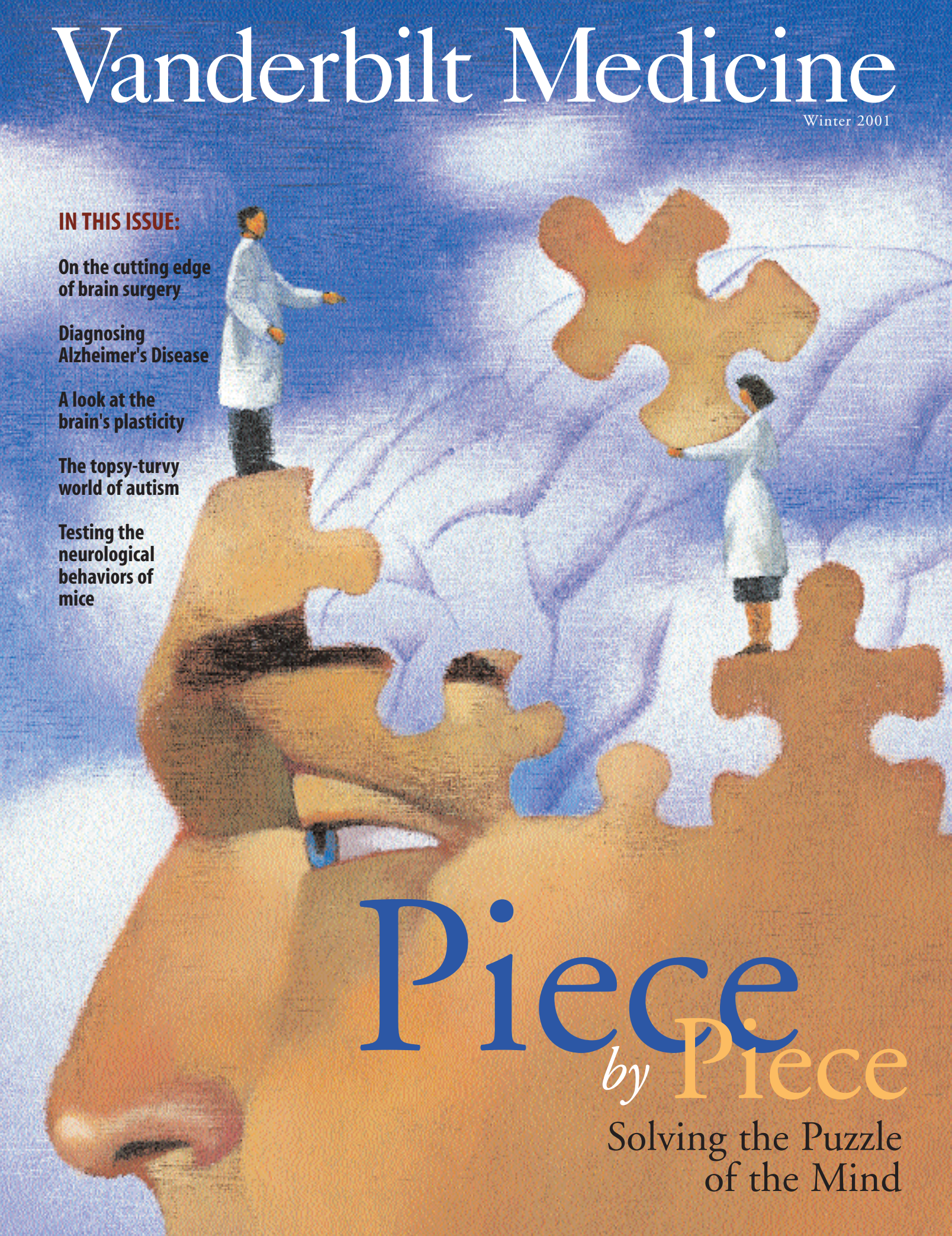
Vanderbilt Medicine

Winter 2001



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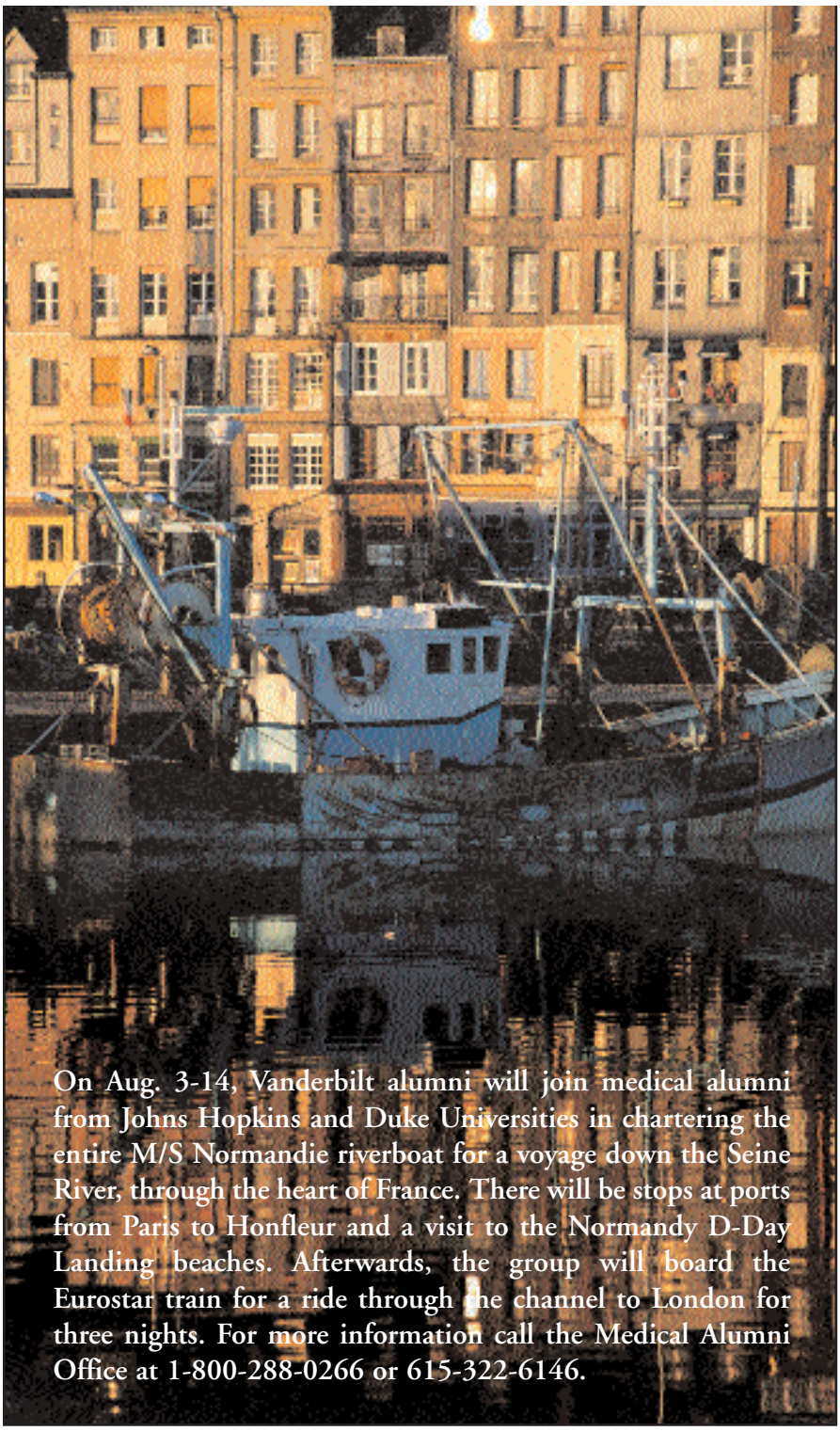

On Aug. 3-14, Vanderbilt alumni will join medical alumni from Johns Hopkins and Duke Universities in chartering the entire M/S Normandie riverboat for a voyage down the Seine River, through the heart of France. There will be stops at ports from Paris to Honfleur and a visit to the Normandy D-Day Landing beaches. Afterwards, the group will board the Eurostar train for a ride through the channel to London for three nights. For more information call the Medical Alumni Office at 1-800-288-0266 or 615-322-6146.

