI, fMRI) in schizophrenia under Dr. Adam Wolkin. He then conducted fMRI research in substance abuse at the Medical College of Wisconsin under Dr. Elliot Stein.

Sanfilipo received a UB School of Medicine and Biomedical Sciences

Summer Research Fellowship to study whether cerebral gray matter abnormalities in MS are related to cognitive impairment.

He has authored 31 research articles, six as first author. His current research interests include MS, schizophrenia, neuroimaging, MRI, biostatistics and neuropsychology. In the future, he plans a career in academic neuroscience.

“Our goal is to train the students in the necessary neuroimaging analysis techniques and then rapidly help them to develop their own line of investigation under supervision.” —Rohit Bakshi, MD ’91

data from high-resolution MRI scans of the structure in MS patients and converting them into three-dimensional images that can be displayed on a computer monitor and rotated in any direction interactively. The studies are aimed at looking at how disease of the gray matter is detected in the brain and how it relates to MS progression.

"Before we had the ability to create three-dimensional images, we were able to use computers only to obtain quantitative data, such as the structure's volume and dimensions," says Bermel, who is working in Bakshi's laboratory. "Now we are able to visualize structures, to actually see where atrophy is occurring."

Bermel presented a poster at this year's American Academy of Neurology meeting detailing his findings, which showed that caudate nuclei in MS patients were smaller than in healthy controls. The atrophy of this brain structure wasn't associated with any other measures of disease progression, such as whole-brain atrophy, duration of disease or extent of brain lesions.

"This suggests that another undetermined mechanism may play a role in gray matter disease," notes Bermel. "The study also demonstrated that new computer-assisted imaging capabilities *can* show gray matter disease, which previous MRI's could not detect. It opens a new window into the brain."

Bermel and his colleagues in the UB Center for Computational Research now are establishing a database of three-dimensional images of caudate nuclei from MS patients and correlating each image with each patient's ability to function. This will allow researchers to track the association between atrophy and MS symptoms and, by matching images from new patients to the database, to predict their disease stage and progress.

Another young researcher is Andrew Fabiano, a third-year medical student at UB, who is analyzing diffusion-weighted MRI scans of gray matter structures in MS patients. This type of scan measures the amount of water that

passes through a brain structure: the higher the diffusion rate, the less dense the tissue.

Fabiano is assessing the diffusion rates of two different categories of disease—relapsing-remitting and secondary-progressive—and comparing them to patients' symptoms.

In results presented at this year's American Academy of Neurology meeting, Fabiano reported that the diffusion rate was higher in secondary-progressive patients than in relapsing-remitting. In the caudate nucleus, a higher diffusion rate was linked to greater physical disability.

His findings suggest that this type of scan could be used



Other young researchers working in the center are, *left to right*, Jin Kuwata, a University at Buffalo psychology graduate; Christopher Tjoa, a computer science and premed major at UB; and Jitendra Sharma, MD, a graduate student at Roswell Park Cancer Institute.

as a noninvasive method to determine and monitor gray matter tissue damage in MS patients. Fabiano was awarded a prestigious research grant from the Alpha Omega Alpha Medical Honor Society to continue this work in Bakshi's lab this past summer.

As the newest member of the BNAC team, Michael Sanfilipo, a second-year UB medical student, is applying his

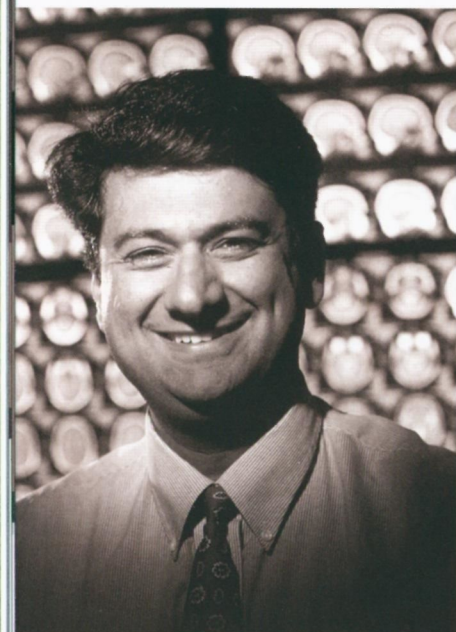
prior neuroimaging experience in the area of schizophrenia to address the question of whether the specific cortical gray matter areas responsible for "higher" cognitive abilities are atrophied in MS. Sanfilipo recently received a UB Summer Research Fellowship to carry out this project using a statistical brain mapping program to be run in partnership with the Center for Computational Research.

Also within the BNAC, Jitendra Sharma, MD, a graduate student at Roswell Park Cancer Institute, is collaborating with a researcher at the University of Trieste in Italy to develop a highly reliable measure of whole-brain atrophy. Jin Kuwata, a UB psychology graduate, is administering cognitive tests to MS patients and comparing their performance with the amount of atrophy shown on their brain scans, making the connection between gray matter damage and mental function. Christopher Tjoa, a computer science and premed major at UB, is performing brain mapping in an effort to develop a standardized image of a healthy brain against which MS brain images can be compared.

While current work at the center will continue to concentrate on MS, in the future researchers will be analyzing brain scans of persons with juvenile diabetes, as well as those with other conditions, such as lupus, stroke, dementia and epilepsy.

"Our main thrust is to determine through MRI analysis the sites and mechanisms of disease in the brain and to provide new information about how diseases progress," explains Bakshi. "The applications of this work include a more accurate diagnosis of neurologic disorders and the ability to accurately predict the disease course at the time of the earliest symptoms.

"Also, through studying diseases with sophisticated MRI analysis, we begin to untangle the great mystery of how the brain functions. Ultimately, this information could lead to new treatments and—in the best scenario—to cures for a variety of brain disorders. This is what we all work toward." **BP**



Rohit Bakshi

ROHIT BAKSHI is founding director of the Buffalo Neuroimaging Analysis Center (BNAC), an associate professor of neurology in the University at Buffalo School of Medicine and Biomedical Sciences and a neuroimager at the Jacobs Neurological Institute in UB's Department of Neurology.

A Buffalo native, Bakshi is a graduate of Cornell University and the UB School of Medicine and Biomedical Sciences. As an Alpha Omega Alpha scholar, he completed a neuroscience research fellowship in neuropharmacology and stroke with Dr. Alan Faden at the University of California at San Francisco.

Upon graduation from medical school in 1991, Bakshi served a one-year internship at the Massachusetts General Hospital and Harvard Medical School, followed by a neurology residency at the University of California at Los Angeles, where he conducted neuroimaging research with Dr. John Mazziotta. He returned to Buffalo in 1995 to complete an MRI/CT neuroimaging fellowship at the Dent Neurologic Institute.

Bakshi is board certified in neurology and is certified in MRI/CT by the American Society of Neuroimaging. A neurologist and neuroimager, he has published 70 peer-reviewed

scientific papers in such journals as the *New England Journal of Medicine*, *Journal of Neuroscience*, *Neurology*, *Multiple Sclerosis*, and *Journal of Neuroimaging*. He is also first author of a 200-page chapter on brain MRI for the textbook *Baker's Clinical Neurology*, updated for 2001.

Bakshi received the 1998 William H. Oldendorf Award for his neuroimaging research in multiple sclerosis. In 1999, he was appointed to the board of directors of the American Society of Neuroimaging and joined the faculty of Medscape. In 2000, he was appointed to the editorial board of the *Journal of Neuroimaging*.

Wealth of Talent and Resources

Multidisciplinary research program thrives in Buffalo

The Buffalo Neuroimaging Analysis Center (BNAC) is located in the Jacobs Neurological Institute at Kaleida Health's Buffalo General Hospital, part of the Buffalo-Niagara Medical Campus. The center, which is affiliated with the Department of Neurology in the University at Buffalo School of Medicine and Biomedical Sciences, has received more than \$1 million in funding since opening two years ago.

The sources of funding, which reflect the center's multidisciplinary research program, include the National Multiple Sclerosis Society, the Juvenile Diabetes Foundation, the National Institutes of Health and the University at Buffalo. (Computer systems at the BNAC are maintained by the Engineering Node Service of UB's School of Engineering.)

"One of the strengths of the BNAC is that we have thrived on various collaborations with UB investigators from other departments and other schools, taking advantage of the wealth of talent and resources available right here in Buffalo," says Rohit Bakshi, MD '91, UB associate professor of neurology and director of the BNAC.

Other neurologists at the Jacobs Neurological Institute who have participated in the work of the BNAC include: **Bianca Weinstock-Guttman, MD**, UB assistant professor of neurology; **Steve Greenberg, MD**, UB associate professor of neurology; and **Frederick Munschauer, MD**, UB clinical professor of neurology. In addition, **Ralph Benedict, PhD**, a neuropsychologist and UB associate professor of neurology, has collaborated with the BNAC on numerous projects that involve the study of cognitive and behavioral disorders using magnetic resonance imaging (MRI).

Bakshi has also formed a collaboration with **Julian Ambrus Jr, ScD, MD**, UB research professor of medicine, to study autoimmune diseases,

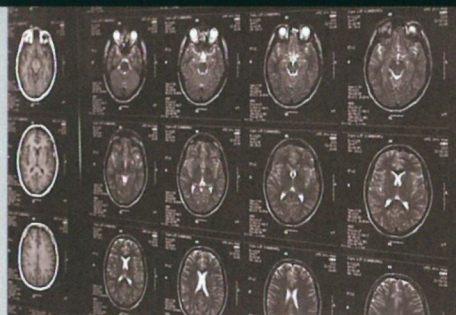
such as antiphospholipid antibody syndrome. **Richard Chan, MD**, UB assistant professor of neurology (affiliated with the Jacobs Neurological Institute), and **Adnan Qureshi, MD**, UB assistant professor of neurosurgery (affiliated with UB's Toshiba Stroke Research Center), are partnering with the BNAC to use MRI to study brain changes associated with cerebrovascular disease. **Murali Ramanathan, PhD**, UB associate professor of pharmaceutical sciences, is working with the BNAC on a \$500,000 study supported by the National Multiple Sclerosis Society to correlate changes in gene expression with lesions and atrophy on brain MRI scans in patients with MS using powerful DNA microarray technology.

In addition, Bakshi has been named the imaging point person for the Buffalo Center of Excellence in Bioinformatics, according to Bruce Holm, PhD, senior vice provost at UB. "This [collaboration] will allow the BNAC to assist in fostering imaging applications toward a variety of disease states in public-private partnerships," says Holm.

"I am confident," says Bakshi, "that the imaging data obtained through the bioinformatics program will develop better patient care and research, as well as economic spin-offs to benefit our community."

The BNAC is also involved in national and international collaborations with research groups in Florida, England and Italy.

For more information on the research described in this article or other studies under way at the Buffalo Neuroimaging Analysis Center, visit the BNAC website at www.bnac.net. **BP**



Pain's Mystery,

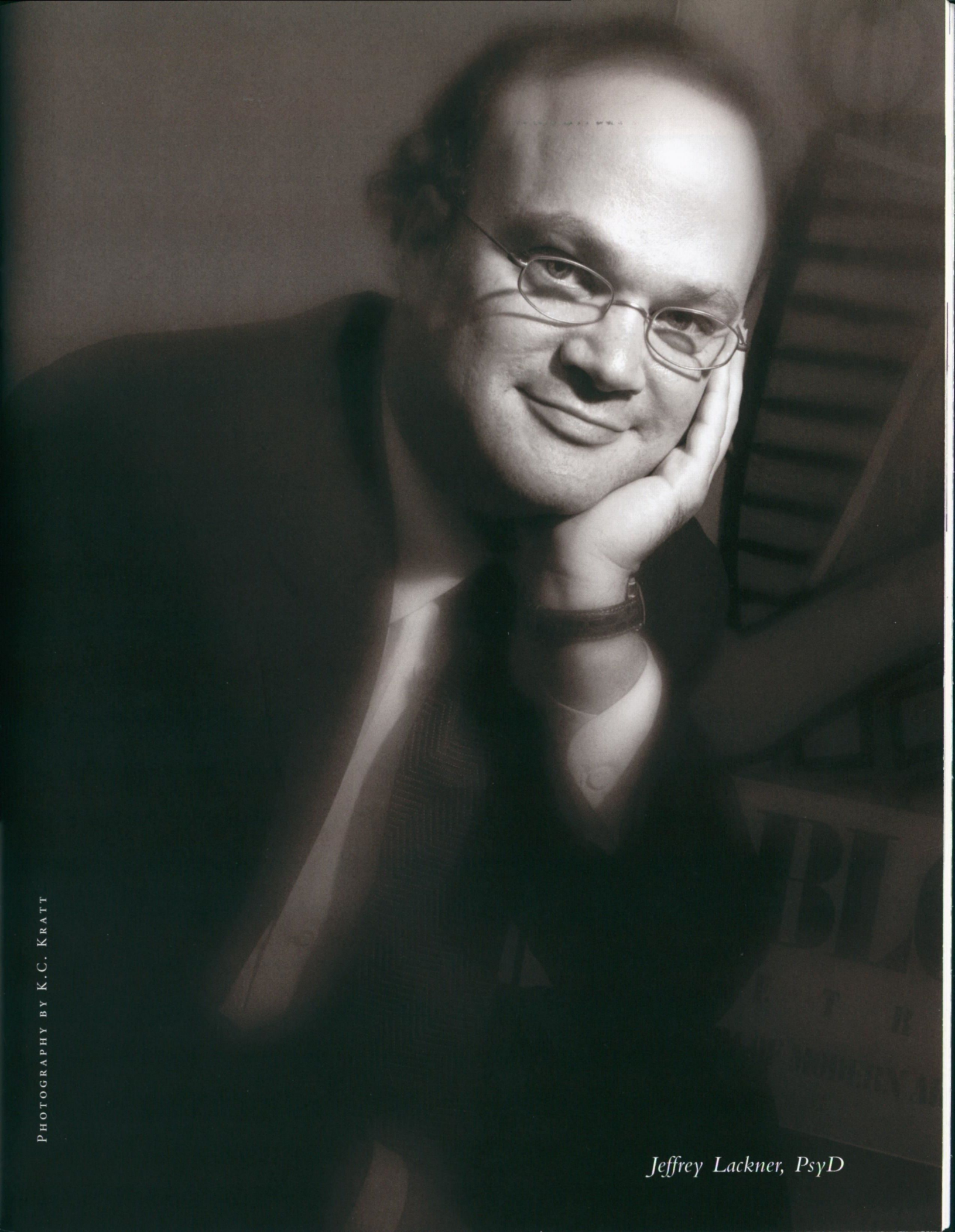
a mindful approach

BY S. A. UNGER

\$2 million NIH grant to study irritable bowel syndrome

IRRITABLE BOWEL SYNDROME (IBS) IS A GASTROINTESTINAL DISORDER CHARACTERIZED BY RECURRENT ABDOMINAL PAIN AND ABNORMAL BOWEL MOVEMENTS. Second only to the common cold as a cause of work absenteeism in the United States, IBS affects an estimated one in six Americans and accounts for some three million visits to physicians annually. Although the etiology of the disorder is poorly understood, the enormous impact IBS has on society is clearly documented by these and other statistics, which leave little question as to why medical researchers are stepping up their efforts to find new, more effective ways to treat this often debilitating condition for which there is no standard medical treatment.