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Vanderbilt Medicine

Winter 2001

Piece by Piece

Solving the puzzle of the mind

IN THIS ISSUE


DEAN DIXON

Unraveling the mystery of the brain

BY HARRY R. JACOBSON, M.D.
Vice Chancellor for Health Affairs

The brain remains largely a mystery as we enter the new Millennium. There is no more complex structure in our bodies than the brain. Fully half of the 100,000 or so genes that control our physical machinery act exclusively in the brain – half of the instruction manual for the human being talks about the development and the operation of that one, three-pound organ. The brain is made up of 100 billion cells. Each of those cells makes 1,000 connections – 100 trillion connections in all.

Our abilities to examine and study the brain have been limited and our tools for intervention have been crude in comparison to its subtlety and complexity. Until this century, the only way to study brain function was through autopsy. We made inferences about brain function by studying the anatomical differences between healthy brains and those with dysfunction. It was difficult to manipulate surgically. It's dense bony cover made imaging difficult. Its chemistry was ephemeral making the relationship between stimulus and response impossible to fathom.

All that is changing. We have imaging tools that allow us to see things as they happen. PET scans and functional MRI let us see which regions in the brain are activated by which stimuli. We are perfecting animal models of behavior, especially in mice, that give us a much broader opportunity to manipulate brain chemistry and function. We have sophisticated new tools that let us find and describe the genes that influence disorders of the brain.

Some of the most profound breakthroughs in medicine in the next decade will focus on the brain. We'll begin to answer questions like how it develops or fails to, how it learns and adapts, which disorders are caused by structure and which by chemistry and how can we create solutions to those disorders that are as elegant as the brain itself.

At Vanderbilt we will invest a quarter billion dollars in the next 10 years to be at the leading edge of neuroscience research and clinical care. It is one of three critical strategic investments for the School of Medicine. Neurosciences, genetics and structural biology comprise a powerful platform to begin to unravel the mysteries of the brain.

We'll join with our colleagues in Psychology in the College of Arts and Science to better understand cognition, how we take sensory input and "implant" that information in the brain, and how it gets misdirected, as in autism.

Partnering with Peabody, we hope to better describe the biological processes of learning to accelerate development of more effective ways of teaching, especially for those who are developmentally disabled or specially gifted.

With the Kennedy Center, Peabody College and the College of Arts and Science, we will work to reveal how a normal brain develops, and the basis for developmental disabilities. We will look for strategies that use the brain's own plasticity to overcome these disabilities.

Disorders of the brain remain some of the most difficult problems in medicine. Learning disabilities, mental retardation, depression, schizophrenia, Parkinson's Disease, multiple sclerosis, Alzheimer's and addiction are among the most troubling.

We are confident that the investments we make today will give us a toehold on these diseases. I am even more confident that the next decade will deepen our awe about the miracle that happens every moment of every day right between our ears. Ⓥ

Interdisciplinary MRB III to open in 2003

Scientific discovery at Vanderbilt took a collaborative step forward when ground was broken for the new Biological Sciences/Medical Research Building.

The landmark project — a 350,000-square-foot facility designed to promote connections between diverse scientific disciplines — is a joint undertaking of the College of Arts and Science and the School of Medicine.

"This building is the culmination of a belief I've had the entire time I've been at Vanderbilt — that there are rich opportunities here for meaningful research collaborations," Chancellor Emeritus Joe B. Wyatt said at the groundbreaking ceremony. "I am proud to be launching this effort in my final month as Chancellor, and I believe that it is the beginning of a transformation in the way that research and education are carried out."

The building is designed to encourage interaction between diverse research disciplines.

"The building will house communities of scientists with similar interests in contiguous spaces, rather than dividing them along traditional, departmental lines," said James V. Staros, Ph.D., professor and chair of the department of Biological Sciences, which will be located in the new building.

Other research areas to be based in the facility include neuroscience, genetics, developmental biology, and structural biology, all selected two years ago as part of a program of trans-institutional research.

"The Biological Sciences/Medical Research Building represents the physical manifestation of the initiatives for trans-institutional research," Staros said. "We believe it will provide a national model for synergy in research."

An eight-story atrium overlooked by interaction spaces on each floor is expected to foster collaboration between scientists and to encourage interaction between the faculty members, postdoctoral fellows, graduate and undergraduate students who will populate the building.

"The building will celebrate an interdisciplinary environment for both research and education," said Lee E. Limbird, Ph.D., associate vice chancellor for Research at the Medical Center. "It has been said that it is impossible to distinguish where research leaves off and training begins. This building affirms that truism."

The $95 million project, designed by William Wilson Associated Architects in Boston, will occur in two phases. The f phase includes construction of the nine-story building that wraps the n and east sides, and extends over the to the Learned Laboratory building. The p ject's second phase includes renovation the existing Learned Lab. The entire proj is expected to be completed in March 20(

- LEIGH MACMILL

What they want, when they want it

When the Monroe Carell Jr. Children's Hospital at Vanderbilt is completed in 2003, it will offer a unique dining system that is unlike any other hospital in the nation, a state-of-the-art food delivery system that puts patient and family concerns first.

The Meals on Demand plan allows patients to order food and have it delivered to their rooms within 45 minutes. And the food can be from popular franchises -- food children will enjoy.

"Currently we don't know of a food system that exists like this in the United States," explained Jim Doran, assistant director of nutrition services.

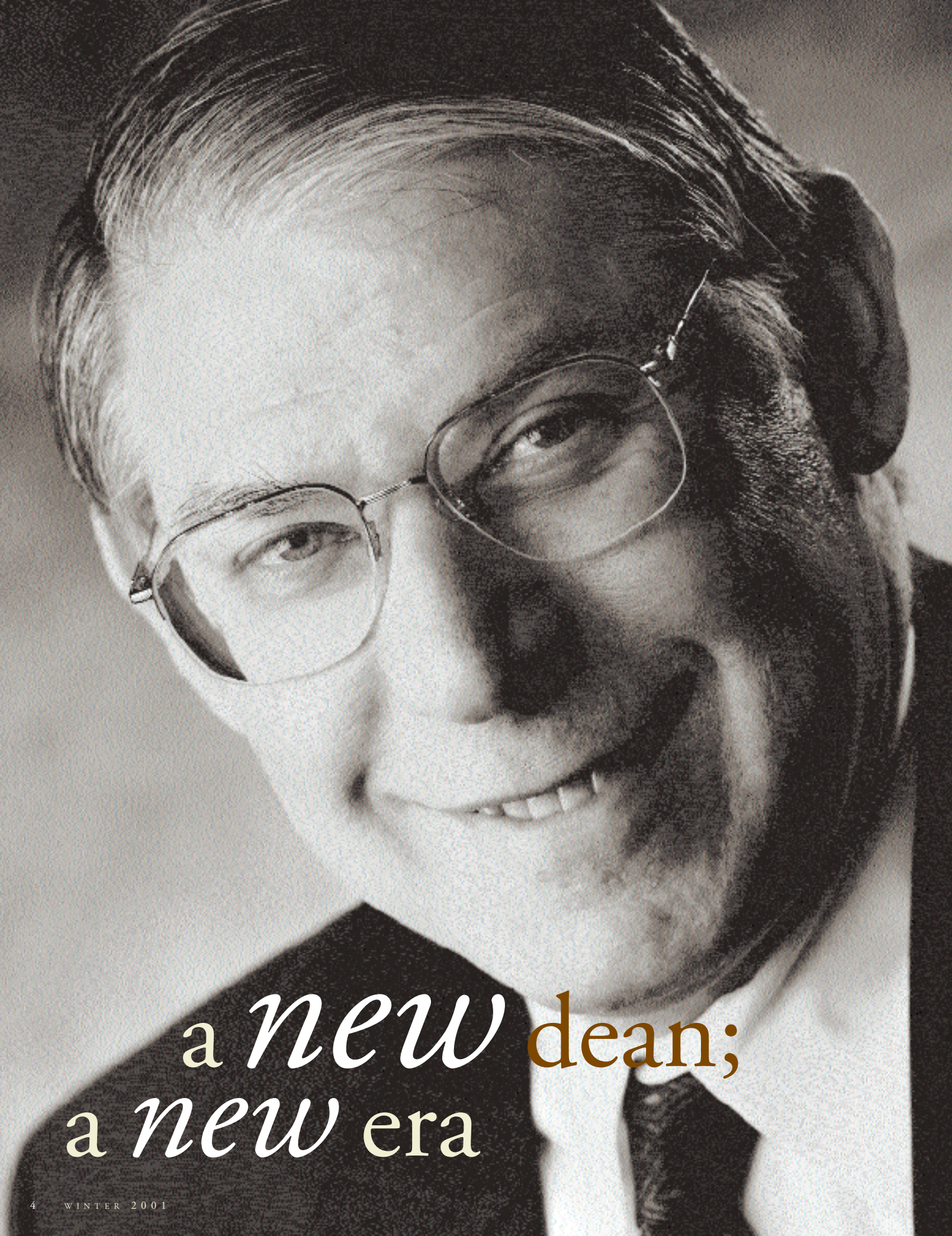
A patient or family member will order different items from an in-room system (the type of in-room system has not yet been decided, however Doran said some possibilities include a television ordering system or an online computer system).