One such effort is being undertaken by Jeffrey Lackner, PsyD, a University at Buffalo assistant professor of medicine, who is collaborating with researchers from the University at Albany to conduct a four-year clinical trial to test the effectiveness of cognitive therapy and self-help support in relieving symptoms of IBS.



PHOTOGRAPHY BY K.C. KRATT

Jeffrey Lackner, PsyD

The study, funded by a \$2 million grant from the National Institutes of Health, builds upon a series of smaller studies Lackner and his group have conducted in recent years that demonstrate significant promise for these biobehavioral approaches to treatment of IBS.

"Irritable bowel syndrome affects quality of life as much or more than congestive heart failure. It can seriously disrupt virtually every aspect of life, from work and travel to recreational activities and relationships with family and friends," says Lackner, who points out that 70 percent of individuals with

address a patient's beliefs and attitudes toward their pain, their coping skills or job satisfaction could result in ineffective treatment or continued pain."

IBS is a good example of a disorder whose painful symptoms are poorly understood in terms of underlying disease, according to Lackner. "Because of the nature of IBS symptoms and the fact that standard medical tests do not indicate a problem with the physical structure of the bowel, the disorder is often wrongly dismissed by healthcare providers as something other than a real medical condition," he explains.

“Many patients—and even their physicians—are surprised to discover that more effective strategies for managing pain can be learned and that the research supporting cognitive-behavioral treatments is some of the most stringent and impressive in the chronic-pain literature.” —Jeffrey Lackner

IBS are women. "Sufferers often feel like they are spectators in their own lives as they struggle with emotions of helplessness, embarrassment, anxiety and frustration."

The result, unfortunately, is that many patients suffer in silence, failing to discuss their symptoms with friends, family and health professionals.

Diagnostic Criteria Established

As director of UB's Behavioral Medicine Clinic in the UB Pain Center at Erie County Medical Center, Lackner focuses his research on identifying the biobehavioral factors that worsen pain and limit function, as well as on devising ways to help people suffering from chronic pain resume productive lives.

"Most physicians and patients see pain as a symptom of an underlying disease," observes Lackner. "However, with chronic pain, there frequently is no clearly discernable physical cause. This doesn't mean that these patients are weak malingerers or that the pain is only in their heads; it means that, like all of us, their experience of pain is influenced by a distinctive mix of physical, psychological and environmental factors. Failing to

While no one knows for sure what causes IBS, the consensus among experts now is that it is not a psychiatric disorder, nor is it caused by a specific biological or anatomical abnormality. Instead it is considered a functional disorder of the bowel in that its symptoms cannot be explained by an underlying structural abnormality, such as inflammatory bowel disease, or by biochemical abnormalities, such as lactase deficiency.

Because IBS symptoms mimic other diseases whose symptoms correspond with physical abnormalities, patients with IBS often undergo extensive workups before receiving a correct diagnosis. While these tests may have utility in evaluating certain gastrointestinal problems, they are not necessary to establish a diagnosis of IBS.

"Because there is no objective marker of IBS symptoms, establishing a diagnosis requires recognizing the clinical features associated with IBS and excluding other medical disorders that may have a similar clinical presentation," explains Lackner. "The old view that IBS should be viewed as a 'wastebasket diagnosis' has been supplanted by an empirically validated symptom-based diagnostic system known as the 'Rome criteria.'"

These criteria were developed with the consensus of more

than 30 international authorities and describe the symptoms, clinical features and diagnostic guidelines for IBS. Currently, the criteria characterize patients with IBS as having 12 or more weeks (not necessarily consecutive) in the preceding year of abdominal pain accompanied by at least two of the following features: (1) pain is relieved by defecation; (2) onset of pain is associated with change in stool frequency and (3) onset of pain is associated with a change in stool appearance. (For more details on these guidelines, visit www.romecriteria.org.)

Pain Theory and Therapy

Despite the difficulty in diagnosing IBS, the good news is that the disorder is treatable, and some of the most promising interventions include the biobehavioral plans devised by Lackner and his team at UB.

The rationale for behavioral medicine interventions comes from research showing an association between IBS and dysfunction in the interaction between the central nervous system and the enteric (small intestine) nervous system. Scientists now believe that this dysregulation of the “brain-gut” neuroenteric systems leads to abnormal patterns of motility (the ability to move spontaneously; in this case, the gut), enhanced pain sensitivity and increased hyperactivity of the autonomic nervous system (the part of the nervous system that controls involuntary bodily functions).

“Because ‘crosstalk’ between the brain and gut is bidirectional, the higher-order brain processes—such as information processing, attention, beliefs, moods and attitudes—have the capacity to modify signals between the brain and the intestinal tract,” says Lackner.

Beyond their influence on gut motility and sensation, behavioral factors have been found to influence pain reporting, physician visits, medication use and treatment outcome, according to Lackner. “This is particularly true regarding patients with IBS who seek treatment, versus those with the disorder who don’t seek treatment—not in terms of the severity of their symptoms, but in terms of psychosocial makeup,” he emphasizes.

What this finding has suggested to scientists is that not only does the learning of these higher-order brain processes play an important role in the development and maintenance of IBS, but the ‘unlearning’ of the same processes can result in a reduction of IBS symptoms.

“This information led our research team to develop a learning-based behavioral treatment program that teaches patients a set of practical, concrete skills to reduce gastrointestinal symptoms in much the same way as patients can learn to lower their blood pressure by modifying health behaviors,” says Lackner.

The 10-week program, designed by Lackner and his colleague



Leonard Katz, MD, and Susan Krasner, PhD, are collaborators on the study.

Susan Krasner, PhD, is individualized for each patient based on an intensive interview aimed at assessing the different aspects of a patient’s pain, including its quality, location and triggers, as well as factors that maintain it.

“We get far beyond ‘Does it hurt?’ and ‘Where does it hurt?’” Lackner says. “For us, the important question is, ‘What personalized treatment plan based on available scientific research stands the best chance of improving this patient’s functioning for his or her specific pain syndrome?’ By integrating data from our medical pain specialists with data from behavioral

BRAIN IMAGING *Study*

Irritable bowel syndrome (IBS) is a common gastrointestinal condition present in an estimated 25 million people in the United States. While the cause of IBS is not completely understood, scientists believe that symptoms are provoked by hypersensitive nerves sending abnormal levels of pain signals to brain regions that register pain sensations. Research has shown that these pain signals—which follow intestinal contractions, stress, hormonal changes, food intake and bloating—trigger a different pattern of brain activity in IBS patients than in individuals without IBS.

These findings suggest that IBS involves “faulty wiring” of the nerves connecting the gastrointestinal system and the brain. The Behavioral Medicine Clinic of the University at Buffalo School of Medicine and Biomedical Sciences and the University at Buffalo–Veterans Affairs’ PET center are currently conducting a study designed to compare brain activity to visceral (bowel) stimulus of individuals with IBS versus healthy volunteers.

Study participants undergo a positron emission tomography (brain imaging) scan and sensory testing prior to commencing a 10-week nondrug biobehavioral program for IBS (see article, opposite, for a description of this program).

At the conclusion of treatment, a second set of tests is conducted.

The sensory testing task involves placement of a balloon catheter in the lower large intestine (colon) by a board-certified gastroenterologist. The balloon catheter is connected to a computerized pump that inflates the balloon to specific pressure levels, which, at their highest, are moderately uncomfortable for a short period of time. The patient’s response to the balloon inflation is measured by taking the PET scan, which creates pictures of brain blood flow patterns that allow scientists to visualize not only the fine structures of the brain but also the level of activity taking place in various parts of the brain.

To date PET research has been very important in identifying specific regions of the brain that are more active in patients

with IBS. Goals of the current UB study include adding to this body of research, as well as discovering whether brain areas that do not function correctly in IBS patients are normalized following completion of the 10-week biobehavioral program.

The study’s principal investigator is Jeffrey Lackner, PsyD, a University at Buffalo assistant professor of medicine; coprincipal investigator is Alan Lockwood, MD, UB professor of neurology, nuclear medicine and communicative disorders and sciences and director of the UB-VA PET Center. Thomas Mahl, MD, UB associate professor of clinical medicine, and Leonard Katz, MD, UB emeritus professor of medicine, are serving as the study’s gastrointestinal specialists. Funding is provided by an Interdisciplinary Research and Creative Funds award from the University at Buffalo and the National Institutes of Health.

For information on this study, or how to participate in it, contact the UB Behavioral Medicine Clinic at (716) 898-6254. **BP**
—S. A. UNGER

IRRITABLE BOWEL SYNDROME

evaluations, we identify the environmental, physical and personal factors that contribute to pain and then work to improve functioning.”

Armed with a clear picture of the type of pain and the type of person, Lackner and Krasner set out to teach their clients how to work around the pain and return to a better quality of life. To accomplish this, they draw on a variety of clinically proven behavioral techniques. A plan may include learning behavioral self-management tools to challenge information processing errors that influence pain and response to treatment.

“For example, pain patients learn to recognize the earliest thoughts and reactions that accompany a pain flare-up and to modify their responses to them,” says Krasner, who is also a pain psychologist and UB clinical assistant professor of anesthesiology. “Patients are taught that ‘automatic thoughts,’ such as ‘the pain will never end’ and ‘there is no hope,’ can be replaced with substitutes, such as ‘the pain has always lessened in the past’ and ‘change is possible; there is always hope,’ to help to reduce pain and related distress.”

Impressive Results, Further Research

Over the past 15 years, this behavioral self-management approach has been subjected to rigorous scientific standards in a series of clinical trials. The results show that 70 to 80 percent of IBS patients achieve a clinically significant—50 percent or more—reduction in IBS symptoms and maintain these gains for up to three months of follow-up.

“A major goal of our current NIH trial is to assess the extent to which treatment gains are maintained at 12 months after the completion of treatment,” says Lackner.

“Many patients—and even their physicians—are surprised to discover that more effective strategies for managing pain can be learned and that the research supporting cognitive-behavioral treatments is some of the most stringent and impressive in the chronic pain literature,” he continues.

“Cognitive-behavioral therapy can’t promise patients total freedom from a medical problem as complex as IBS pain,” he

says, "but it can teach patients to feel less hampered by it."

To date, 200 people from Buffalo and Albany have been enrolled in the NIH clinical trial. In addition to monitoring the effectiveness of the treatment a year after its conclusion, the researchers are seeking to determine if participation in cognitive therapy or a support group improves symptoms compared to a control group. They are also attempting to establish which aspects of treatment are responsible for a decrease in symptoms, as well as which symptoms may predict positive outcomes.

Working alongside Krasner, who is a therapist on the Buffalo study, is Leonard Katz, MD, UB emeritus professor of medicine, who is serving as the study's gastrointestinal specialist.

"We think the findings from our preliminary studies are very promising, but we don't help our patients as much as we'd like," says Lackner. "We need to improve on what we're doing. There is still a lot we don't know, and we think our current work will provide many more answers." **BP**

Lois Baker, senior editor in News Services at the University at Buffalo, contributed to this article.

Indications for Referral

PPrimary care physicians can treat an estimated 70 percent of patients with irritable bowel syndrome. Only 30 percent of patients have moderate to severe symptoms that occur two or more times per week and interfere with daily activities.

In complex cases, patients do not typically respond to treatments that only target normalization of the gut; instead they may require formal instruction in symptom self-management skills.

Studies show that, even in severe cases, treatment such as that offered at the University at Buffalo's Functional Gastrointestinal Disorders Center can significantly reduce IBS symptoms by up to 80 percent.

To learn more about the ongoing National Institutes of Health clinical trial for treatment of IBS described in this article—or criteria for referring a patient to this trial—call (716) 898-6254 or (716) 898-5671. **BP**

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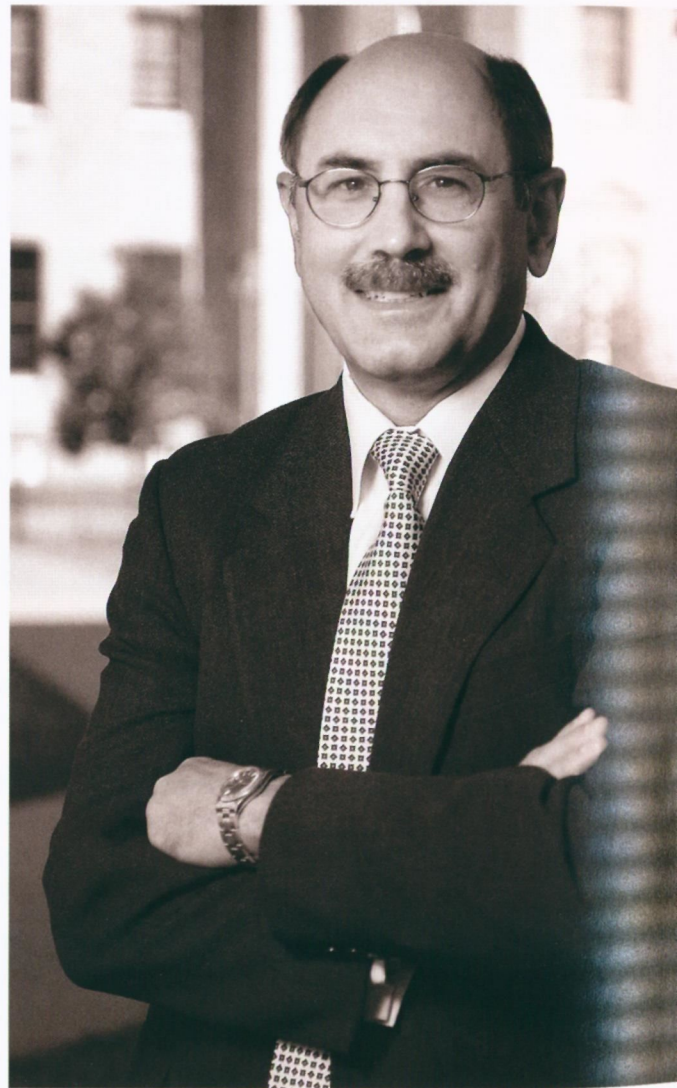


BudgetTalks

A Conversation with Dean Michael Bernardino

IN APRIL 1998, Michael Bernardino, MD, MBA, was named vice president for health affairs at the University at Buffalo, responsible for overseeing the clinical and collaborative activities of the university's five health sciences schools: medicine and biomedical sciences, dental medicine, health related professions, nursing, and pharmacy and pharmaceutical sciences. In this role, he has also been responsible for spearheading the university's relations with its affiliated teaching hospitals and for leading the health-science deans in planning and executing joint and cooperative programs of teaching and research.

In June 2001, UB Provost Elizabeth D. Capaldi announced that Bernardino would also serve as dean of the School of Medicine and Biomedical Sciences.



Prior to coming to UB, Bernardino was director of managed care for the Emory University System of Health Care. He also served as professor of radiology at Emory University School of Medicine, director of magnetic resonance imaging and abdominal radiology at Emory University Hospital and professor in the Winship Cancer Center.

A native of North Canton, Ohio, Bernardino is a graduate of Case Western Reserve University and Ohio State University, where he earned his medical degree. He completed his residency training in diagnostic radiology at George Washington University and earned his master's in business administration from the Goizueta Business School at Emory University.

At our invitation, Dean Bernardino recently sat down to talk with *Buffalo Physician* about issues he faces as he attempts to position the School of Medicine and Biomedical Sciences for the future in a healthcare environment that, by many standards, is undergoing change and upheaval to a degree that is unprecedented.

Because funding considerations underlie all decisions he must make, we focused the conversation on the topic of the school's budget.

Future issues of *Buffalo Physician* will intermittently publish other conversations with the Dean on a variety of topics, as well as conversations with the school's senior associate deans: Margaret Paroski, MD, (medical education and admissions), Roseanne Berger, MD, (graduate medical education) and Suzanne Laychock, PhD, (research and biomedical education), each of whom will be asked to talk about issues pertinent to her respective areas of responsibility.

The goal in publishing this series of interviews is to inform our readers about the complex economic, political, regulatory and historic considerations school leaders must weigh in making decisions and to provide a larger context within which to understand the many new developments taking place on campus.

Comments and questions, and suggestions for future topics, are welcome and can be emailed to bp-notes@buffalo.edu or mailed to the address listed on the inside front cover of the magazine, below the heading "Letters to the Editor."

—S. A. UNGER, EDITOR

Q: Where do revenues come from to support the School of Medicine and Biomedical Sciences?

A: The school receives revenues from multiple sources that include the state, tuition, practice plan, endowments, and in indirect costs recovered from grants. The money we receive from the State of New York comes primarily in lines for faculty and administrative salaries, and it varies by department, but I'd say, in the aggregate, it's somewhere between 10 and 15 percent.

Q: That's not a lot of support from the state.

A: No, and what many people don't realize is that the type of money we receive makes a big difference. If it's state money we receive for salaries, it carries fringe benefits. However, if we use philanthropic money from the UB Foundation to hire someone, we have to come up with another 30 to 40 percent to cover benefits, which means that money doesn't go as far as state money does.

So, if you look at our state tax support, it's certainly not increasing. As a matter of fact, over the last five years, we've had two UUP [United University Professions] increases to absorb. The state signed the contract approving the increases, but didn't fund them. Therefore, we have to come up with the money for the increases, which means there's less money available.

Q: How much are these increases, and how are they being absorbed?

A: The most recent raise [effective in August 2002] was 3.5 percent, and our school's component amounted to \$1.4 million. In June, Provost Capaldi said she will cover the raise for all schools throughout the university, including ours. The caveat, however, is that the deans are being asked to trim costs in their respective schools, although no firm number has yet been provided to us by the provost. Further complicating the picture is the fact that one week after the provost agreed to cover the UUP increases, we were informed that there will be an additional 1 percent state budget cut, SUNY wide, effective January 1, 2003. What that means is that we're going to have to turn over 1 percent in state operating dollars, and this will be done primarily through retirements. That money will go back to SUNY Central, to the governor's office.

The reason why the hiring freeze is selective is because there are certain departments that are critical to the school's mission and these core departments must be healthy if the school is to be healthy.



Not everyone gets what they want, but in an era that demands management with zero growth in resources, there's no other way to do it. Essentially, it requires prioritization in a global budgetary sense, which is very difficult in any kind of academic situation.

We also have been alerted to the fact that there may yet be another tithe next spring after the elections. Nothing is for certain, but this "alert" and the other uncertainties in revenue stream that I've described puts me in a very difficult position because how can I in all good conscience tell people to go ahead and hire if I may not have the money to fund the positions?

Q: Is this why you announced a selective hiring freeze this summer, effective July 1?

A: Yes. It makes it very difficult to manage with these types of funding variables, these uncertainties. The reason why the hiring freeze is selective is because there are certain departments that are critical to the school's mission and these core departments must be healthy if the school is to be healthy. This may offend and anger some chairs and faculty; but on the other hand, it's a fact of life: If you're looking to the future, you must have core departments, such as medicine, pediatrics and surgery, that are functioning well, or else we will have difficulty teaching 135 students.

So what we've done is *delay* some of the hiring. If I feel that we have enough money in the future to cover what might be the tithe, then we'll go back to the original game plan for hiring.

Q: What were the budgetary challenges you faced when you first came to UB four and a half years ago? What have you done to confront these challenges?

A: When I first came to UB, I focused on trying to gain some semblance of understanding about the practice plan, which varied from department to department and was very fragmented. We have reformed the plan as far as possible within the parameters of the state's rules, regulations and labor contracts. We now have a single accounting system for all of the practice plans—a single 'lockbox'—that operates under an umbrella organization called UB Associates. All departments have a uniform accounting system; they all 'look alike,' and they are all nonprofit organizations. All plans have

open records, and there are boards that oversee their operation.

A significant result of this is that we now have a budgeting process that is consistent and uniform, as well. We meet with departmental chairs about 6 to 7 months in advance of the new fiscal year and we look at what their wish list is and give them a budget of how much we can spend in their departments. This planning has been very beneficial.

In the past, this process varied a great deal. There is still some variation—especially in terms of knowledge—but the chances of significant financial shortcomings have been dramatically lessened. That doesn't mean that any one of the departments won't have trouble in any one year, depending on the local healthcare environment, but it's far less likely to take place than in the recent past.

Not everyone gets what they want, but in an era that demands management with zero growth in resources, there's no other way to do it. Essentially, it requires prioritization in a global budgetary sense, which is very difficult in any kind of academic situation. I would absolutely love to make everyone happy, but the fact is we don't have that kind of money, and it's unlikely we'll have it in the next few years.

Another significant outcome of this reform process is that there is now a clear understanding of the school's—not just the practice plan's—sources of revenue and expenses. All sources can be identified.

Q: In a recent Town Hall meeting* you said that there has never been a comprehensive plan for using the state money that the school receives but that, in the future, these funds would be allocated in a more systematic way. Can you elaborate on this?

A: To put this in perspective, you have to remember that there was a plethora of money coming into the school in the late '70s and early '80s; the school had a lot of money and was very well off. However, what happened is that between 1990 and 2000, over \$10 million was taken out of the school, primarily for the North Campus. Money is no longer being redirected

from the South Campus to the North Campus, but the fact of the matter remains that if this had not happened, the school's state operating budget would have been \$10 million more than it is now.

Secondly, if you look at how state funds have been distributed to clinical faculty, there doesn't appear to have been a formula governing this disbursement. Granted, the rationale for these disbursements may have been more evident in years past, but, in retrospect, it doesn't make sense that certain departments receive a disproportionate amount of money in relation to the number of medical students taught.

In the future, what I think we need to look at is this: There should be for both the clinical and the research faculty a standard method for determining how money is allocated. For example, if a clinician comes in at an associate professor level, his or her salary will be in the 'x' dollar range, while a clinician who comes in as an assistant professor will qualify for a salary in the 'y' dollar range. If an individual comes in and is going to conduct research half time, then he or she gets compensated for that proportionally because we are buying that research time.

I think, in the past, some people could have argued that certain departments in the school were subsidized by the state and to some extent their affiliated hospitals were also being subsidized. So, this is a problem that is not going to be solved overnight because of existing labor laws and contracts, but it is something we are looking at as we move ahead.

Q: In the Town Hall meetings, you have also discussed the fact that the university is in the fifth year of a five-year budget capital plan that has been extended another year. Can you explain how this extension affects the school's budget?

A: The capital plan is of course for the refurbishing of our facilities—buildings, classrooms and laboratories. If there had not been a budget crisis in the state this year, the five-year capital plan would have ended. Instead, it has been extended another year. What this means is that we've pretty much expended every-

thing over the last five years, so there's no new money for facilities, and it's going to be very, very difficult to progress with refurbishing projects on the South Campus over the next year.

However, in the last five years we have done a lot of rehabbing of laboratory space and classrooms, which we've equipped with state-of-the-art educational technologies. Going forward to the next five-year plan, we had hoped to refurbish Acheson and move the School of Pharmacy into it, but that has been delayed.

So, this extension of the capital plan does not just affect the medical school, but all of the health sciences schools. Everyone needs new classrooms and laboratory space, but it's all had to be delayed.

Q: You have talked a lot about the importance of the school increasing the amount of philanthropic dollars it receives, especially unrestricted dollars. Why are these dollars so important to the school, both now and into the future?

A: When I look at the whole budgetary picture, this is a glaring weakness as we go forward. There are problems in the local environment and there are problems in the state environment, but our school currently has some 9,000 living graduates, yet receives only about \$200,000 annually from its alumni. I would very much like to see this increase to a minimum of \$1 million a year; ideally, to \$4 or \$5 million.

This is the single biggest piece that needs to be fixed in terms of funding. And I think about this when I hear people say that a priority for the school should be to gather top faculty. Quite frankly, we cannot do this until we have increased philanthropic support.

Making philanthropy a top priority is going to require a paradigm shift in culture on the part of faculty and administrators alike. Our primary mission must be to support our students in any way necessary to ensure that they have the best and most positive medical education experience possible. We currently are assessing all aspects of the medical school experience at UB to determine ways we can do this.

But programs that support our students require more than a commitment of time and energy; they require a financial investment as well, and this is where we need to look to our alumni and friends of our school for assistance.

* In October 2001, Dean Bernardino began hosting a series of ongoing Town Hall meetings for faculty, staff, students and residents at various community hospital sites and on the South Campus. The purpose of these meetings is to update attendees about developments at the School of Medicine and Biomedical Sciences and to provide them with an opportunity to ask questions of the dean and the school's three senior associate deans. Because the school is so geographically disbursed, many of the challenges it faces are unique to a particular clinical or academic site. Dean Bernardino has viewed the Town Hall meetings as an integral part of the school's commitment to addressing these challenges and to recognizing solutions that have been implemented in response to them.



If our students leave here and have not had a good experience, then they are not going to remain connected to the school and give back to it.

If we can do the right things for our students now, then they will be motivated to help their fellow alumni once they graduate and move on in their careers. We can talk in great detail as we have here today about the difficulties of obtaining and equitably distributing support from external government sources, but ultimately, I believe the key to securing the school's future and to maintaining its stature lies with the support we can receive from our alumni.

If this problem were solved, this school would be sailing.

Q: In general, how do you feel about the school's financial future, given the budgetary changes you've implemented? Are you optimistic?

A: The bottom line is that the school is no longer in the red. With the changes we've discussed, I will say that the school is poised to withstand an adverse environment much better than it was four or five years ago.

And it should be noted that a lot of other medical schools,


even those within the SUNY system, are experiencing serious financial problems. There's a tendency to just look at what is happening in Buffalo, but quite frankly there are other places that are in much worse shape. Some of the other SUNY health science centers had to absorb the 3.5 percent UUP increase, plus the state's one percent, so they're facing a 4.5 percent setback.

I'm not saying that things are perfect at our school, but if you look at it in relationship to what is going on around the country, there are many states that are not doing well; in fact, my understanding is that as many as 40 state governments are operating in the red this year.

To answer your second question, yes, I am optimistic about the school's future. I'm even more optimistic now that we have signed new hospital affiliation agreements [see story opposite, as well as "From the Dean" on the inside front cover of this issue].

These agreements are the structural building blocks for our school and I am confident they will be a very good foundation upon which to build its future. So, I feel the school will survive financially.

And, again, if we can look forward to an increase in philanthropy, I believe it will not only survive, but it will thrive. **BP**






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New Hospital Affiliation Agreements

Set the stage for revitalizing delivery of region's healthcare

New affiliation agreements negotiated between the University at Buffalo and its teaching hospitals have defined and fundamentally changed the working relationship between the UB School of Medicine and Biomedical Sciences and these entities. The new agreements also lay the groundwork for improved and more cost-efficient healthcare in Western New York.

The agreements between UB and Kaleida Health and UB and the Erie County Medical Center announced on August 21, 2002, spell out the roles of the university and the hospitals in the healthcare system. In particular, they stipulate that the university will have responsibility for medical research and educating medical students and residents, while the hospitals will have responsibility for patient care.

A similar agreement between UB and Roswell Park Cancer Institute, the Veterans Affairs Western New York Healthcare System and the Catholic Hospital System are expected to be finalized by the end of the year.

At the press conference held on August 21, 2002, to announce the new agreements between UB and ECMC and Kaleida Health, Michael E. Bernardino, MD, MBA, UB vice president for health affairs and dean of the School of Medicine and Biomedical Sciences, said the agreements are designed to enhance the mission of all parties.

"This new order provides the girders for building a high-quality regional healthcare system," Bernardino said. "These new affiliations can set the stage for revolutionizing and revitalizing

healthcare delivery in this region."

Noting that this is the first time the relationship between the hospitals and the medical school has been so clearly defined, Bernardino described the development as "a seminal event in the medical school's history that promises tremendous rewards for the community." He added that the agreements could serve as the basis for regional health planning "by helping us strategically plan for academic missions. The community could end up with the best thing of all: rational allocation of healthcare resources. Better planning for care will mean better care and more cost-efficient care."

Major features of the new affiliation agreements between UB and Kaleida Health and ECMC include:

- UB will become the sole sponsor of the training of resident physicians and dentists in affiliated hospitals, bringing this training in line with that of medical schools across the country. (The residency programs in Buffalo have been sponsored by the Graduate Medical and Dental Consortium of Buffalo.) UB also will assume responsibility for all medical student educational activities that take place in the hospitals.

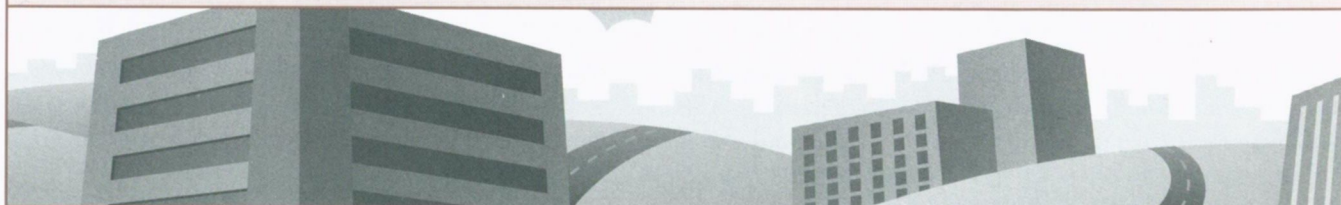
- Hospitals will pay the medical school for the clinical services provided by UB faculty, rather than paying faculty or departments directly. In turn, those funds will be deposited into the respective departmental practice plans, which are managed by UB Associates, a separate nonprofit organization.

- All research funds generated by UB faculty conducting research in affiliated hospitals, with the exception of Roswell Park Cancer Institute, will be managed by the SUNY Research Foundation or the UB Foundation.

The new affiliation agreements acknowledge the need to ensure that the clinical practice plan of each department supports the medical school's academic programs; to promote faculty collegiality and excellence in teaching, research and clinical activities; to guarantee maintenance of common goals and a common clinical philosophy among the medical school's departments and faculty, and to make sure affiliated hospitals can provide high-quality medical care for patients.

Bernardino and the chief operating officers of affiliated health systems will form the Joint Affiliation Committee (JAC), which will advise the medical school in its academic strategic planning and approve the financial plan for operation of all residency programs. In turn, the JAC will provide the structure under which the hospitals can develop mutually beneficial working relationships. **BP**

—LOIS BAKER AND ARTHUR PAGE





Donning the White Coat

First-year students initiated into their new roles

On August 16, 2002, the University at Buffalo School of Medicine and Biomedical Sciences welcomed its Class of 2006 at the fifth annual White Coat Ceremony, held in Slee Hall on the North Campus.

The ceremony is a rite of passage for first-year medical students, who are reminded of their responsibility to care as well as cure patients by endorsing a psychological contract of professionalism and empathy at the start of their medical careers. To formalize this commitment, they are officially “cloaked” with their first white coat, after which they recite the Physician’s Oath, a modern version of the ancient Hippocratic Oath.