The items selected can be ordered from the same food court outlet, or many different outlets. Branded items, that have currently not been designated, will be available in addition to a traditional menu.

A dispatch station will receive the order for the meals and will forward the information to the different food outlets in the food court.

An expediter will help with the food preparation and a nutrition services employee will deliver the food to the patient's room. Food can be ordered anytime between 11 a.m. and 8 p.m. Children will be able to eat when they are hungry, on their own schedule.

"In our focus group meetings, we learned that our patients felt that the food wasn't being delivered in a manner that was consistent with their



a *new* dean; a *new* era

DEAN DIXON

Dr. Steven G. Gabbe, one of the most respected academic perinatologists in the United States and a member of the Institute of Medicine will assume the role of Dean of the Vanderbilt University School of Medicine in March.

Gabbe, currently professor and chairman of the Department of Obstetrics and Gynecology at the University of Washington Medical Center in Seattle, said he will spend much of his first year being an attentive student, learning everything he can about the medical school.

"Academic medical centers are very complex organizations," he said. "I need to take some time to meet people and learn how the system works. It obviously is working very well since Vanderbilt Medical School has been so successful."

Dr. Harry R. Jacobson, Vice Chancellor for Health Affairs, said Gabbe has proven that he is an outstanding educator, scientist and clinician over the past 30 years. "In recent years he has turned his interest toward medical education and graduate medical education and has shown remarkable talent in those areas. We look forward to the incredible talents that Dr. Gabbe will bring to Vanderbilt University School of Medicine."

Gabbe, one of the world's leading experts on diabetes and pregnancy, joined the University of Washington faculty in July 1996 where he has been the only department chair to receive the distinguished teaching award from graduating

by Nancy Humphrey

medical students. Previously, he was professor and chair of obstetrics and gynecology at the Ohio State University College of Medicine, where he was the only department chair to receive the Professor of the Year Award from graduating medical students.

At the University of Washington, he has served on the clinical management committee, the most important committee at the medical school, overseeing education and research. Most recently, as a member of the National Institute of Medicine, he has interacted with academic leaders on a national level and looks forward to participating in the IOM's committees.

His background encompasses both clinical and research experience. His research interests include prenatal diagnosis using ultrasound, the assessment of fetal well being, premature labor, and the complications of childbirth. He is the author of 127 peer-reviewed papers, 93 abstracts, 71 chapters and nine books.

He is the senior editor of Obstetrics: Normal and Problem Pregnancies, a major textbook now in its fourth edition, is immediate past president of the Council of University Chairs of Obstetrics and Gynecology, and is the current president of the 220-member American Gynecological and Obstetrical Society. Gabbe also chairs the Maternal Fetal Medicine Research Network of the National Institute of Child Health and Human Development. The network oversees the development of research projects at 13 academic centers with more than 90,000 deliveries each year

Gabbe replaces Dean John E. Chapman, who has graduated 3,317 medical students (nearly two-thirds of the living graduates) during his tenure as dean over the past 25 years. Chapman will become associate vice-chancellor for Medical Alumni Affairs.

"Vanderbilt is such an incredible institution with such great people. I couldn't be more enthusiastic about what's ahead," Gabbe said, adding that he also hopes to lecture and practice medicine after he arrives in March.

Until then, he will be visiting VUMC at least once a month to meet with academic leaders, department chairs and student leadership.

Born in Newark, N.J., in 1944, Gabbe is a graduate of Princeton University and Cornell University Medical College. He was a resident and fellow at the Boston Hospital for Women and a research and clinical fellow at Harvard University; he has served on the faculties of the University of Southern California, Ohio State University and the University of Pennsylvania.

He and his wife, Dr. Patricia C. Temple, a pediatrician with experience in managed care administration, are the parents of four children: Adam, 30, a rancher in central Oregon; Erica, 28, a prosecuting attorney north of Seattle; Amanda, 28, with the Kroger company in Columbus, Ohio; and Daniel, 26, a recent graduate of the American Film Institute and an aspiring film editor. Adam and his wife, Jackie, have an infant child, Alexander.

Gabbe said that although his academic administrative experience has prepared him well for being dean, it was not on his agenda when he began his career.

"But each step along the way increased my interest in education, training, research and practice at a broader level and helped prepare me for this appointment."

When Gabbe assumes the dean's position, there will be several items on his agenda.

His plans include encouraging broader opportunities for resident and fellow education and continuing medical education.

"I certainly want to emphasize medical student education, as Dean Chapman has, but I also want to broaden the focus to include graduate education."

Gabbe is also interested in translational research, applying what is learned in basic science laboratories to clinical practice. He will also encourage interdisciplinary clinical research.

"Much of my own work in obstetrics and gynecology has been done in cooperation with internists, ophthalmologists, nurses, endocrinologists and neonatologists."

Gabbe becomes only the 10th dean of VUSM since the school was founded in 1875.

Gabbe compared following in Chapman's footsteps to the replacement Vince Lombardi, NFL's winningest coach.

"These are huge shoes to fill but I can learn so much from Dean Chapman. I'm just so pleased that he has been so supportive. It's meant a lot to me that the person who's led the medical school for the past 25 years has been so kind to me." Ⓥ

"Vanderbilt is such an incredible institution with such great people. I couldn't be more enthusiastic about what's ahead."

Dr. Steven Gabbe at a glance

- 10th Dean of VUSM since it was founded in 1875.
- Member of the Institute of Medicine.
- Professor and chairman of the Department of Obstetrics and Gynecology at University of Washington Medical Center in Seattle since 1996, where he is the only department chair to receive the distinguished teaching award from graduating medical students.
- Author of 127 peer-reviewed papers, 93 abstracts, 71 chapters and nine books.
- Replaces Dr. John E. Chapman who, after 25 years, has graduated 3,317 medical students, two-thirds of the of the living graduates.
- Married to Dr. Patricia C. Temple, a pediatrician and expert in managed care administration.