Opening remarks were delivered by Michael E. Bernardino, MD, MBA, vice president for health affairs at the Uni-

“Of all the skills you are going to learn in medicine, learning to communicate with patients and family is the most important.”

versity at Buffalo and dean of the School of Medicine and Biomedical Sciences, who then introduced the keynote speaker, Richard Sarkin, MD, clinical associate professor of pediatrics.

Sarkin talked to the students about the responsibilities and privileges inherent in the profession they are entering and shared with them advice about how to make the journey through medical school as healthy and positive an experience as possible, despite the great pressure each student will feel.

“It’s not easy being a physician, which you all are going to find out very soon, and gatherings like the White Coat Ceremony are just a start to understanding what the role of the physician really is,” Sarkin said.



Stephen Pollack, MD '82, vice president of the Medical Alumni Association, cloaks Marilyn Augustine, Class of 2006.

He then shared simple, yet profound, advice he received from an older physician many years ago—advice, he says, that has influenced him throughout his career.

“This person said to me that I should treat each of my patients with the same respect and compassion that I would expect a member of my family to receive,” he recalled.

Sarkin then set forth “a few suggestions for the coming years” for the students to follow in order to bring balance to their lives. “First, learn to communicate very well with patients and family,” he advised.

“Of all the skills you are going to learn in medicine, learning to communicate with patients and family is the most important. The average physician conducts more than a hundred thousand interviews over the course of his or her career. Learning to communicate and learning to listen are essential qualities of outstanding physicians.

“Second, find some balance. Work hard, but find some things to do outside of medical school that are meaningful to you. That could be family, friends, hobbies or community service. These are

Jessica Kourkounis

things that should be meaningful to you and important to you. I can't tell you what they are, but seek them out . . . Balance is hard to find, but it's essential.

Next, take care of yourself. If you don't rest and find balance, you will become stale," cautioned Sarkin, who used the analogy of a tree cutter who had to work much harder to accomplish his goal because he hadn't taken the time away from his work to sharpen the blade of his saw. "This is the story of all of our lives," Sarkin noted. "It's the story of everyone here on this stage today, of your family and friends. You need to figure out how to find time to sharpen your saws. You've got to eat well, exercise, rest, find ways to reduce stress, find a way to do some fun things. You're going to tell your patients to do just this, so you have to find a way to do it yourself.

"Lastly, make medical school fun," Sarkin concluded. "You're going to work long and hard; I can promise you that. But don't take school too seriously and don't take yourself too seriously.

"Things go by so quickly. If you can

think about ways to make medical school fun, it's going to be much more useful to you."

Following Sarkin's address, Toni Ferrario, MD, UB clinical assistant professor of surgery, was presented with the Humanism in Medicine Award (see article, opposite).

Margaret Paroski, MD '80, MMM, senior associate dean for academic affairs and admissions, then gave an overview of the Class of 2006 and introduced each of the students as he or she was being cloaked. The ceremony concluded with Dean Bernardino leading the students in reciting the Physician's Oath. **BP**

—S. A. UNGER

The annual White Coat Ceremony is sponsored by the Arnold P. Gold Foundation, UB's Medical Alumni Association, and the Medical School Parents' Council.

2002 Humanism Award

Toni Ferrario, MD, clinical assistant professor of surgery, was presented with the University at Buffalo School of Medicine and Biomedical Science's Humanism in Medicine Award at this year's White Coat Ceremony. Nominations for the award are made by students in the clerkship years.

In presenting the award, Charles Severin, MD '97, PhD, assistant dean for years one and two in the Office of Medical Education, read a composite of the comments made by students who nominated her for this award.

"Dr. Ferrario is absolutely outstanding in every category that you listed. I watched her deal with terminally ill patients at the VA medical center with phenomenal compassion and empathy. One patient in particular comes to mind who

had inoperable colon cancer. Dr. Ferrario made all the arrangements for the family to work with hospice and others in order to help them come to terms with their loved one's prognosis. In that sense, she was like no other surgeon I have had the opportunity to observe.

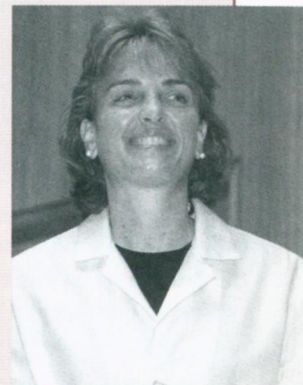
"Dr. Ferrario was always available and enthusiastic in her interactions with me when it came time to showing me what surgery was all about, both in and out of the operating room.

"She made herself available to students during off hours for extra help and was always friendly and approachable. She treated everyone around her with respect, whether they were students, residents, hospital staff or fellow attendings.

"She was an outstanding role model, especially from the standpoint that I think that she, as a woman, must have faced additional obstacles in becoming a surgeon."

Support for the Humanism Award is provided by the Healthcare Foundation of New Jersey. **BP**

—S. A. UNGER



Ferrario

A "Class" Profile—2006

Number of Applicants: 1,819; INTERVIEWED 454

Class Size: 135

Male-Female Ratio: 59 MEN; 76 WOMEN

Where They Call Home: 44 FROM WESTERN NEW YORK;
27 FROM EXTENDED WESTERN NEW YORK; 10 FROM UPSTATE;
46 FROM DOWNSTATE; 8, OTHER

Age: AVERAGE AGE IS 23; THE OLDEST IS 44; THE YOUNGEST, 20;
17 ARE OVER 26

Academic Background: AVERAGE GPA IS 3.54; OVERALL
AVERAGE MCAT SCORE IS A LITTLE UNDER 29. TWELVE HAVE
MASTER'S DEGREES; 95 ARE SCIENCE MAJORS AND 40 ARE
NON-SCIENCE MAJORS.



Student Clinician's Ceremony

Recognizing the transition to the clinical years

BY S. A. UNGER

The inaugural Student Clinician's Ceremony at the University at Buffalo School of Medicine and Biomedical Sciences was held August 18, 2002, in the Center for the Arts on UB's North Campus.

The ceremony was initiated by the school's Professional Conduct Committee through a grant from the Arnold P. Gold Foundation.

Opening remarks were delivered by fourth-year student Elizabeth Bourke, who took a lead role in planning the event, the highlight of which was the presentation of the Humanism and Excellence in Teaching Awards to six residents selected by students in the Class of 2003.

Addressing an audience of students, family, friends and faculty that filled the auditorium to capacity, Bourke explained that the Student Clinician's Ceremony "is a celebration of the transition to the clinical years of medical school. Its goal is to introduce the new third-year students to those who will provide guidance, example and inspiration throughout the last two years of medical school and throughout their careers. It's a chance for students to reaffirm their commitment to compassionate, patient-centered care by reciting the oath that we took at the White Coat Ceremony. Our vision for this ceremony is that students will be inspired to spend their careers with a focus on the humanistic side of medical care."

Following Bourke's remarks, Michael Bernardino, MD, dean of the School of Medicine and Biomedical Sciences, and Margaret Paroski, MD '80, senior associate dean for academic medicine, each welcomed the students and talked to them briefly about the communication skills and discipline they will need to cultivate as

they move into their clerkships.

Following their remarks, Nancy Nielsen, MD '76, PhD, assistant dean for student affairs, addressed the audience, saying that it was her privilege to "spring a surprise" on everyone present. Nielsen, who is vice speaker of the American Medical Association's (AMA) policy-making House of Delegates, began by noting that last year, when members of the Class of 2003 were about halfway through the first half of their first clerkship, the events of September 11th took place, followed by the



Elizabeth Bourke, '03, left, congratulating Marsilia Seiwel, MD '99

cases of inhalational anthrax.

"What those events brought home to physicians across the country," said Nielsen, "is that we are a *community* of human beings, and that geographic borders do not matter the way they used to; just as now, when you go to the clinics and you see a 65-year-old woman with encephalitis, you have to think of West Nile virus as part of that differential diagnosis. Up until May of 1999, nobody in this country had paid attention to that disease, which was certainly present in the Congo."

As a result of these and other events, she said, representatives of organized medicine from every state and territory in our nation

gathered last December at the AMA's House of Delegates and adopted the "Declaration of Professional Responsibility: Medicine's Social Contract with Humanity," which is an affirmation of the role and the responsibility of the physician in our world.

Nielsen then invited Dean Bernardino to the podium to receive a framed copy of the declaration. In presenting it to him, she stated that he was the first dean of a medical school in our country to receive the document, which will be sent to all medical schools in the United States.

Following this presentation, the keynote address was delivered by Jack F. Coyne, MD '85, clinical associate professor of pediatrics at the University at Buffalo, medical director and coordinator of pediatric medical education for Mercy Hospital in Buffalo and medical director of the Child Advocacy Centers of Erie, Niagara and Genesee counties, which he helped establish.

In keeping with Nielsen's theme of medicine being a social contract with humanity, Coyne encouraged the students to seek ways to fulfill this contract, whether at home or abroad.

"Effecting a change, inspiring others, touching another life happens because we choose to make it happen," he said.

"It can be painful to effect any change," he cautioned. "You may experience trauma or emptiness—experiences that, hopefully, will force you into action. Your soul is touched and you begin to make good choices. I have seen students and residents do just that. And that's the reason why we're here today, to celebrate our awardees and your new life."

Coyne talked in depth about such physicians as Tom Dooley, who have inspired him by working around the world to serve humanity.

He also talked about how, prior to entering medical school, he traveled to a refugee camp in Cambodia located in the Killing Fields, where there were many children who had lost their parents and who were hanging onto life by a thread themselves. The camp, which was sponsored by the Red Cross, was run by a physician whose energy, compassion and dedication inspired Coyne.

"It was here that I regained my enthusiasm to become a physician," Coyne told the students. "This doctor was a very sensitive man, lending a healing hand amidst much pain, sorrow and agony. He was bringing some relief and warmth to these forgotten orphaned children. My thoughts, while they were piling bodies alongside a fence outside the camp was, 'there should be more of him here.'"

Coyne said that he well understood that not all physicians could take their families and move to a foreign land to provide this kind of care, but he encouraged the students to look for opportunities to help where they could, whether it be a short trip overseas to see patients for a week or two through a medical-relief organization, or to provide care to a forgotten child in our own city, region or country.

"There is a little of Dr. Tom Dooley in all of us," he added. "All we need is the opportunity and the willingness to stay on course."

At the close of Coyne's address, fourth-year student David Flint introduced the six residents who were chosen to receive this year's Humanism and Excellence in Teaching Awards (see article, opposite).

After the awards were presented, James Boyle, Class of 2003, read an excerpt from a poem titled "When You Come into My Room," by Stephen A. Schmidt.

The ceremony closed with Dean Bernardino leading the students in the recitation of the Physician's Oath. **BP**

Humanism and Excellence in Teaching Awards

Students in the Class of 2003 selected six residents to receive the Arnold P. Gold Foundation Humanism and Excellence in Teaching Award, based on their demonstrating a commitment to teaching and compassionate treatment of patients and families, students and colleagues. Residents selected to receive this year's award are listed below, followed by a comment that was submitted by a student who nominated them:

Ashfaq Balla, MD, was chief resident in internal medicine at Sisters Hospital.

Dr. Balla made a sincere effort to treat me as one of the team, with responsibilities but also respect. He was devoted to educating without harassing or embarrassing me. He respected my opinions. I felt like my efforts were of value, and that I brought something to the team.

Christopher Kling, MD '01, was an intern at Sisters Hospital. Currently he is a resident in dermatology at St. Louis University.

Dr. Kling is extremely competent and knowledgeable, and if he did not know something he would look it up and share the information with the team. He demonstrated no judgmental attitudes toward any of the patients regardless of their race, ethnicity, medical problem or substance history.

Nasseeer Masoodi, MD, is a resident in internal medicine at Sisters Hospital.

Dr. Masoodi was perhaps the best resident I've ever had the pleasure of working with. He knew how to handle the patients, the staff, the students and the administrators, and he combined this with an unbelievable knowledge base. It was truly an honor working with such a wonderful physician.

Amy McDonald, MD '01, is a resident of internal medicine at the University at Buffalo.

In the course of a month, [I had the opportunity to observe Dr. McDonald treat] many terminally ill patients. It was wonderful to have a role model who is such a well-rounded, humanistic physician as she is.

Donald McDonald, MD '00, is a resident of internal medicine at the University at Buffalo.

Most of [Dr. McDonald's] time was spent educating the patients, as well as myself. He would always comment on how pleasant his patients were, and I was certain that it was actually the sunshine he brought into the hospital on his white coat that the patients couldn't resist responding to.

Marsilia Seiwel, MD '99, is chief resident for obstetrics-gynecology at Sisters Hospital.

*Dr. Seiwel is the first resident that I can say is a true role model. Her patients literally love her and have complete trust in her. I was able to witness the value of the doctor-patient relationship because her patients confided in her and asked her questions at a level other doctors just are not able to get with their patients. **BP***



Left to right: Donald McDonald, MD; Amy McDonald, MD; Ann Bruder of the Arnold P. Gold Foundation; Marsilia Seiwel, MD, Nasseeer Masoodi, MD, and Dean Michael Bernardino



Center of Excellence in Bioinformatics

Construction set to begin next summer

Establishment of the Buffalo Center of Excellence in Bioinformatics continued to build momentum over the summer, with New York State Governor George E. Pataki pledging \$61 million in state funds to the University at Buffalo to construct and equip a building to house the center in downtown Buffalo.

Pataki, who proposed creation of the center in his January 2001 "State of the State" address, has envisioned it as "the state-of-the-art facility, not just in the United States, but in the world" in the field of bioinformatics, and an engine to spur economic development and the creation of thousands of high-technology

jobs in Western New York.

The Buffalo Center of Excellence in Bioinformatics will merge high-end technology, including supercomputing and visualization, with expertise in genomics, proteomics, bioimaging and pharmaceutical sciences to foster advances in science and healthcare.

BY
ARTHUR
PAGE

The foundation for the center's ultimate success, Pataki said in a speech in Buffalo in early June, has been created by unprecedented collaboration between state government and the private and university/research sectors in the community.

In announcing that \$110 million had been allocated in this year's state budget for support for the Buffalo Life Sciences Complex, which includes a building for the Buffalo Center of Excellence in Bioinformatics, Pataki praised Western New York for coming together and responding "in a way that others thought could not be possible."

Pataki noted that in a short period of time, the private sector, including corpo-

Advisory Board Named Seven preeminent scientists have been named to the Scientific Advisory Board for the Buffalo Center of Excellence in Bioinformatics, as follow:

Charles R. Cantor, PhD, chief scientific officer and member,



board of directors, SEQUENOM, Inc. Cantor previously served as professor and chair in the

Department of Biomedical Engineering and Biophysics, and director of the Center for Advanced Biotechnology at Boston University. A member of the National Academy of Sciences, he has held faculty positions at Columbia University and University of California at Berkeley, and was director of

the Human Genome Center of the Department of Energy at Lawrence Berkeley Laboratory.

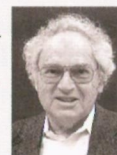
John K. Cowell, PhD, DSc, chair, Department of Cancer Genetics, Roswell Park Cancer Institute and professor, Cellular and Molecular Biology Program, Roswell Park Graduate Division of the University at Buffalo. Cowell's research focuses on molecular genetics of cancer and cancer predisposition, molecular analysis



of neuroblastoma, molecular genetic changes in leukemia, and genetic analysis of brain tumors and breast cancer.