Dementia, ALS may be linked

A multi-center team, including Vanderbilt's Program in Human Genetics, has linked a new spot in the genome to an inherited form of amyotrophic lateral sclerosis (ALS) combined with dementia.

The finding, reported October 4 in *The Journal of the American Medical Association*, focuses the search for genes that may cause ALS and dementia to a small region of chromosome nine. It also represents the first evidence that some cases of ALS and fronto-temporal dementia – the type of dementia associated with Alzheimer's disease – may share a common cause.

ALS, commonly called "Lou Gehrig's disease," usually affects only motor neurons. In rare cases patients show signs of other neurodegenerative disease, including fronto-temporal dementia.

The causes of ALS are not understood. Searching for the genes that underlie inherited ALS – about 10 percent of all ALS cases -- may point to the culprits involved in the more common, sporadic form of the disease.

The multi-center team of researchers selected 16 families with autosomal dominant inheritance of ALS (the disease develops if one of the two copies of a culprit gene is defective). The set of families included a total of 549 people, of which 93 were affected with ALS. The researchers conducted a genome-wide search for chromosome areas linked to ALS in these families.

The search uncovered a spot on chromosome nine that was linked to the disease in two of the families. When the researchers examined the clinical records of these two families, they were surprised to find that patients in both families developed motor neuron disease concurrently with progressive dementia. There was no evidence of ALS dementia in the other 14 families.

"This was not something we were looking for – it was a bit of a surprise," said Jonathan L. Haines, Ph.D., professor of Molecular Physiology and Biophysics and director of the Program in Human Genetics. "A connection between ALS and fronto-temporal dementia had only been hypothesized before and this really solidifies that the two are genetically linked to each other."

To further confirm the finding, the research team selected four more families -- three with members who have ALS concurrent with dementia. The investigators found that in these three families, the same spot in the genome linked to the disease. In the other family, where ALS was not accompanied by dementia, there was no linkage to the chromosome nine site.

Investigators will now "zoom-in" on the defined area of chromosome nine to search for a gene that can cause ALS and dementia. - LEIGH MACMILLAN

DANA JOHNSON

New catheter offers outpatient heartburn relief

Lynn Ashby wrestled the symptoms of GERD, gastroesophageal reflux disease, for a dozen years before a brief TV newscast and an Internet search led her from Huntsville, Ala. to Vanderbilt University Medical Center's heartburn clinic, where doctors ended her bout with the disease.

Ashby suffered all the common symptoms of GERD -- severe chest pain, a chronic cough and sore throat. She had to eat several small meals a day and couldn't bend over without tasting acid reflux from the food she had just eaten -- and she never had the satisfaction of feeling full after a meal.

But a new catheter called Stretta provided the first real relief for Ashby. "It's the most wonderful thing that's ever happened. I feel better than I have in years," she says.

The device, manufactured by Curon Medical, was approved by the FDA in April. On Aug. 18, 2000 Vanderbilt Hospital became the first site in the Southeastern U.S. to employ Stretta when Dr. William Richards, professor of surgery, used it for Ashby's GERD.

GERD most often results when the lower esophageal sphincter, or LES, relaxes. The disease affects 14 million people in the U.S., according to Curon Medical. About 80 percent of those people are candidates for the Stretta procedure.

The standard treatment for repairing the LES is a laparascopic technique called Nissen fundoplication, in which the upper stomach is wrapped around the esophagus in order to tighten the junction between the two.

While that procedure is still the gold standard, Richards said Stretta offers an outpatient fix with much less patient trauma, good outcomes and less expense. It went through trials at 14 U.S. medical centers with 130 patients.

The Stretta catheter is inserted through the patient's mouth and a balloon is positioned along the gastroesophageal junction. The balloon is inflated at the catheter's handle and four needles are deployed, sending radiofrequency energy into the tissue. The heat from the needles destroys nerves that play a part in reflux and they cause a buildup of scar tissue that tightens the gastroesophageal junction. Constant monitoring of the temperature ensures that surrounding tissue isn't damaged. - CLINTON COLMENARES

Piece *by* Piece

Solving the Puzzle of the Mind

The human brain—mine, yours, your neighbor's, anybody's—has more than 100 billion neurons, each one reaching out to thousands more neurons, so that our brains have more than 100 trillion connections.

That's WAY more than all the Internet connections in the world.

That's even more than the number of galaxies in the known universe.

All in a spongy three-pound package between your ears.

Despite substantial advances in understanding brain function, much about this complex organ remains shrouded in mystery.

During development, what makes neuron X connect to neuron Y? How do we remember multiplication tables and our last beach vacation? What goes wrong to cause mental illnesses and neurodegenerative disorders? These are the kinds of questions that neuroscientists puzzle.

The many functions of the brain depend on an intricate network of connections between neurons. These connections initially form during fetal development when a neuron sends out an extension, the axon, that migrates through the embryonic environment, finds and connects to the correct target neuron.

Associations between neurons are not set in stone at the completion of development. Environmental signals and learning act to shape the connections—strengthening some, weakening others. This capacity for change in the brain's neuronal links is called "plasticity," and it is highest early in life. You know the phrase—it's hard to teach an old dog new tricks.

By defining the molecules involved in brain plasticity, scientists may be able to prompt rewiring to repair the damage of injury or stroke, or to relieve the devastating degeneration caused by diseases like Alzheimer's.

The stage is set for putting together the puzzles of brain plasticity, complex behaviors, and neurological disorders. Neuroscientists will draw on the completed human genome sequence and on powerful new brain imaging techniques that allow them to non-invasively explore the biological underpinnings of thought.

- LEIGH MACMILLAN

Viewing *the* World *in a* Different Way

by Nancy Humphrey

PHOTOS BY DANA JOHNSON

CATCHING THE PROBLEM
Wendy L. Stone, Ph.D., tests a child through the use of a 12-item, play based, interactive kit.

Imagine having a seemingly perfect infant. Ten fingers. Ten toes. A good APGAR score. Then slowly, as unusual behavior and delays in communication development begin to surface, a dark cloud of worry replaces the comforting feeling that everything is OK.

Welcome to the topsy-turvy world of a parent of a child with autism, a common, yet complex developmental disability that typically appears by the age of 3 and affects as many as one in 500 individuals.

Children with autism have difficulty forming social relationships, impaired understanding and use of language, and restricted patterns of activities and interests. It is four times more prevalent in boys, but girls with autism are affected more severely. The disability knows no racial, ethnic, or social boundaries. Children with autism have a need for sameness. They may exhibit repeated body movements such as hand flapping or rocking and may be overly sensitive to sights, noises, touches, smells and tastes. The part of the brain that appears to be affected is the cerebellum.

Physicians and researchers at Vanderbilt University and Vanderbilt University Medical Center are working on a variety of studies to find the cause of autism and are developing new tests that will allow earlier diagnosis.

"There has been a reported increase in the incidence of autism," said Stephen M. Camarata, Ph.D., associate professor of Hearing and Speech Sciences. "But it's hard to know if it's a real increase or a change in identification characteristics."

Camarata said that children with autism are difficult to raise. About 70-80 percent of children with autism have mental retardation as well.

"As recently as 20 years ago, autism was pretty much thought to be hopeless. Now there have been some pretty big advances in earlier diagnosis and treatment. Children who are truly autistic have improvement in function, as well as the ability to go to school and to function in larger settings."

Camarata, who works with autistic children, is clinical investigator of a National Institutes of Health program project grant and the director of the Scottish Rite Child Language Disorders Center at Vanderbilt. More than 100 children with autism or autism spectrum disorder, who live as far away as Spain, are evaluated through the center.

At Vanderbilt, the study of autism extends across campus. Isabel Gauthier, Ph.D., assistant professor of Psychology, is studying the theory that children with autism have trouble recognizing faces. She has a grant from the McDonald Foundation to investigate whether children with autism can orient to faces and detect subtle differences in emotion. The possibility exists that the visual centers in the brain can't process that information. Craig H. Kennedy, Ph.D., associate professor of special education, is studying self-injury and self-stimulation in patients with autism.