Herbert Hauptman, PhD, Nobel Laureate and president of Hauptman-Woodward Medical Research Institute. Hauptman pioneered and developed a mathematical method that changed the field of chemistry and opened a new era in research in the determination of molecular structures of crystallized materials. It was the application of this math-

ematical method to a wide variety of chemical structures that led to his receipt of the 1985



Nobel Prize in chemistry. His current work is concerned with the development of methods for determining molecular structures using X-ray diffraction.

Barry Honig, PhD, professor of biochemistry and molecular biophysics, Columbia University. Honig is a biophysicist who specializes in bioinformatics and in developing theoretical

rate giants HP, Veridian, Informax and Stryker Communications, had pledged investments of more than \$150 million in the center. Also on board as partners and recruited with the help of UB scientists were Dell Computer Corp., Sun Microsystems Inc., Invitrogen Corp., Q-Chem, SGI, Amersham Pharmacia Biotech, AT&T, Wyeth Lederle, Human Genome Sciences, Inc. and the Alfred P. Sloan Foundation.

UB is the lead academic institution for the center with academic partners Roswell Park Cancer Institute and Hauptman-Woodward Medical Research Institute.

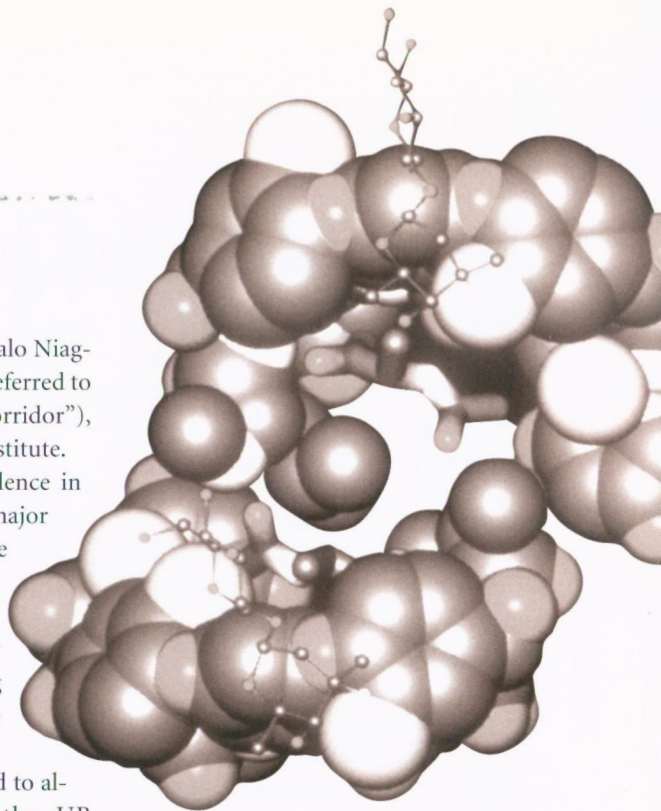
The UB facility, for which \$61 million was pledged, will be connected to the new Center for Genetics and Pharmacology being built by Roswell Park Cancer Institute with \$41 million in state funding, as well as to the facility being built by Hauptman-Woodward Medical Research Institute with \$8 million in state funds.

Groundbreaking is slated to begin in August 2003 for all three facilities,

which will be located in the Buffalo Niagara Medical Campus (formerly referred to as the "High Street medical corridor"), south of Roswell Park Cancer Institute.

The Buffalo Center of Excellence in Bioinformatics also is receiving major federal support through separate congressional appropriations garnered by Representative Thomas Reynolds and Senator Hillary Rodham Clinton, totaling \$3.1 million. These funds were key to recruiting the center's director, Jeffrey Skolnick, PhD, and to allowing for an upgrade of the UB supercomputer. In addition, UB is seeking an additional \$12 million in federal support of the center this year under four separate appropriation bills.

Also playing a role in attracting Skolnick and two of his colleagues was \$1.9 million provided by Pataki, along with a \$1,542,000 three-year grant from the John R. Oishei Foundation.



The Buffalo Center of Excellence in Bioinformatics is an integral part of Pataki's plan to develop centers of excellence across the state to harness the strengths of universities and the private sector to create strategically targeted high-technology centers of innovation aimed at spurring economic development and creating jobs. **BP**

methods for analyzing the physical chemical properties of macromolecules. He is noted for developing methods to compute and display the electrostatic potentials of macromolecules based on their 3D structures. The computer programs DelPhi and GRASP were developed in his laboratory and are widely used by the academic and industrial communities.



Eugene V. Koonin, PhD, senior investigator with the Evolutionary Genomics Research Group at the National Center for Biotechnology Information

of the National Library of Medicine, a department of the National Institutes of Health. Koonin's work concentrates on sequence analysis, protein structure/function analysis and gene identification. His Evolutionary Genomics Research Group has developed computational methods for isolating clusters of orthologous groups—appearances of the same gene in different organisms—across the 40 or so completed genomic sequences now in the public domain.



Michael Levitt, PhD, professor and chair of the Department of

Structural Biology, Stanford University School of Medicine. A newly elected member of the National Academy of Sciences, Levitt is known for his work in computational biology, especially protein folding. His pioneering use of an all-atom potential energy function and Cartesian coordinate energy minimization on an entire protein made molecular dynamics simulations possible. It also led to the popular Jack-Levitt method for refining coordinates against X-ray data. Levitt also pioneered simulation of protein unfold-



ing in solution, emphasizing qualitative aspects and using film to show protein motion.

Harold Scheraga, PhD, George W. and Grace L. Todd Professor of Chemistry, Emeritus, in the Baker Laboratory of Chemistry and Chemical Biology at Cornell University. A pioneer in the field of protein folding, his work involves genetic engineering and hydrodynamic, spectroscopic immunochemical and other physicochemical measurements on proteins, synthetic polymers of amino acids and model compounds.





What's in STOR

for the Future

UB OFFICE OF SCIENCE, TECHNOLOGY
TRANSFER AND ECONOMIC
OUTREACH (STOR)

THE UNIVERSITY AT BUFFALO Center for Advanced Technology (CAT) has awarded \$200,000 to a team of researchers that includes Anthony Campagnari, PhD, professor of microbiology in UB's School of Medicine and Biomedical Sciences; CUBRC (Calspan-UB Research Center); and industrial partner HandyLab. In addition to the CAT award, CUBRC has also provided \$200,000 in matching funds in support of this research effort.

HandyLab, a venture-backed spin-off company based on advanced research conducted within the University at Michigan, is developing a point-of-care diagnostic test instrument that combines PCR and microfluidic technology.

Michael D. Farmer, president and CEO of HandyLab, announced in June 2002 that the company is locating four researchers in Buffalo to collaborate with researchers at UB. Together, the team will work to further refine the specificity and sensi-

tivity of a hand-held device that is capable of rapidly identifying microorganisms.

There's "a great fit" between the technology HandyLab is developing and commercialization opportunities for UB, according to Farmer. By providing HandyLab with access to expertise in bacteriology and molecular biology, UB is creating a collaborative industry-university project with commercial potential.

"Tony Campagnari is a foremost researcher in the field of infectious diseases. We are pleased to be working with him and CUBRC," Farmer adds.

The new medical device incorporates HandyLab's patented "lab-on-a-chip" technology with Campagnari's longstanding research efforts in the areas of sexually transmitted diseases (STDs) and human respiratory pathogens.

"Sexually transmitted diseases remain a major source of morbidity worldwide," Campagnari says, pointing to a recent report

from the U. S. Centers for Disease Control and Prevention that states that an estimated 15 million new cases of STDs occur in the United States annually, resulting in health-care costs of approximately \$16 billion.

"My group has focused on the identification of virulence factors, conserved-surface targets and potential vaccine antigens, and we will use our expertise to assist HandyLab in developing rapid, sensitive and specific assays designed to identify the presence of STDs in various biologic samples," he explains.

This research is particularly important in the areas of Chlamydia and gonorrhea, according to Campagnari, since both diseases are associated with a high transmission rate and a significant rate of asymptomatic infections.

"Not only does the HandyLab technology have the potential to rapidly identify infected individuals, but it could also be used to identify carriers harboring these bacteria, which would be a major advance in this field," says Campagnari.

Despite this project's exciting potential, the collaborative group will not limit its efforts to the detection of STDs, since one of the most important advantages of the HandyLab technology is its combination of versatility and adaptability.

"There are numerous areas where one can envision the use of a hand-held device that rapidly and accurately detects the presence of a microorganism within a matter of minutes," says Campagnari. "For example, it is possible to use this technology to diagnose infections by identifying the presence of microorganisms in microliter amounts of blood, sputum or other relevant secretions. Also, this technology can easily be adapted to the identification of contam-



The research of Anthony Campagnari, PhD, professor of microbiology, is stimulating industrial collaboration.

inating organisms in food products, produce, water and other environmental samples.”

Another important focus of this cooperative research effort will involve the development of assays designed to detect the presence of biothreat agents. In light of the terrorist events that occurred in the U.S. last year, such research initiatives have become a high priority for many federal agencies, including the Department of Defense, the Food and Drug Administration and the National Institutes of Health.

The biothreat research conducted by the collaborative group will rely heavily on the biological defense expertise of the CUBRC team, according to Campagnari.

Furthermore, the HandyLab technology and expertise, together with the biodefense expertise of CUBRC and the microbial pathogenesis expertise of the Campagnari laboratory, puts this diversified group of researchers in a uniquely qualified position to compete for federal funding in the future, with an emphasis on studies designed to impact this important area of homeland defense.

CAT is part of the UB Office of Science, Technology Transfer and Economic Outreach (STOR), which is directed by Robert J. Genco, DDS, PhD, UB vice provost and SUNY Distinguished Professor. STOR is UB's primary technology-transfer and commercialization office, supporting product and business development from the laboratory to the marketplace through its Intellectual Property, Research Funding and Commercialization Divisions. (The Research Funding Division includes CAT, which is directed by William M. Mihalko, MD, and the UB Technology Transfer Fund.)

The HandyLab agreement is the first use of venture capital committed by HP as part of the Buffalo Center of Excellence in Bioinformatics. HP committed a total of \$10 million to support economic development in Western New York, a portion of which was allocated to HandyLab to attract the company to this region. **BP**

—S. A. UNGER AND LORRAINE O. WAPPMAN

Long-Standing Question Answered

Role of bacteria in COPD flare-ups elucidated

UNIVERSITY AT BUFFALO researchers have found an association between bacteria in the sputum of patients with chronic obstructive pulmonary disease (COPD) and exacerbations of the disease, answering a long-standing question about the role of pathogens and COPD flare-ups.

Results of the prospective study appeared in the August 15, 2002, issue of the *New England Journal of Medicine*.

COPD is the fourth-leading cause of death in the U.S., according to the American Lung Association, and fatalities are closely linked to exacerbations. Up to 90 percent of cases of the disease are caused by long-term smoking.

“For years, people have hypothesized that bacteria played a role in COPD exacerbations, but studies performed decades ago found no difference in bacterial presence during stable periods and flare-ups,” says Timothy Murphy, MD, professor of medicine and microbiology in the University at Buffalo School of Medicine and Biomedical Sciences, and senior author on the study.

“Using the new technology of molecular typing, where you can look at turnover of bacteria in the respiratory tract in a more accurate way, we have shown that that hypothesis is correct.”

Sanjay Sethi, MD, associate professor of medicine in the University at Buffalo School of Medicine and Biomedical Sciences, is first author of the study, which began in 1994. Sethi, Murphy and colleagues found that it is the particular strain within a bacterial species, not the volume of bacteria in general, that is associated with a COPD flare-up. This observation is a change in the way physicians have viewed the role of bacteria in

BY
LOIS
BAKER

COPD, Murphy noted. The three major pathogens implicated in causing exacerbations were *H. influenzae*, *M. catarrhalis*, and *Strep. Pneumoniae*, the new study showed.

In addition to elucidating the role of bacteria in exacerbations, these findings are important because they point to novel ways of treating or preventing exacerbations, Murphy says.

“This information should lead to the development of vaccines to prevent colonization by the offending strains. It also provides a better understanding of what the bacteria are doing, which allows us to modulate a patient's immune response to the bacteria.”

The findings are based on a total of 1,975 clinic visits by 81 patients over 56 months conducted at the Veterans Affairs (VA) Western New York Hospital System. Sputum samples were collected monthly and during exacerbations. Bacteria isolated from the samples were subjected to molecular typing.

Results showed that exacerbations were twice as likely to occur in conjunction with the appearance of a new bacterial strain. An exacerbation was diagnosed at 33 percent of the clinic visits that involved isolation of a new strain, compared to 15.4 percent of visits where no new strain was found, the researchers reported.

“Our findings don't prove that a new strain causes an exacerbation,” Murphy says. “We also found that some patients had new strains without flare-ups and some had flare-ups without new strains.”



Murphy



Sethi

CONTINUED ON PAGE 48



NEWS ABOUT UB'S SCHOOL OF MEDICINE
AND BIOMEDICAL SCIENCES AND ITS
ALUMNI, FACULTY, STUDENTS AND STAFF

Pathways

AUTUMN 2002

Nesathurai Named Chair of PM&R

Shanker Nesathurai, MD, interim chair of the Department of Rehabilitation Medicine at Boston University School of Medicine, has been named chair of the Department of Physical Medicine and Rehabilitation



NESATHURAI

in the University at Buffalo School of Medicine and Biomedical Sciences, effective July 1, 2002.

In addition, he holds the title of Capen Professor of

Rehabilitation Medicine.

A specialist in spinal cord injury and rehabilitation, Nesathurai is principal investigator on a \$1.5 million, five-year grant from the National Institute on Disability and Rehabilitation Research to develop national strategies to increase employment of people with disabilities. He also conducts basic research related to spinal cord injury.

Nesathurai received his medical degree and residency training at McMaster University in Hamilton, Ontario. He joined the faculty at Boston University in 1995 as an assistant professor and was named acting chair of the Department of Rehabilitation Medicine in 1998.

He became interim chair in June 1999 and was promoted to associate professor in July 2000.

He also served as chief of rehabilitation services at Boston Medical Center, in addition to his academic responsibilities.

Nesathurai has authored several book chapters and has edited four books on spinal cord and traumatic brain injury.

—LOIS BAKER

Buchanan Appointed Dental School Dean

Richard N. Buchanan, DMD, director of advanced clinical education at Baylor College of Dentistry, The Texas A&M University System Health Science Center in Dallas, has

joined the University at Buffalo as dean of the School of Dental Medicine.

Buchanan previously served as dean of the college and for five years as dean of the University of Medicine and Dentistry of New Jersey.

A graduate of the University of Texas-Austin, Buchanan earned a doctorate in dental medicine from the University of Pennsylvania School of Dental Medicine.

He began his career in academia at Georgetown University School of Dentistry, where he was an instructor for a year before taking a faculty position at the University of Texas Health Science Center in San Antonio.

During his 16-year tenure at the University of Texas-San Antonio, he rose to the rank of professor and held several administrative positions. These included chair of the



BUCHANAN

the Southwest Academy of Restorative Dentistry and the Omicron Kappa Upsilon Honorary Dental Society, among other professional affiliations. He served on the Council of Deans and was a member of the House of Delegates of the American Dental Education Association from 1990–2000.