Another theory that is being explored is that the cerebellums of many children with autism have decreased size, many times up to 30 percent smaller. The cerebellum is involved in the coordination of movement.

Most of the research of Wendy L. Stone, Ph.D., associate professor of Pediatrics at VUMC, has focused on the early identification of children with autism.

Research has shown that parents begin to become concerned about their children at the average age of 17 months. The first concern is usually the lack of language development. But children often don't receive a definitive diagnosis of autism until the preschool or early elementary school years.

In 1999, armed with a four-year grant from the Department of Education's Office of Special Education Research, Stone began studying a test she and colleagues at Vanderbilt developed – STAT (Screening Tool for Autism in Two year olds).

"We're not trying to identify children with autism from the general population," Stone said. "These are all children who were referred because of concerns about their development. We want to be able to identify children with developmental delays and language delays who also have autism, from those who may just have developmental or language delays."

The test is actually a 12-item, play-based, interactive kit. The items in the kit, cars, trucks, dolls, etc., are used to screen children in three categories – functional play, imitation and communication. The four-year study will look at the reliability and validity of the screening tool. The children are screened, then followed for two years. At age 4, a definitive diagnosis will be made by a trained clinician who has not seen the child before.

Early detection is important.

"These children lose valuable intervention time if autism is not detected early," she said. "The brain appears to be more plastic at early ages. The behavior of children with autism can be very confusing if you don't know why they're doing certain things. Their behaviors aren't intentional. They're just viewing the world in a different way."

The search for a genetic cause

The cause of autism is unknown, and the search is on for genes linked to the disorder.

"Autism is one of the more strongly genetic complex trait disorders," said Jonathan L. Haines, Ph.D., professor of Molecular Physiology and Biophysics and director of the Program in Human Genetics and of the Kennedy Center's Program of Genetics, Brain, and Behavioral Development.

No specific genes have yet been linked to autism. Estimates of the number of genes that may contribute range from three to 20, Haines said.

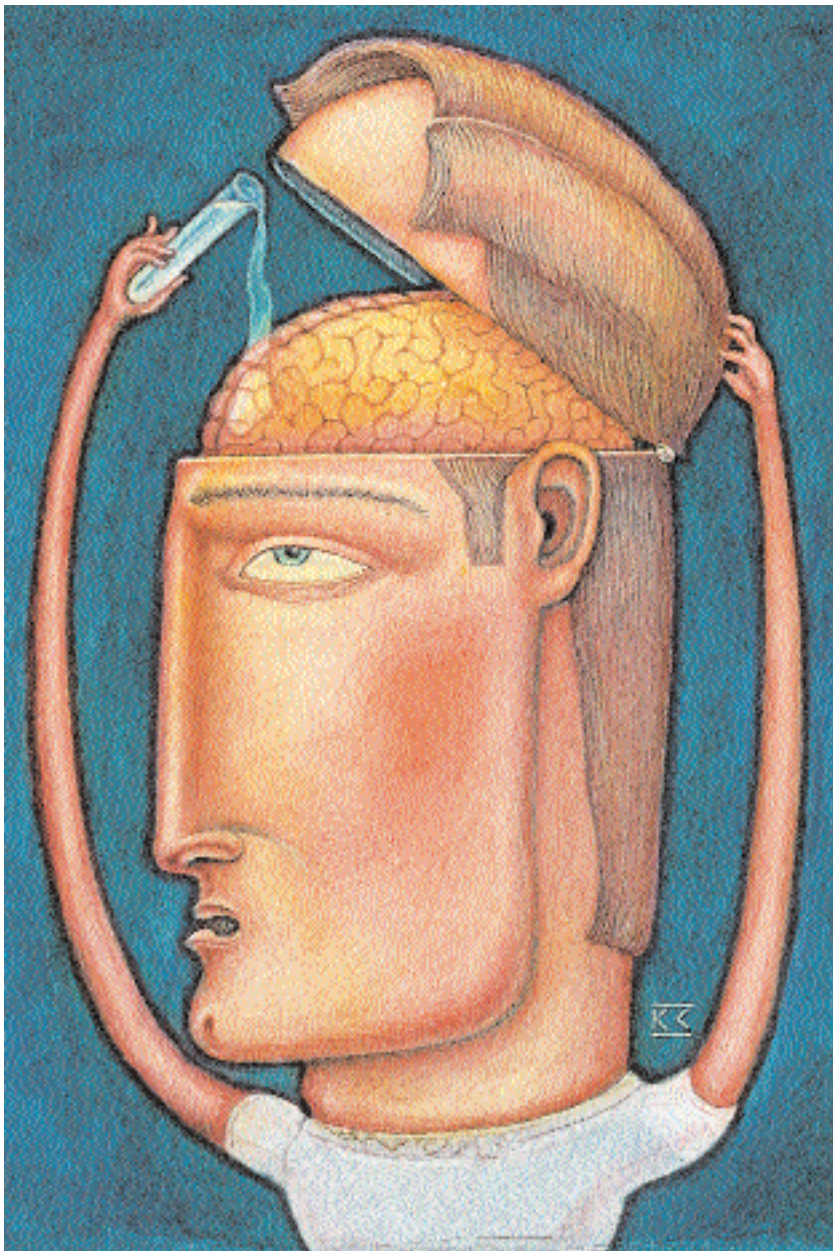
To identify genes, Haines and others first search the DNA of families with multiple affected members for small regions of the genome that track with the disorder. Investigators agree that parts of chromosomes 7 and 15 contain culprit genes, and they are narrowing in on other regions of the genome suggested to be linked to autism.

Haines and colleagues are focusing on the chromosome 7 spot. Using genome databases developed by the National Institutes of Health and the company Celera Genomics, they are identifying genes in the region and testing them for mutations in patients with autism. Though it is a tedious process, "we're on track for finding one of the genes," Haines said.

James S. Sutcliffe, Ph.D., assistant professor of Molecular Physiology & Biophysics and Kennedy Center investigator, is pursuing the link to chromosome 15. Some of the symptoms of autism mirror those described for Prader-Willi syndrome, a complex disorder of cognitive disabilities, overeating and obesity involving chromosome 15 gene deletions.

"Identifying genetic defects in autism will give us tools to understand the biology and thereby to help better treat, or possibly even prevent, the disorder," Haines said. - LEIGH MACMILLAN

Synapses under *the* influence



by Leigh MacMillan

It's a place outfitted for learning—toys of all sizes, shapes, and chewability litter the floor. Chewability? Yes, these toys are for rats. And the young rats who climb ladders and play with toys end up with flexible brains that adapt to change more quickly than the brains of their comrades who poke around in boring wood shavings.

Raising rats in this kind of "enriched" environment is one way that Ford F. Ebner, Ph.D., professor of Psychology and Cell Biology, and colleagues have tried to reverse the damaging effects of fetal alcohol exposure. The strategy only does part of the job of restoring brain "plasticity," Ebner said.

"Synaptic plasticity" is the catchall term to describe the brain's Play-doh like capacity for being molded and changed. Changes at individual synapses—the points of connection and communication between two neurons—combine to lead to changes in behavior "that we call learning," Ebner said.

Nerve cell communication is altered when synaptic connections grow stronger or weaker, or when new connections, new synapses, are formed.

A close shave

Ebner, who is also an investigator of the John F. Kennedy Center for Research on Human Development, and his colleagues probe plasticity in the rat brain by measuring the electrical responses of the whisker neurons—the sensory cells that detect whisker movement.

The investigators cut off all but two of the whiskers on one side of the rat's snout. Then they measure the electrical responses of the whisker neurons over time. The neurons connected to the two uncut whiskers show increased electrical responses in as little as one day, while the neurons connected to the cut whiskers have weakened responses.