—LOIS BAKER

Hutson Joins UB as Chief of Biostatistics

The Department of Social and Preventive Medicine in the School of Medicine and Biomedical Sciences at the University at Buffalo has named Alan D. Hutson as chief of its Division of Biostatistics.

Hutson comes to UB from the University of Florida, where he served as an associate professor in the Department of Statistics, associate director of the Division of Biostatistics in the Department of Statistics, and director of the General Clinical Research Center (GCRC) Informatics Core, which is responsible for the statistical components of 50–70 active clinical trial protocols yearly.

He received bachelor's and master's degrees in statistics from UB and master's and doctoral degrees in statistics from the

University of Rochester.

The goal of the Division of Biostatistics is to foster the biostatistical/academic mission of the Department of Social and Preventive Medicine, the medical school and the university as a whole, as well as to form strong collaborative relationships with medical, dental and public-health researchers.

The division is working closely with biostatisticians at Roswell Park Cancer Institute, and will form ties to the Buffalo Center for Excellence in Bioinformatics. Discussions also are under

way to convert the division into a full-fledged department in the proposed School of Public Health.

The division currently is home to one assistant professor, a lecturer and two staff members in addition to Hutson, who holds a position as an associate professor. Five new faculty member are expected to be recruited.

—LOIS BAKER



HUTSON

Leonard Receives NIH's MERIT Award



LEONARD

University at Buffalo researcher Kenneth E. Leonard, PhD, an internationally recognized scholar in the

Ira G. Ross and Elizabeth Pierce Olmsted Ross Chair

Federico Gonzalez-Fernandez, MD, PhD, has been named the inaugural holder of the Ira Gile Ross and Elizabeth Pierce Olmsted Ross, MD, Chair in Ophthalmology at the University at Buffalo School of Medicine and Biomedical Sciences.

Gonzalez-Fernandez, who has also been appointed an associate professor in the Department of Ophthalmology, came to UB in June 2002 from the University of Virginia, where he established a clinical program in ocular pathology, as well as a productive research program in photoreceptor molecular and cell biology. He is the principal investigator for a National Institutes of Health R01 grant from the National Eye Institute aimed at understanding the structure and function of a novel glycolipoprotein secreted by vertebrate rod and cone photoreceptors.

One important feature of the retina is its ability to adapt to the dark by increasing its sensitivity. This involves delivering vitamin A to the rods and cones in order to regenerate bleached rhodopsin via a system of proteins that support the "visual cycle." The interphotoreceptor-retinoid-binding protein that Gonzalez-Fernandez is studying is thought to play a key role in the visual cycle.

His laboratory group has cloned the gene for this protein from a variety of species, and recently determined the X-ray crystal structure of the putative vitamin A binding domain. This research is also contributing new insights into the pathogenesis of retinal drusen, the earliest clinical sign of age-related macular degeneration (ARMD), which is now the most common cause of blindness among people over 55 years of age.

Gonzalez-Fernandez is conducting his research in a 1,500-square-foot suite of laboratories in the research building at the Veterans Affairs Western New York Healthcare System, where he will also have access to shared state-of-the-art research equipment.

Gonzalez-Fernandez earned his medical degree and doctoral degree in neuroscience from the Medical Scientist Training Program of the Baylor College of Medicine. His residency training was in anatomic pathology and his fellowship training was in molecular biology and neuropathology (University of Virginia). He has been on the faculty at the University of Virginia (Departments of Ophthalmology and Pathology) for the past 10 years. The recipient of numerous honors and awards, he has published over 40 journal articles and several book chapters. **BP**

—S.A. UNGER



Federico Gonzalez-Fernandez and Elizabeth Olmsted Ross



area of addictions, has received a prestigious MERIT Award for his research from the National Institutes of Health's National Advisory Council of the National Institute on Alcohol Abuse and Alcoholism (NIAAA).

Leonard is a senior research scientist in UB's Research Institute on Addictions (RIA) and director of the Division of Psychology within the Department of Psychiatry in the UB School of Medicine and Biomedical Sciences.

The MERIT (Method to

Extend Research in Time) Award is a selective and highly coveted award that is extended to investigators who have demonstrated superior creativity, skill and outstanding productivity during the course of their research careers. They relieve investigators from writing frequent renewal applications by providing the opportunity to gain up to 10 years of uninterrupted support. Leonard's award is one of only five made in the last decade by the Prevention Research Branch of NIAAA.

A member of RIA since 1986, Leonard focuses his research on marital/family processes, parenting and infant development, interpersonal aggression, bar violence and domestic violence. He currently is the principal investigator on three projects funded by the NIAAA.

In 1996 Leonard was named a fellow in the Division of Addictions by the American Psychological Association. He has co-authored three books and numerous book chapters.

—KATHLEEN WEAVER

Marshall Heads RPCI's Cancer Prevention Program

James R. Marshall, PhD, has been appointed senior vice president for Population Sciences and Cancer Prevention at Roswell Park Cancer Institute (RPCI), following an extensive nationwide search. In this role, he will be responsible for the overall direction of the Cancer Prevention Program of the institute's cancer center support grant and expansion and oversight of prevention and populations sciences programs at RPCI. Marshall

SURVIVAL 101

TIP: Expect the unexpected.

FACT: You'll need stuff.



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MARSHALL

comes to RPCI from the Arizona Cancer Center in Tucson, where he served since 1996 as associate director of Cancer Prevention and Control

and professor of public health and medicine at the University of Arizona College of Medicine.

Marshall earned his doctoral degree in sociology from the University of California at Los Angeles in 1977. He joined the faculty of the Department of Sociology at the University at

Buffalo, where he served until 1981. Between 1981 and 1996, Marshall was a faculty member of UB's Department of Social and Preventive Medicine, School of Medicine and Biomedical Sciences, rising in rank from assistant to full professor (1981-1983), and in UB's School of Health Related Professions (1991-1996).

Marshall's research interests focus on the identification and testing of chemoprevention strategies in human populations. He has authored or co-authored more than 200 journal publications, abstracts

and book chapters and is an associate editor for the *American Journal of Epidemiology* and *Cancer Epidemiology, Biomarkers and Prevention*.

—DEBORAH PETTIBONE

Dandona's Research Publications Recognized

Paresh Dandona, MD, head of the Division of Endocrinology in University at Buffalo's School of Medicine and Biomedical Sciences and director of the Diabetes-Endocrinology Center of Western New York, received

a Finalist Award of The Endocrine Society and Pharmacia Corporation International Award for Excellence in Published Clinical Research in *The Journal of Clinical Endocrinology and Metabolism*. The award was presented during The Endocrine Society Awards dinner, held during the society's annual meeting in San Francisco.

—SUE WUETCHER



DANDONA

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FACULTY AWARDS

The following awards were presented at the University at Buffalo School of Medicine and Biomedical Sciences' Annual Faculty Meeting, held on May 29, 2002.

Louis A. and Ruth Siegel Teaching Awards

The Louis A. and Ruth Siegel Awards are presented annually in order to recognize the importance of superior teaching in the clinical and preclinical years, as well as to encourage ongoing teaching excellence. Recipients of the awards are chosen by students through a nomination process, with final input from a committee comprising representatives from each of the school's four classes.

Louis A. Siegel, MD '23, served as an assistant professor in obstetrics and gynecology at the University at Buffalo School of Medicine and Biomedical Sciences for 21 years. In 1977, he and his wife, Ruth, endowed the Siegel Excellence in Teaching Awards.



Preclinical
Linda Wild, MD
'76, associate professor of clinical pathology



Volunteer
Jack Coyne, MD
'85, associate professor of clinical pediatrics

Clinical
Steven Noyes, MD, associate professor of clinical medicine

House Staff and Special Awards



RENEE BAUGHMAN, MD '99, gynecology/obstetrics



DAVID PIERCE, MD, instructional



ELEFTHERIOS MERMIGAS, support

Stockton Kimball Award

honors a faculty member for academic accomplishment and worldwide recognition as an investigator and researcher. Stockton Kimball, MD '29, was dean of the University at Buffalo School of Medicine from 1946 to 1958, and his contributions to the training of physicians in Buffalo spanned more than a quarter of a century.



The 2002 recipient of the Stockton-Kimball award is L. Nelson (Nick)

Hopkins, MD, professor and chair of neurosurgery and professor of radiology at the University at Buffalo.

Hopkins, who also serves as director of UB's Toshiba Stroke Research Center and as

chair of neurosurgery at Millard Fillmore Hospitals, has published extensively in areas involving endovascular neurosurgery, including the microsurgical treatment of intracranial and extracranial vascular disease. Most recently, he has focused his research on experimental aneurysms, cerebral vasospasm and intravascular stents.

Hopkins has served in numerous leadership capacities in the Congress of

Neurological Surgeons, the American Academy of Neurological Surgeons, the New York State Neurosurgical Society, the American Association of Neurological Surgeons, and the American Heart Association. In addition, he has been a visiting professor at many major research universities and has served on the editorial board of *Neurosurgery*.

"Dr. Hopkins has been an active researcher and

respected professional colleague at the University at Buffalo for most of his career and exemplifies excellence in its broadest sense, which is the hallmark of the Stockton Kimball Award," says Suzanne Laychock, PhD, senior associate dean for research and biomedical education at UB, who presented the award. **BP**

—S. A. UNGER

"Dr. Duffner has done many, many things for the school, and has really gone above and beyond in all her efforts."

Dean's Award

The Dean's Award is given in special recognition of extraordinary service to the School of Medicine and Biomedical Sciences.



This year, Dean Bernardino presented the award to Patricia K. Duffner, MD '72, professor of neurology and pediatrics and a physician in the Department of Neurology

at Kaleida Health's Children's Hospital of Buffalo.

Duffner served the school as interim chair of neurology for 18 months and was elected president of the UB Medical Alumni Association this past spring. She also represented the school as a member of Kaleida Health's board of directors. "In addition, Dr.

Duffner did yeoman's work on the LCME self-study this past year and chaired a separate sub-committee for this study," said Dean Bernardino. "She has done many, many things for the school, and has really gone above and beyond in all her efforts, which are greatly appreciated," he added. **BP**

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Jerri Kaplan Joyce, MA

"The Ear is the Road to the Heart"

(Voltaire)



BY
LAURA
RENDANO,
CLASS OF 2003

Up the Ladder of Life

Reflections on what medicine and fire fighting have in common

Rookie fire fighters
and first-year
medical students
listen intently to
lectures, are
overwhelmed by
details, and
intermittently
wonder if they will
ever learn the
abundance of
information taught.
Both fields are well-
studied sciences
and imperfect arts

THE FAMILIAR GRUMBLE OF THE AIRBRAKES filled the cab of the fire engine. In a quavering voice the driver shouted back to us, "We have smoke showing." My pulse quickened as I clicked off my seat belt, thrust myself forward and released my harnessed air pack from its storage bracket.

When I stepped from the truck, I got my first glimpse of smoke puffing rhythmically from the roof's edge. The eaves seemed to breathe. Checking my facemask for a seal, I reached for the hose nozzle and rushed toward the house. My partner, with a portable radio affixed to his pocket, grabbed an axe and helped to splay 250 feet of hose behind us. Dropping our identification tags by the door, we knelt on the porch, locked in our respirators and signaled for water. As I cracked the nozzle to purge air from the hose, my partner prepped the radio and reported, "Interior attack to Command, be advised we are entering the building."

With those words, we forced the door open and were immediately engulfed in swirling black smoke that blinded us. Using the wall as a guide, we crawled from room to room. My partner reminded me to listen to the fire: "The crackles will tell us where it hides."

As we breached an archway, we felt the rush of heat and saw the glow of the flames racing up the wall and rolling across the ceiling toward us. Opening the nozzle, my partner, diligent and experienced, helped me to control the spray as we leaned backward in tandem. The steamy mixture of charred ash and ceiling fragments covered us and sprinkled the floor.

We paused to let Command know we had extinguished the flame, while fellow fire fighters helped to pull down walls, break ceiling panels and move furniture as we quenched hidden embers.

Later, with our helmets off, air packs removed and water bottles drained, we analyzed the process. The smell of smoke seeped from our pores and clung to our hair.

Fortunately, this call was only for training.

Volunteer fire fighting is how I have spent my

weekends throughout medical school. On Friday afternoons or on Saturday mornings following hospital rounds, I get in my car, which is packed and ready to go, and head east on Interstate 90. With my bulging backpack on the seat next to me and my fire gear loaded in the trunk, I drive home, listening to taped lectures or my voice-dictated notes.

After 100 miles I veer off the highway and into another weekend filled with the potential to help my hometown, which is an opportunity I cherish.

Several small towns later and \$3.10 poorer, I am greeted by a familiar green sign: Welcome to Tompkins County. With the flip of a switch, my pager, clipped to the visor, emits a shrill sound that energizes me and signals my transition into my weekend world. After stopping at my mom's place of work to get a quick hug, I head to 80 Ridge Road, home of the Lansing Fire Department's Central Station.

Parallel Paths—and Stresses

When I joined the fire department seven years ago, I was unaware that it would be a defining experience in my life. I was naïve to the opportunities, friendships and self-development that would emerge from my involvement as a fire fighter and EMT. Moreover, I did not know how the lessons learned through my participation would so closely parallel the various skills and talents required in my professional career path. These similarities became profound as I embarked on my medical school training.

The two worlds—medical school and volunteer fire fighting—are steeped with tradition. Both journeys begin with the presentation of a uniform: a jacket that proudly displays my affiliation. As a medical student, this ritual took place in Butler Auditorium at the elegant White Coat Ceremony; for fire fighting, in a shadowy storage room at the fire hall.

Over time, I collected the accoutrements required for each trade: oto-ophthalmoscope, stethoscope and tuning forks or door chocks, flashlights and extrication goggles.

Rookie fire fighters and first-year medical students listen intently to lectures, are overwhelmed by details, and intermittently wonder if they will ever learn the abundance of information taught. Both fields are well-studied sciences and imperfect arts.

The likeness between both of these endeavors became more obvious when I entered the hospital wards. As is the case with the various ranks within the fire department, the hospital system upholds a clearly defined hierarchy of attendings, chief residents, interns and medical students. The more critical the call, the more leading-rank individuals are involved.

In the hospital, this sometimes-unspoken chain of command is evident as a full code unravels. The intern trembles while obtaining the essential intravenous access, the chief resident barks commands to swarms of people who have entered the tight quarters, and the attending physician offers suggestions or pronounces death. The medical students, squished to the wall and standing atop chairs, shake their heads and wonder if they will ever have the confidence to be a chief resident while simultaneously being thankful they are expected to know less than the intern—at least for now.

Also common and essential to both fields is a support staff. This includes nurses or fire fighter families, as well as ancillary services, such as housekeeping, food service, or law enforcement and highway departments. There exists a system in which multiple disciplines must cooperate to maximize outcomes. The permutations are endless.

Lansing, my fire district, covers 67 square miles. It is home to an airport, a county correctional facility, a salt mine, a power plant and two juvenile detention centers, in addition to homes, apartment complexes, farms, businesses and malls. As in medicine, each encounter presents an opportunity to learn and improve upon mistakes and inefficiencies.

In both disciplines, individuals face the potential, or brutal reality, of helping someone they know. This someone may be a coworker, a family member, a neighbor or a friend. Within the first two weeks of my third-year clinical rotations, I was presented with high troponin values belonging to one of my professors. Furthermore, several classmates delivered children, broke bones, and had car accidents and were filtered through the healthcare system where other students circulated.