It's the old "use it or lose it" adage, Ebner said. The neurons alter their responses to fit the incoming signals.

By measuring the changing electrical responses over time, the investigators can learn how fast or slow the plastic changes are—a more important measure, Ebner said, than whether or not plasticity occurs.

They have discovered that when rats are exposed to alcohol throughout gestation, the whisker neurons adapt to change slowly. Fourteen days pass before the neurons that sense input from the two uncut whiskers increase in responsiveness.

"It's not that the cortex isn't working at all," Ebner said, "it's that something about the alcohol exposure has changed its rate of plasticity."

Ebner believes the slowed rate of plasticity could explain the mental retardation that accompanies fetal alcohol syndrome.

Increasing brain activity in general, by rearing the prenatal alcohol-exposed rats in the "enriched" environment, restores about half of the plasticity—the neurons adapt in seven days instead of 14. Ebner's thrust is to find a way to restore the rest of the functionality to fetal alcohol-exposed neurons.

He's taking cues from his group's discovery that the prenatal alcohol-exposed rats have reduced brain levels of the NMDA receptor, a protein that is important to nerve cell communication.

Smart pills?

NMDA receptors stud the knobby extensions of neurons that receive incoming signals. They respond to the "excitatory" neurotransmitter glutamate to promote the passing of messages from one neuron to the next. Their activity is required for the synaptic plasticity that Ebner measures, so low levels of NMDA receptors could explain some of the plasticity deficits in prenatal alcohol-exposed rats.

> "Synaptic plasticity" is the catchall term to describe the brain's Play-doh like capacity for being molded and changed.

Ebner is testing the effects of a drug that increases NMDA receptor activity and improves synaptic plasticity. The drug makes normal rats learn faster. Ebner hopes it will help overcome the prenatal alcohol-exposed rats' deficit in NMDA receptor number and restore synaptic plasticity.

"The drug makes the NMDA receptors that are present more able to start the cascade of events that we assume are important to learning and memory," Ebner said. "If the results are positive, they could be translatable to human beings."

Bull's Eye

The NMDA receptor is not only sensitive to alcohol in the developing fetus; it is also a target for alcohol action in the adult brain.

"We knew that alcohol, both acute and chronic, produces memory loss, and that it affects synaptic transmission," said David M. Lovinger, Ph.D., professor of Molecular Physiology & Biophysics, Pharmacology, and Anesthesiology. "So the NMDA receptor, with its role in excitatory neurotransmission and learning and memory, seemed like a logical target for alcohol action."

Lovinger and his colleagues were among the first to show that alcohol—at concentrations that are reached in the brain during intoxication—inhibits the function of NMDA receptors, effectively turning off nerve cell communication.

"The findings set off a whole subfield of research on the effects of alcohol on this receptor," Lovinger said.

Lovinger's group uses electrophysiological techniques to examine NMDA receptor responses in cultured cells and in brain tissue. They are teasing apart the features of the receptor that make it sensitive to alcohol.

Defining the molecular basis for alcohol's inhibition of the NMDA receptor will guide the development of drugs that counter its effects. Although there are medications used to aid in alcohol withdrawal and lessen alcohol craving, they have limited success, Lovinger said.

"There's definitely room for improvement in developing pharmacotherapy for alcoholism," he said.

Lovinger recently received a Method to Extend Research in Time (MERIT) grant from the National Institutes of Health for his molecular studies of alcohol action. The MERIT award provides up to ten years of continuous funding without competitive review.

DANA JOHNSON

MOUSE TESTING
Michael McDonald, Ph.D., looks at mice on a rotarod, a device that measures ataxia and motor coordination.

quiet please . . .

mouse exam in progress

Ensure—it's not just a dietary nutrition supplement anymore. Mice are crazy about it, and they will learn and correctly perform tasks just to get a lick or two of the sweet stuff.

Reward-based learning is central to some of the tests conducted in the Murine Neurobehavioral Laboratory, a new Vanderbilt University research resource devoted to testing neurological behaviors in mice. Michael P. McDonald, Ph.D., assistant professor of Pharmacology and a veteran of rodent behavioral testing, directs the core facility.

Mouse testing is in high demand as researchers use genetic manipulations to remove or add genes to the mouse genome, creating models to study gene functions and disease. The core facility offers testing rooms outfitted with specialized equipment to assess attention, impulsivity, anxiety, compulsive behavior, learning, memory, behaviors characteristic of autism, depression or schizophrenia, and more.

by Leigh MacMillan

"The degree of murine behavioral expertise available under one roof is extraordinary," said Randy D. Blakely, Ph.D., Allan D. Bass Professor of Pharmacology and director of the Center for Molecular Neuroscience. "Before this core was established, investigators had to work with collaborators outside of Vanderbilt."

One core room, for example, is filled with "Skinner boxes"—named after the scientist who invented them. Each box, about the size of a 13" TV, is a sound-attenuated, light and temperature-controlled chamber equipped with a testing cage and the electronics to operate cues like light and sound, to deliver the Ensure reward, and to record the mouse's actions.

Skinner boxes can be used to assess multiple behaviors, including attention, short-term memory, impulsivity, and behaviors related to depression and drug abuse.

Here's how a test for attention—using a Skinner box—works. A mouse is trained to poke its nose into a hole in the cage wall when a light is flashing there, in order to get a sweet reward. Nose-pokes replace the traditional lever-press because mice learn the tasks more quickly using this natural behavior, McDonald said.

Mice that serve as a model for Attention-Deficit/Hyperactivity Disorder (ADHD) do not respond as quickly and have more "misses" compared to normal mice.

In a similar test for children, a computer screen flashes letters, and the child is instructed to press the lever when he sees an "X."

"Children with ADHD miss more of the X's and press the lever more when they're not supposed to," McDonald said. "The mouse test is a very good analog for this."

In addition to the 30 tests currently set up, McDonald and Tsuyoshi Miyakawa, Ph.D., research assistant professor of Pharmacology and manager of the core, offer advice and assistance to investigators interested in running different, specialized tests.

The resources of the Murine Neurobehavioral Laboratory are expected to play a key part in the analysis of mutant mice being developed by the Tennessee Mouse Genome Consortium. The TMGC, formed in 1998 to pool resources and expertise for functional genomics—the analysis of genes and what they do, includes Vanderbilt, Meharry Medical College, the University of Tennessee (Knoxville and Memphis), St. Jude Children's Research Hospital, and Oak Ridge National Laboratory.

The National Institute of Mental Health recently awarded the TMGC $12.7 million to develop and study mouse models for neurological diseases and disorders. Dan Goldowitz, Ph.D., professor of Anatomy and Neurobiology at UT-Health Science Center, is the principal investigator for the grant.

"The idea is for Oak Ridge to induce random mutations in mice, put them through a broad-based rapid screen, and pick out the mice with the most interesting phenotypes for further study," said McDonald.

McDonald has worked with investigators at Oak Ridge to develop the initial screens, which will include rapid tests of locomotor activity, anxiety, sensory motor gating (related to autism and schizophrenia), depression, learning and memory. Vanderbilt and other consortium sites will carry out more extensive tests.

"The consortium has possibilities for uncovering new models for behavioral and neurologic disorders," Blakely said. "It brings together the analytical power of multiple sites."

For more information about the Murine Neurobehavioral Laboratory or the TMGC, visit their Web sites: http://bret.mc.vanderbilt.edu/mnl/index.htm and http://tnmouse.org/index.html.

VUMC joins Brain Awareness effort

Great things come in small packages.

Perhaps the brain is the finest example of that old saying.

But much of how the three-pound organ works remains a mystery, even for those who devote a career to the study of the brain.

To keep faculty, staff, students and the general public informed about new developments in brain research, Vanderbilt is one of the most successful participants in Brain Awareness, an international effort to advance public awareness about brain research.