The same challenges have presented themselves in my work with the fire department. There have been

numerous patient encounters and other misfortunes that I have witnessed involving personal acquaintances or fellow fire fighters. One incident in particular involved a two-car head-on collision with one person ejected. Upon arrival at the scene, I learned that one of the injured was a family friend. His parents had witnessed the accident, and they yelled for me to help their son. Frequent eye contact with the father and encouraging nods helped us both main-



LAURA RENDANO

tain control. The ending was a dream come true, although the event itself a nightmare.

Learning medicine and volunteering as a fire fighter are exhilarating and enjoyable activities. At times, however, this enthusiasm is lost in drained emotion, as exhaustion is also part of both careers. After many hours in the operating room or delivery suite, I crawl wearily into bed knowing that I face another equally grueling day tomorrow. My closing thoughts are for a few hours of uninterrupted sleep.



One weekend recently, I found myself making the same plea as I returned home at 3 a.m. following a barrage of fire department calls. I heard my father whisper, "Everything okay?" and I gently responded, "Yeah, thanks. A busy night; I'm tired."

Crisis and Convergence

Friday, June 18, 1999, 1400 hours: For the first time, my two worlds—each filled with a vague semblance of the other—collided. Invigorated from having completed year one of medical school, I took my dogs with me to run a few quick errands. As I crested the hill just a few hundred yards from my home, I saw mangled vehicles, smelled burning rubber, and heard scared cries of a victim. Instructing my dogs to stay, I jumped from my car and yanked my gear from the trunk. One car had come to rest straddling a ditch, trapping two people, one of whom was crying for help; the other was completely unresponsive.

At once, I was required to be a fire fighter, an EMT

and a traffic director. Knowing the closest fire truck was at least 10 minutes away, I used a glass punch to break the passenger-side window. As I climbed inside, the man whimpered, "I broke my neck and I can't move my arms or legs." Visions of gross and neuroanatomy flashed through my mind as I wondered where his cord damage was and what the radiological studies would reveal. I assessed him and clinically verified what he already knew: he was facing the potential of living life as a quadriplegic.

With limited resources, I treated this 22-year-old man for 45 minutes before my fellow fire fighters were able to remove him from the wreckage. I know his name, his job, his favorite music, his athletic interests, his pets and some of his dreams. I don't know if he has ever taken another step.

Power of the Human Spirit

Calls like this one serve as a constant reminder to me of the precious sanctity of human life. We were all made painfully aware of this realization following the horrifically tragic events of September 11, 2001. The sense of loss, which permeated the nation and communities worldwide, was devastating for members of fire departments everywhere. That day, the heroic fire fighters and medical personnel were among the fallen. The loss of these lives, as well as thousands of others, will not be forgotten; rather, they will serve as symbols of strength, courage and the power of the human spirit.

The rewards of fire fighting are countless. Being a volunteer fire fighter has allowed me to help people endure some of their toughest life experiences. Unfortunately, their needs don't end as we, the fire fighters, drive away in our rescue vehicles. My future career as a physician will allow me the opportunity to continue addressing these needs and easing the suffering of others. As I slip on my white coat, I remember the binding truths between fire fighting and medicine: Bravery. Courage. Honor. Teamwork. Dedication. Patience. Integrity. Confidence. Self-Development. Exhilaration. With my fond memories from the Lansing Fire Department, I will remain close to my roots and imagine where my patients may have come from. In either case, at day's end I will think back and smile because, to someone, I made a difference. **BP**

Laura Rendano is a student at the University at Buffalo School of Medicine and Biomedical Sciences. She will graduate in 2003 with an MD/MBA degree.

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A DNA Research Gift

By Linda J. Corder, PhD, CFRE

ALLAN WADE PARKER has never been on the campus of the University at Buffalo nor seen the city of Buffalo. He was born in Seattle, graduated from the University of Washington and completed graduate studies at Harvard. He served in the United States Air Force during World War II and retired a lieutenant colonel. Mr. Parker had a successful business career in the food industry, with special expertise in manufacturing machinery for food processing. He lives in San Francisco, where he has both a professional relationship and personal friendship with Martin Terplan, MD, a 1955 graduate of our school.

Through discussions with Dr. Terplan, Mr. Parker revealed his belief in the importance of medical research and his personal dream of underwriting promising scientific initiatives that might further the understanding of life—through elucidating its smallest and often elusive components.

At the same time these private conversations were taking place, there was an exciting public announcement in Buffalo regarding the collaboration between the University at Buffalo and Hauptman-Woodward Medical Research Institute to form a new Department of Structural Biology within the UB School of Medicine and Biomedical Sciences. Dr. Terplan shared this information with Mr. Parker, and then asked me to visit and join in those discussions.

The ultimate result is that this year Mr. Parker saw one of his dreams come true. Realizing that research tends to be collaborative in nature, and often synergistic, he established research funds at two major medical schools: at the University of Washington, his alma mater, for the Department of Genome Sciences; and at UB for the Department of Structural Biology. His DNA Research Gifts will give future generations of selected doctoral student researchers, post-doctoral fellows and young faculty researchers

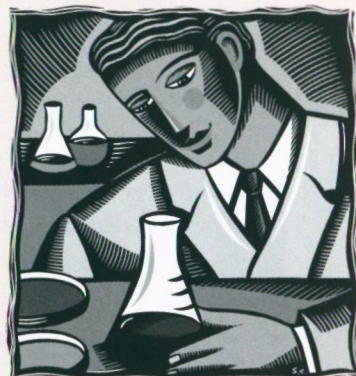
in both medical schools the opportunity to delve more deeply into the mysteries of the human genetic code, its

attendant proteins and other component parts. It is his hope that these two universities will be able to combine knowledge and continue the innovative studies already under way at each institution. He also hopes, by his example, to encourage other scientifically minded and philanthropically inclined individuals to participate in what is ultimately important for everyone, the betterment of all life on Earth.

Endowment gifts comprise a small, but increasingly significant, source of future income for the school. As with all endowment (perpetual) gifts to the school, the principal of Mr. Parker's gift will be held and invested, with a small percentage of its market value disbursed each year. These annual disbursements provide a steady income stream for a designated program, for a specific department or for a stated purpose, such as student scholarships. These resources are a hedge against inflation, economic downturns, fluctuations in the state's political climate and variations in the numbers of alumni and friends who support the school through annual gifts. Today's students, residents, faculty and staff benefit from earlier endowment gifts. Tomorrow's school is being creatively strengthened by today's contributions.

In the pages that follow, the school's endowments are listed. If you would like information about initiating a named endowment, making a gift to an existing fund or have questions about the school's combined endowment, please contact me. All of us who learn, teach and conduct research in this unique institution extend our appreciation and thanks to alumni and friends who made endowment gifts during the past year. **BP**

Linda (Lyn) J. Corder is associate dean for alumni affairs and development. She can be contacted at 1-877-826-3246 (UBMDBIO) or via e-mail at ljcorder@buffalo.edu.



IT IS HIS HOPE THAT THESE TWO UNIVERSITIES WILL BE ABLE TO COMBINE KNOWLEDGE AND CONTINUE THE INNOVATIVE STUDIES ALREADY UNDER WAY AT EACH INSTITUTION.



Endowments of the School of Medicine and Biomedical Sciences

Below we list the endowments held by both the UB Foundation and the state for the benefit of the School of Medicine and Biomedical Sciences and the Health Sciences Library. Endowments that received additional contributions between 7/1/01 and 6/30/02 are in bold print. An asterisk (*) indicates a new fund that was established during this time frame. A bold name combined with an asterisk represents a new endowment that also received initial gifts to fund the principal and/or associated "spendable" account. If you would like more information about initiating a named endowed fund, or if you have any questions regarding the school's combined endowment, please contact Linda (Lyn) J. Corder, associate dean for alumni affairs and development, toll free at 1-877-826-3246, or via e-mail at ljcorder@buffalo.edu.

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Dear Fellow Alumni,

I hope you're having a great autumn! In the midst of the beautiful weather in Buffalo this time of year, the Medical Alumni Association has been busy organizing student activities and making plans for next year's Spring Clinical Day and Reunion Weekend.

One of our most important student-related activities is the Physician-Student Mentoring Program in which freshman are assigned a mentor from the medical community who remains in contact with the student throughout his or her four years of medical school. This has been a valuable experience for both students and mentors and would be particularly worthwhile for those physicians who do not teach on a regular basis. Our medical students are wonderful and seem to get better every year. Why not become a mentor and get to know them? If you're interested, please contact the Medical Alumni Office at 829-2773 as soon as possible.



The 2003 Spring Clinical Day and Reunion Weekend (April 25-26) will be moving downtown! The topic will be "Bioinformatics," or "How Computers are Changing Medicine." In view of the multi-million dollar federally funded Buffalo Center of Excellence in Bioinformatics to be built on the Buffalo-Niagara Medical Campus, we thought we'd hold this event downtown so you could experience firsthand the exciting developments under way (see related article on page 26).

The Friday night cocktail party will be held at the beautiful Jacobs Executive Mansion on Delaware Avenue (if you've not been there, don't miss this opportunity to see what Buffalo was like in its glory days). Lectures will be held at Roswell Park Cancer Institute's Hillboe Auditorium (a state-of-the-art facility), and lunch will be served at the classic Buffalo Club. In the afternoon, tours of the Buffalo-Niagara Medical Campus will be provided. I suspect that even many local alumni haven't seen the Buffalo-Niagara Medical Campus or heard about the updated plans for it. The area and the campus are generating a lot of excitement, and I'd like our medical alumni to be part of it!

Sites for the class dinners, as usual, will be chosen by the class chairs. In subsequent mailings, additional information will be provided on events at Shea's Buffalo, Studio Arena, Irish Classical Theater, the Philharmonic, and more.

Finally, with the falling stock market and sluggish economy, many medical students are having difficulty paying their tuition. To make matters worse, tuition went up \$2,000 for the 2001-2002 academic year, and went up another \$1,000 for 2002-2003 academic year. The Medical Alumni Association Scholarship Fund is able to give out only eight \$2,000 scholarships per year. If our endowment increased, however, we could give many more scholarships to our students. We don't want to lose the opportunity to recruit bright, caring students just because we have less scholarship money available than competing schools. Please consider donating to the scholarship fund, either in the envelope provided in this magazine, in your dues statement, or as part of your class gift.

I hope the rest of your autumn goes well. In the next issue of *Buffalo Physician*, I will report on the Distinguished Medical Alumnus dinner and the White Coat Ceremony and update you on the events and programs discussed above.

Patricia K. Duffner

PATRICIA K. DUFFNER, MD '72
President, Medical Alumni Association



1940s

Vincent S. Cotroneo, MD '42, is retired from family practice and lives in Buffalo, NY. Favorite medical school memories: "Professors that were wonderful; student association; ability to graduate."

Glenn R. Arthurs, MD '47, writes: "I live in Stuart, FL, from October to June, then Point Comfort, Quebec, Canada, during the summer, with one or two cruises in between. Lots of fishing, bridge and some golf. Sorry to have missed the reunion. My best to all."

Henry S. Gardner, MD '47, lives in Sedalia, CO, and is a semi-retired consultant to the Social Security Disability Branch. Favorite medical school memory: "Primarily the great classmates. Also, Dr. Hubbard, who taught pharmacology and was somewhat absent minded. He gave one lecture without missing an idea while he kept searching his pockets. Near the end, he found a slip of paper, and said, 'There they are—my lecture notes.'" E-mail address is: ahgardner@pol.net.

Robert Mason Jaeger, MD '47, is retired from neurosurgery and lives in Allentown, PA. Favorite medical school memory:

"Everything!"

E-mail address: jaegermd@aol.com.



Hans Kipping, MD '47.

Favorite medical school memory: "My telephone call to the office at the Medical School and after several minutes of waiting at the phone, the secretary returned to state I was accepted for the Class of 1947."

E-mail address is hanship@aol.com.



Jack Lippes, MD '47, lives in Buffalo, NY. Favorite medical school memory: "Joking around in the anatomy lab." E-mail address is: jlip@acsu.buffalo.edu.

1950s

James Zeller, MD '52, lives in New Philadelphia, OH. He retired from general surgery in 1985. Favorite medical school memories: "Meeting [my wife] Lorraine. Mike Greengold, Class of '51."

Richard F. Mayer, MD '54, writes: "I am now professor emeritus of neurology at the University of Maryland School of Medicine." E-mail address is: rmayer@som.umaryland.edu.

1960s

John Randall "Andy" Anderson, MD '67, lives in Depew, NY. He is semi-retired from family practice and works two and a half days a week at the Research Institute on Addiction.

Douglas Rosing, MD '67, lives in Bethesda, MD, where he practices cardiology in a group practice and is on staff at Suburban, Shady Grove Adventists Hospital and Washington Hospital Center. Favorite medical school memories: "(1) Saturday morning anatomy quizzes with Dr. O.P. Jones (2) partying with Armstrong, Lagratta, Lieberman, (Maisel), Smith, (3) preceptorship with Dr. Donald Becker, and (4) working on research projects with Dr. Francis Klocke." E-mail address is drosing@erols.com.

James Strosberg, MD '67, lives in Schenectady, NY. He is board certified in internal medicine, geriatrics and rheumatology and is on staff at Sunnyview Hospital Rehabilitation Center and Ellis Hospital. Favorite

Rheumatology at Connecticut Children's Medical Center in Hartford and professor of pediatrics at University of Connecticut. My clinical interests include Lyme disease, chronic pain in childhood, and rheumatic disorders. Jesse and I celebrated our 15th anniversary this year, and we're going strong. Josh is 25, living in Boulder, CO, and passionate about playing music and building a spiritual community; Michael is 14, starting high school and is discovering the joys of adolescence; Noah is 9 and agreed to hike the White Mountains (NH) with me every year, 'forever.' It doesn't get much better."

Nedra J. Harrison, MD '77, writes: "I'm doing breast surgery in private, solo practice again. I'm in Scottsdale, AZ, and abso-

A U T U M N 2 0 0 2

Classnotes

George H. Mix, MD '47, writes: "I was in the practice of anesthesiology until 1970, at which time we retired to the Florida Keys. We are now back in the Melbourne area, where I practiced in a retirement community."

James Giambrone, MD '67, lives in Williamsville, NY, where he practices internal medicine. Favorite medical school memory: "Saturday anatomy sessions with O.P. Jones, MD."

medical school memory: "Dr. Donald Becker's welcome speech for freshman."

1970s

Larry Zemel, MD '73, writes: "I am currently chief of the Division of Pediatric

lutely love it! It is the best decision I ever made. Favorite medical school memory: My one-month elective as a senior medical student at Millard Fillmore Hospital on Dr. Philip Wels' service." E-mail address is: njharriso@hotmail.com.



Richard Berkson, MD '72, lives in Rancho Palos Verdes, CA, and practices endocrinology in Long Beach, CA. Favorite medical school memory: "While working in the Buffalo General Clinic, I came across notes my father had made at the clinic many years before." E-mail address is: rberkson@medicity.com.

Pictured above is Richard, his wife, Andrea, and daughters Meredith, Kathryn, Alanna and Elisabeth.

Duret Smith, MD '77, lives in Bay Village, OH. He is an orthopaedic surgeon in group practice and on staff at Lakewood Hospital, Fairview Hospital and St. John's Westshore Hospital (in Cleveland). E-mail address is: dddes@aol.com.