Organized by the Dana Alliance for Brain Initiatives, Brain Awareness Week is an offering of events and speeches about brain research. Vanderbilt has been a Brain Awareness partner since 1997 and has expanded its program to encompass activities throughout the month of March. During Brain Awareness Month, Vanderbilt invites world-renowned experts on neuroscience and the brain to come to Nashville to share their discoveries.

Topics are diverse and include neurodevelopment, memory, pain, brain imaging, sleep, anxiety disorders, Parkinson's disease, schizophrenia, epilepsy, and more.

Topics on the 2001 program include memory, Autism, and Alzheimer's disease.

Brain Blast, a program with multiple hands-on neuroscience exhibits, is designed especially for children and families and is held every year at the Cumberland Science Museum.

Vanderbilt also sponsors the Brain Bee, an electronic statewide high school competition testing neuroscience knowledge. The winner is sent to the National Brain Bee to compete with winners from other local Brain Bee events around the country.

For recorded information about Brain Awareness, call 1-615-936-2637 or visit the web site at http://braininstitute.vanderbilt.edu

On the cutting edge *of* brain surgery

Medical and surgical treatment most often aims at stopping something, from a runny nose to the proliferation of cancerous cells. But few interventions have results as remarkable and immediate as the cessation of essential tremors; few as empowering as the interrupting brain signals that start epileptic seizures.

Implanting electronic devices that offer such relief into patients' brains has been the purview of Dr. Peter E. Konrad, assistant professor of Neurological Surgery, since he joined the Vanderbilt University Medical Center staff in 1998 following his residency here.

With an implant into the thalamus, many patients' tremors from Parkinson's or other movement disorders – shakes that limit their lives and cause constant discomfort – are instantly settled. And a device set on the vagus nerve not only decreases the progression and severity of seizures, it hands control over to patients, giving them the ability to abort a seizure when they feel one beginning.

Terminating tremors, probing possibilities

Setting electrical probes along just the right spot of a cylindrical formation of the ventral intermediate nucleus, inside the thalamus, to stop a patient's tremors has been described as something akin to flying over a city, locating the right neighborhood, the right block and the right house, then lowering a match down the chimney to light a fire in the fireplace. Like running a remote control from that spot in the fireplace through the front door and into the garage, wires from the probe are threaded through the neck to a programmable monitor set inside the chest.

by Clinton Colmenares

It's an exercise Konrad now does with Medtronic's Activa® Tremor Control Therapy device as often as twice a week. It's also a long way from the previous standard of treatment – lesioning the suspected brain cells and rendering them completely ineffective.

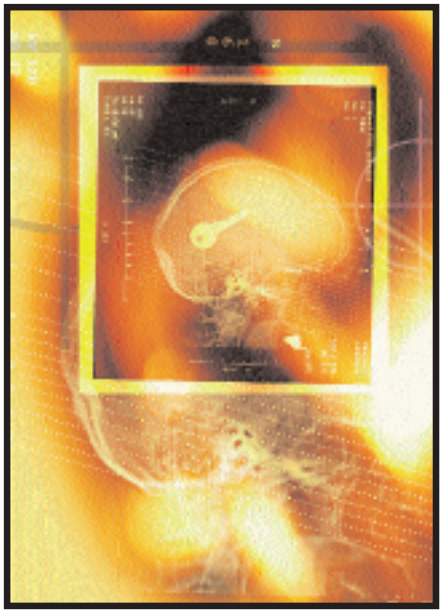
"Across the country, medical centers are shifting the way Parkinson's is treated. We're leading the way," Konrad said.

Implanting impact

Devices for movement disorders stimulate patient improvements.

Tremors result from faulty wiring, the brain's inability to regulate outflow of movement. Lesioning kills the suspect brain cells. "We don't want to kill the cells, we want to put them back on track," Konrad said. "High-frequency stimulation overrides the abnormal signaling."

Lesions, in effect, wiped away any evidence of another source of the problem. But because the device can be turned on and off "we can tell if what we're doing really affects



the person," Konrad said. "Before, we could only guess if there was really a problem there," in the treated portion of the brain. Also, he said, the brain learns to bypass lesions. The device can be re-programmed if the disease changes.

Lovell Frizzell, 57, an office equipment salesman from Chattanooga, is one patient who has been helped by the device.

During a recent surgery, he lay awake while Konrad and his team implanted a probe in the right side of his brain. Frizzell suffered from benign essential tremors, a condition resembling Parkinson's disease that caused his left side to shake uncontrollably. As the probe was properly positioned, Frizzell talked to Konrad and Dr. David Charles, assistant professor of Neurology, telling them of small sensations in his left arm and mouth. When the probe hit the mark, Frizzell's left arm immediately stopped shaking and became relaxed.

A year and a half earlier Konrad set an implant in Frizzell's left thalamus to stop the shaking in his right side. It had worked beautifully, Frizzell said. "The outcome was good. That's what I'm waiting for on the left side," he said before the surgery.

The implant is now also used to relieve chronic pain caused by rigidity in Parkinson's patients. But there's another potential application unrelated to movement disorders.

Bringing neuroscientists together

The Vanderbilt Brain Institute (VBI) was created in 1999 to promote and facilitate the discovery efforts of Vanderbilt neuroscientists, the training of undergraduate and graduate students, and the coordination of public education and outreach in brain sciences.

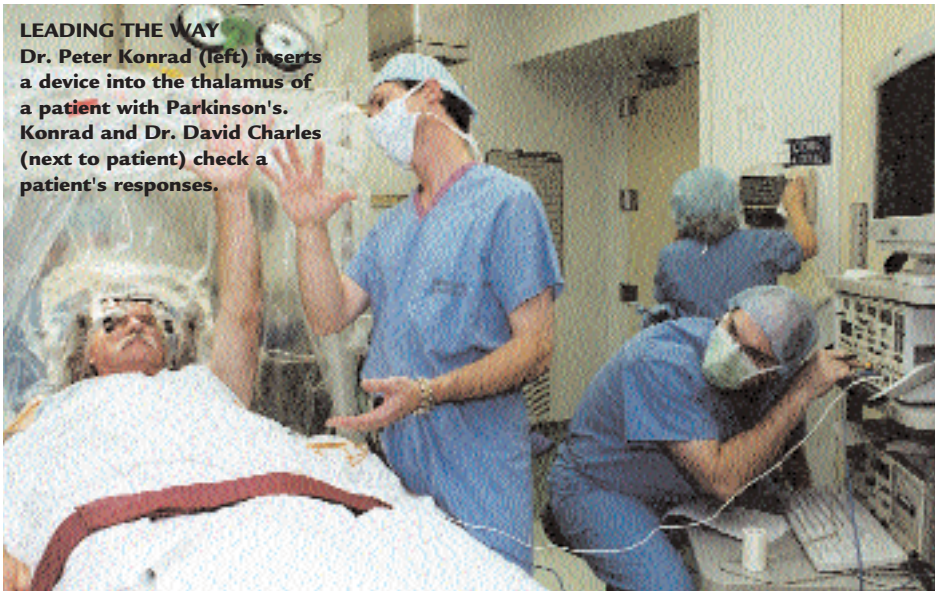
The goals of the VBI are to foster an interactive environment for interdisciplinary neuroscience research; to empower the next decades of brain research by training undergraduate, graduate, and clinical neuroscientists; and to set a national example for how our understanding of the brain can inform recommendations for lifestyle changes, novel treatments, educational strategies, and public policy.

Neuroscience at Vanderbilt is an interdisciplinary, transinstitutional endeavor. A wide diversity of discovery efforts across the campus include research in the areas of nerve communication, learning and memory, behavioral and cognitive science, neurogenetics, neural development, sensory sciences, and clinical neuroscience related to neurological and mental disorders.