Marciana Washington Wilkerson, MD '77, lives in Bethesda, MD. She is an OB/GYN in group practice and on staff at George Washington University and Columbia Hospital for Women in Washington, DC. She and her husband, Dwight Ford, have two children: Drew, 19, and Christina, 17. Favorite medical school memories: "Biochemistry with Dr. Murray Ettinger, and gross anatomy with Dr. Lee."

1980s

Dave Weldon, MD '81, was elected to his fourth term in the U.S. House of Representatives in November 2000. This year he is running for a fifth term. He is involved in healthcare policy and serves on the Science Committee.

Denis M. Goodman, MD '83, writes: "I continue to enjoy my work in the pediatric intensive care unit at Children's Memorial Hospital in Chicago and Northwestern University School of Medicine. I recently completed a master of science degree

in epidemiology at Harvard University School of Public Health, augmenting my work in health services research." E-mail address is dgoodman@northwestern.edu.

Andrew Friedman, MD '85, writes: "I left the University of Nebraska and the U.S. Army Reserves and commissioned as a lieutenant colonel, active duty in the U.S. Army. I am practicing plastic surgery at Walter Reed Army Medical Center in Washington, DC." E-mail address is: andrew.friedman@us.army.mil.

David S. Kountz, MD '85, writes: "This spring I was named acting senior associate dean for clinical affairs at UMDNJ-Robert Wood Johnson Medical School, and was selected as a Master Educator at the university, one of 36 out of 2,000 faculty members. I continue to practice general internal medicine, teach and conduct research in medical education. Last year I had the opportunity to travel to Minsk, Belarus, as part of a grant from the American International

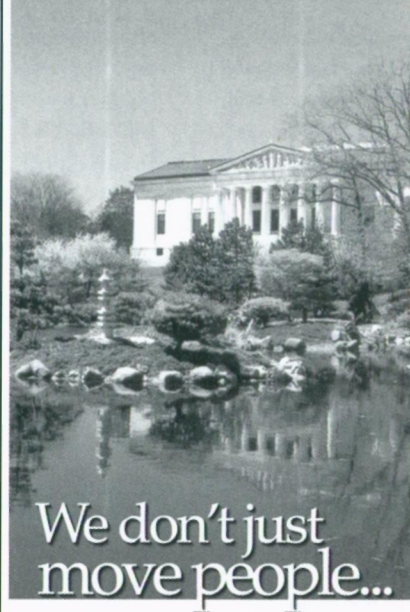
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Health Alliance to develop a clinic model to screen patients at high risk for developing coronary artery disease." E-mail address is: kountzds@umdnj.edu.

Roslyn Romanowski MD '86, writes: "My husband, Robert Campo, son Richie (4) and I welcomed twins Jocelyn and Peter on May 14, 2002. I'm getting up at night again just like a resident, but we're having lots of fun. After maternity leave, I'll

return to hematology/oncology with Century Medical Associates in Williamsville." E-mail address is: RRRomanow@cs.com.

Lorie Leonard, MD '87, writes: "Big numbers for us—29 years of marriage for Marty and me, 12 years with Amherst Pediatrics. Our 24-year-old daughter, Kim, is a fourth-year medical student at UB and our daughters Lindsey and Kristen are ages 17 and 12 respectively!"

Susan Bank, MD '88, lives in Chicago, IL, where she practices psychiatry. She writes: "Am expecting in October 2002!" E-mail address is: susanbank@aol.com.

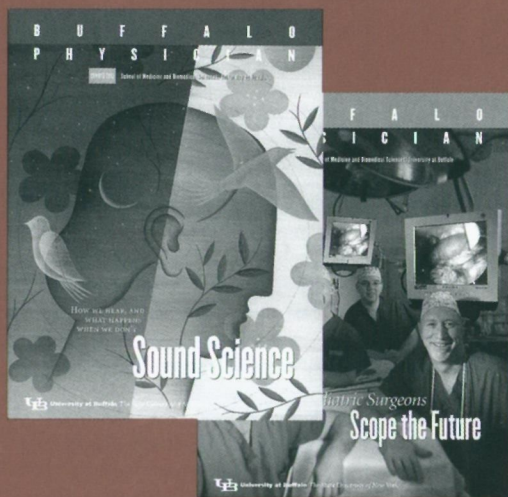
Thomas Joly, MD/PhD '89, lives in Cleveland Heights, OH. He completed his residency in ophthalmology at Case Western Reserve University in 2001 (and training in oculoplastic and orbital surgery at the University of British Columbia in 2002). Favorite



Tom and Lee Joly with their children, left to right: Amelia, Celeste, Grayson and Nathaniel.

medical school memories: "Skipping lectures to stay home and read all day, then getting together with Dawn Jedrzejewski

(now Gais) and Sharon Ziegler at night to find out what was actually covered in lectures."



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1990s

Cynthia (Leberman) Jenson, MD '92, lives in Bangor, ME, and is board certified in anesthesiology. She is in group practice and staff



Cindy and Mark Jenson with their children Erica, age 4, and Alexandra, age 7, March 2002.

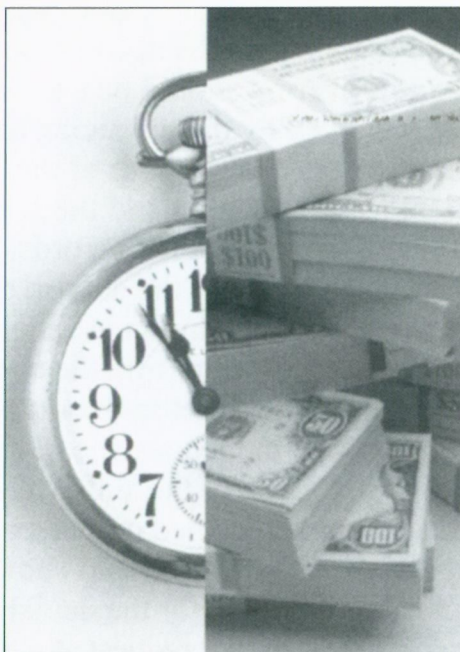
at Eastern Maine Medical Center. Favorite medical school memories: "The Follies, Dive of the Week, Dermatones." E-mail address is: mcaejenson@adelphia.net.

Eva M. Rorer, MD '92, lives in Germantown, MD. She completed residency training in ophthalmology in 1996 at Brookdale University Hospital and a fellowship in ocular immunology and uveitis in 1999 at the Wilmer Eye Institute, Johns Hopkins School of Medicine. She is currently on staff at the Johns Hopkins Hospital.

Katharyne M. Sullivan, MD '92, lives in Leesburg, VA. She is board certified in general psychiatry, child and adolescent psychiatry and is on staff at Graydon Manor in Leesburg. She and her husband, Alan, have two children: Robert, age 4, and Hannah, age 2.

Richard J. Kozak, MD '94, writes: "I've been living in Eugene, OR, (Go Ducks!) since

CONTINUED ON PAGE 48



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In Memoriam

Howard Wallace, II, PhD '99

Howard L. Wallace, II, died on June 20, 2002, as a result of injuries he sustained in an automobile accident. A member of University at Buffalo's Department of Microbiology, Wallace conducted breast cancer research in the laboratories of Drs. Nejat K. Egilmez and Richard B. Bankert. He joined the department in 1991 and performed his doctoral work in the laboratory of Dr. John (Ian) Hay. After earning his doctorate in 1999, Wallace worked for two years at Roswell Park Cancer Institute, before returning to UB, where he distinguished himself as a highly competent and meticulous researcher. Wallace was held in high regard by his co-workers for his scientific acumen, and he will always be remembered for his charming wit, humor and the very thoughtful and sensitive way he interacted with all of his colleagues.

CONTINUED FROM PAGE 47

residency in emergency medicine—a hippie college town in the Pacific Northwest—paradise. I recently married (7-28-01) my long-time love since medical school, Patricia Bledinger. She just finished optometry school. No plans for kids yet and no plans to leave Eugene. I'm working in a community ED and as EMS medical director . . . Life is good." E-mail address is: rkzok2020@aol.com.

Thomas Elmer, MD '97, is chief resident in pediatric ophthalmology at Louisiana State University. E-mail address is: thomaselmer@hotmail.com.

Ayanna James, MD '97, lives in Largo, MD. She completed her residency in OB/GYN at Our Lady of Mercy Medical Center,

Bronx, NY, in 2001. She is in a group practice and also on staff at Southern Maryland Hospital Center. Favorite medical school memories: "Match Day and graduation!" E-mail address is: ayannaj@earthlink.net.

Janine McAssey, MD '97, lives in Pittsburgh, PA. She completed her residency in internal medicine/women's health in 2000 and a Fellowship in general medicine/women's health in 2002, both at the University of Pittsburgh Medical Center, where she is currently on staff. Her husband, Robert Frank, is an emergency medicine physician. E-mail address is: jmmcassey@hotmail.com.

Gina Parlato Pender, MD '97, lives in Fairbanks, AK. She completed her

residency in family practice in 2001 at North Colorado Family Medicine in Greeley, CO. She is currently on staff at Fairbanks Memorial Hospital. Favorite medical school memories: "Driving cross-country—from Washington State to Maine—interviewing at residency programs."



Monica J. Simons, MD '97, completed her residency in OB/GYN in 2001 at Mt. Sinai Hospital in New York City. She is currently a staff member at Bronx Lebanon Hospital Center.

David Lin, MD '98, is currently in a cardiology fellowship program at the University of Rochester, having finished his internal medicine residency at the University of Michigan. E-mail address is: lindave1@hotmail.com.

Keith D. Herr, MD '99, writes: "I am currently in my fourth and final year of psychiatry at Emory in Atlanta, and I am toiling over deciding between a fellowship in forensic psychiatry versus private practice/academics. Any sage advice welcome. Well wishes to all." E-mail address is: kdherr@yahoo.com.

Paul A. Guttuso, MD '97, lives in Lakeland, FL. He completed his residency in family practice at UTMB in Galveston, TX, in 2000 and a sports medicine fellowship in June 2001. Favorite medical school memory: "Finkelstein laughing at his surprise birthday party." He is pictured here with his wife, Trinia, and twins, Christopher Paul and Anthony Peter, born February 13, 2002.

2000s

Cheryl Taurassi, MD '00, writes: "I am in the second year of my pediatric residency at Schneider Children's Hospital, Long Island Jewish Center." E-mail address is: ctaurassi@hotmail.com.

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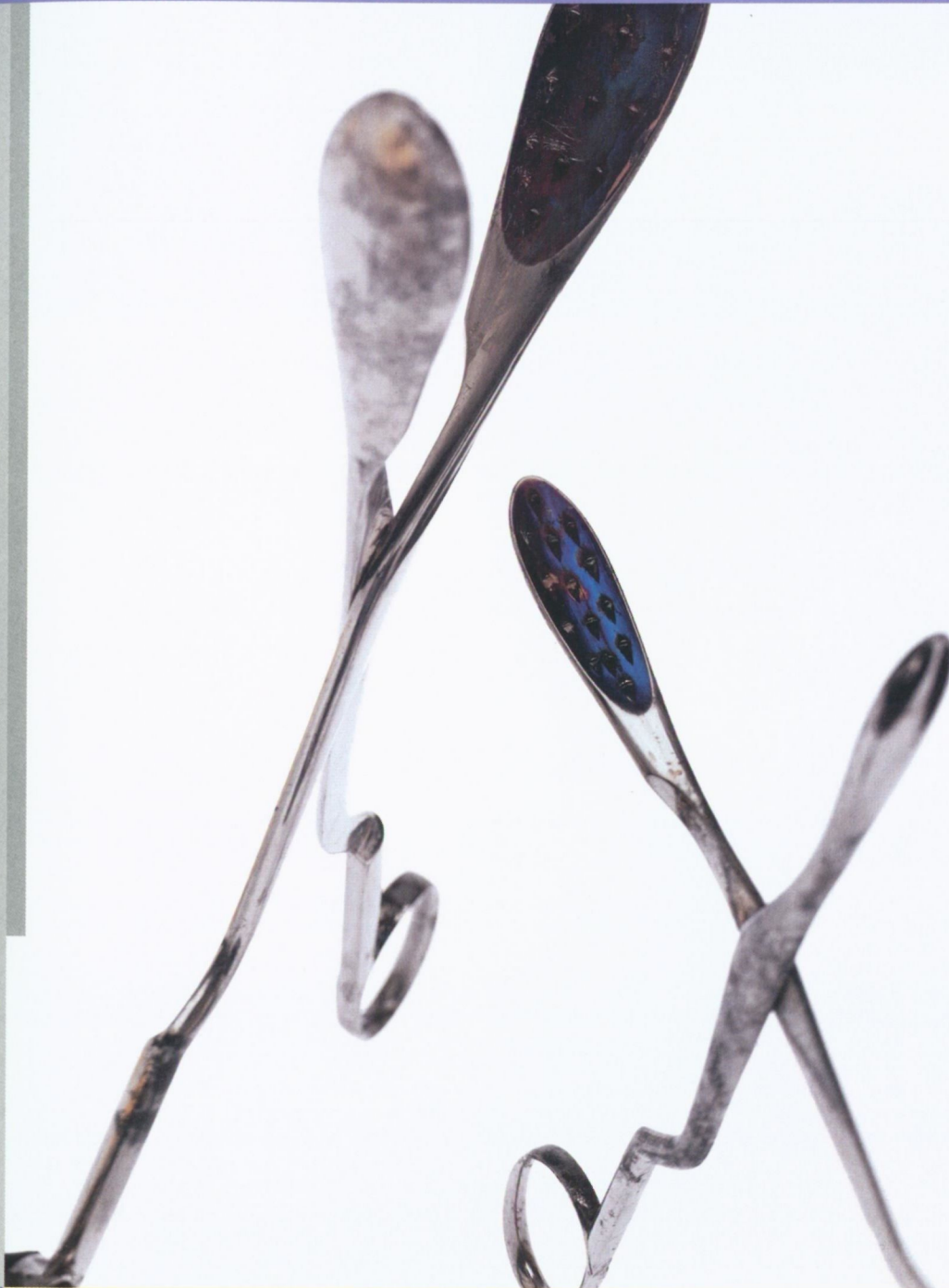
Bacteria

However, the results contribute to the growing body of evidence that bacteria cause a significant portion of exacerbations.

"This new information will act as an important guide in developing novel ways to treat and prevent exacerbations. More importantly, it is possible that such interventions could actually slow the progressive loss of lung function that occurs in COPD. That will be one of the goals of our ongoing research in the study clinic."

Additional researchers on the study were Nancy Evans, a research nurse with the VA Western New York Hospital System, and Brydon J.B. Grant, MD, UB professor of medicine and physiology. **BP**

Stone Removal



Removal of stones from the bladder was one of the earliest and most frequently performed operations. By the 19th century, it had become a highly successful procedure and carried one of the lowest mortality rates. However, the sequelae, in addition to frequent infection and lack of anesthesia, made the operation dreaded by most patients and led to the development of instruments such as these **Lithotomy Forceps** from a set manufactured by Charriere in Paris, circa 1840.

The instrument is part of the Edgar R. McGuire Historical Medical Instrument Collection, housed in the Robert L. Brown History of Medicine Collection, Health Sciences Library, Abbott Hall, on the University at Buffalo's South Campus.

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Picture here is the **Almond**, one of a series of botanical images digitally restored as part of an initiative to preserve and highlight unique resources from the library's collection.

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