Elaine Sanders-Bush, Ph.D., professor of Pharmacology and Psychiatry, serves as the first director of the VBI. She also led the efforts to create an interdisciplinary Neuroscience Ph.D. program, the first graduate program at Vanderbilt that links the School of Medicine with the College of Arts and Science, Peabody College and the School of Engineering.

The VBI is also committed to educating the public about the extraordinary advances in brain research and how those discoveries significantly affect many aspects of people's lives through efforts such as Vanderbilt's Brain Awareness Month activities. For more information about the Vanderbilt Brain Institute, contact the program at brain.institute@vanderbilt.edu or visit their web site at http://braininstitute.vanderbilt.edu

PHOTOS BY DANA JOHNSON



LEADING THE WAY
Dr. Peter Konrad (left) inserts a device into the thalamus of a patient with Parkinson's. Konrad and Dr. David Charles (next to patient) check a patient's responses.

"Don't be surprised if we pull these in for treating some of the behavior disorders such as obsessive compulsive disorders and major refractory depression," Konrad said.

Again, the implant would replace a current standard of therapy, electroshock therapy. Implants target a very small, very specific area of the brain. "The differences in using electroshock therapy and implants are like using a sledgehammer or jeweler's tools to fix a clock," he said.

Epilepsy care continues to advance

The Vagus Nerve Stimulator, is another example, of clinical neuroscience modulating, not destroying, dysfunctional states in the nervous system, Konrad said. The stimulator system includes a generator implanted in the chest and an electrical lead implanted on the top of the vagus nerve, a long line of communication and the primary link between the major organs of the body and the brain.

The device provides programmed stimulation – an intermittent signal that fires on the input side of the vagus nerve, allowing the message to piggy-back on the nerve to the brain, altering the neurotransmitters that cause seizures. But patients can often feel when seizures are about to start. By waving a hand-held magnet over the generator a patient can kick-start stimulation to avoid the seizure. Eventually, Konrad said, these implants may be able to read signals and adjust automatically to provide stimulation when needed.

With an implant into the thalamus, many patients' tremors from Parkinson's or other movement disorders – shakes that limit their lives and cause constant discomfort – are instantly settled.

Since 1997, Konrad has implanted more than 50 Vagus Nerve Stimulators. But they're still only one part of epilepsy treatment. With the multidisciplinary team assembled – a team of neurologists, neuroradiologists, neuropsychologists and others – Vanderbilt is the only comprehensive epilepsy center in the Southeastern U.S.

"We provide all treatment options for patients with epilepsy, from children to adults, the rare and common forms of the disease," he said.

One of the biggest challenges facing the team, he said, is the labor-intensive process of patient workup.

One reason for the potential is the increase in technology that makes implantation of the device faster, easier and better for the patients. "Technologically, we're on the threshold of a lot of exciting advances," Konrad said.

Computer-guided imaging gives surgeons real-time images of the device as it's being implanted in the brain, offering a constant view into the body with minimal invasiveness.

"It allows for more accurate procedures with higher degrees of success," Konrad said. "Overnight stays (following the surgery) will be routine in the next year."

Surgically installing implants for properly chosen epilepsy patients, Konrad said, is extremely gratifying. "It makes an enormous impact in their lives."

Storm Warning!

An epileptic attack is like a lightning storm inside the brain, a storm with rapid and rhythmic lightning bursts. It can be localized to a small cluster of neurons, or it can spread and involve the entire brain.

More than two million Americans have epilepsy—recurrent seizures of various types, and 25 percent of these patients have seizures that resist medical control.

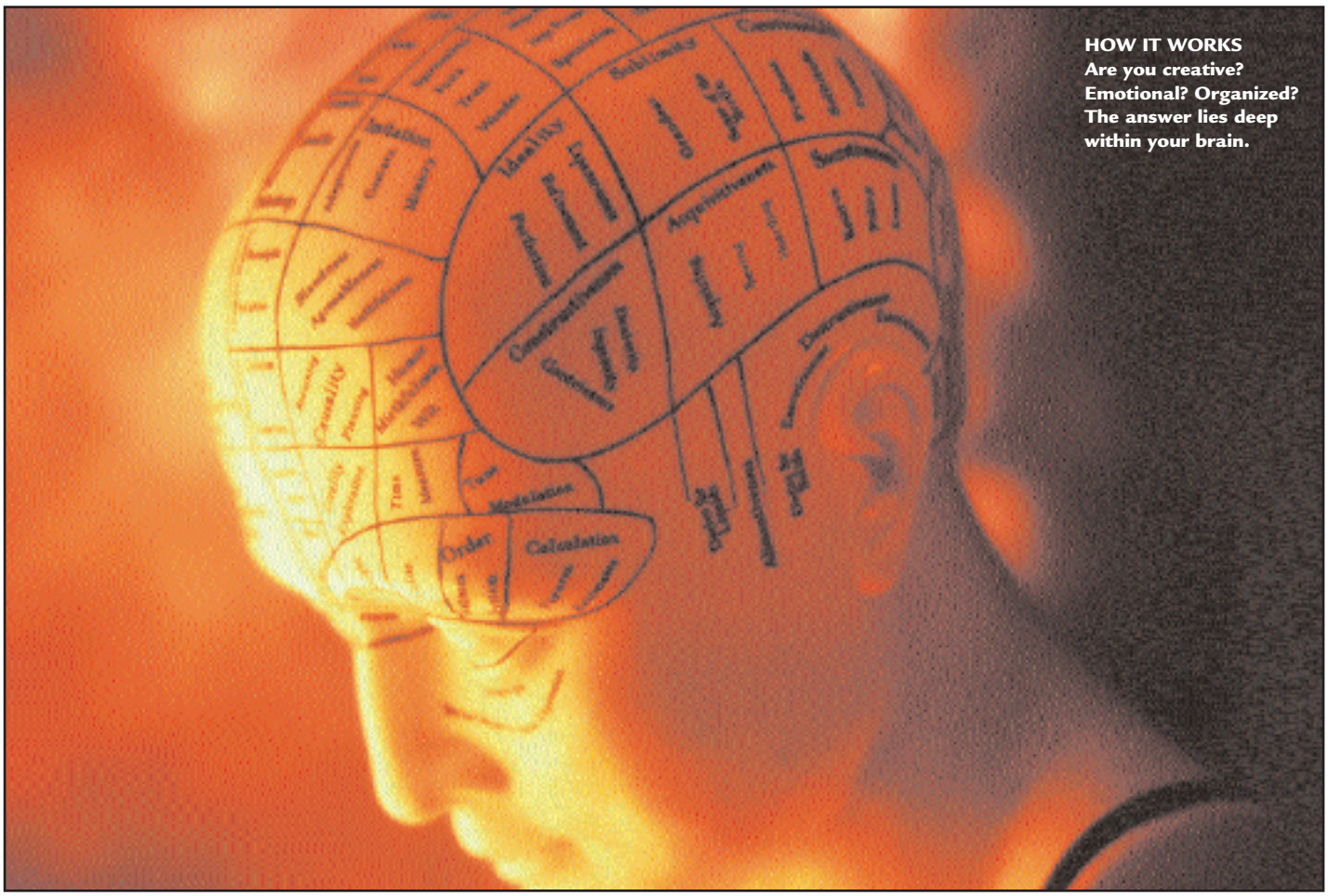
Of the multiple causes for epilepsy, there is a substantial genetic component, said Dr. Alfred L. George Jr., Grant W. Liddle Professor of Medicine and director of the division of Genetic Medicine. George and colleagues were the first to link a mutation in a sodium channel gene to epilepsy.

Sodium channels are donut-like pores that let electric current, in the form of sodium ions, cross the cell membrane. So far, all of the seven genes linked to epilepsy produce ion channels. Since these channels regulate the electricity that powers the brain, it makes sense that mutations affecting the channels lead to disturbances of brain function.

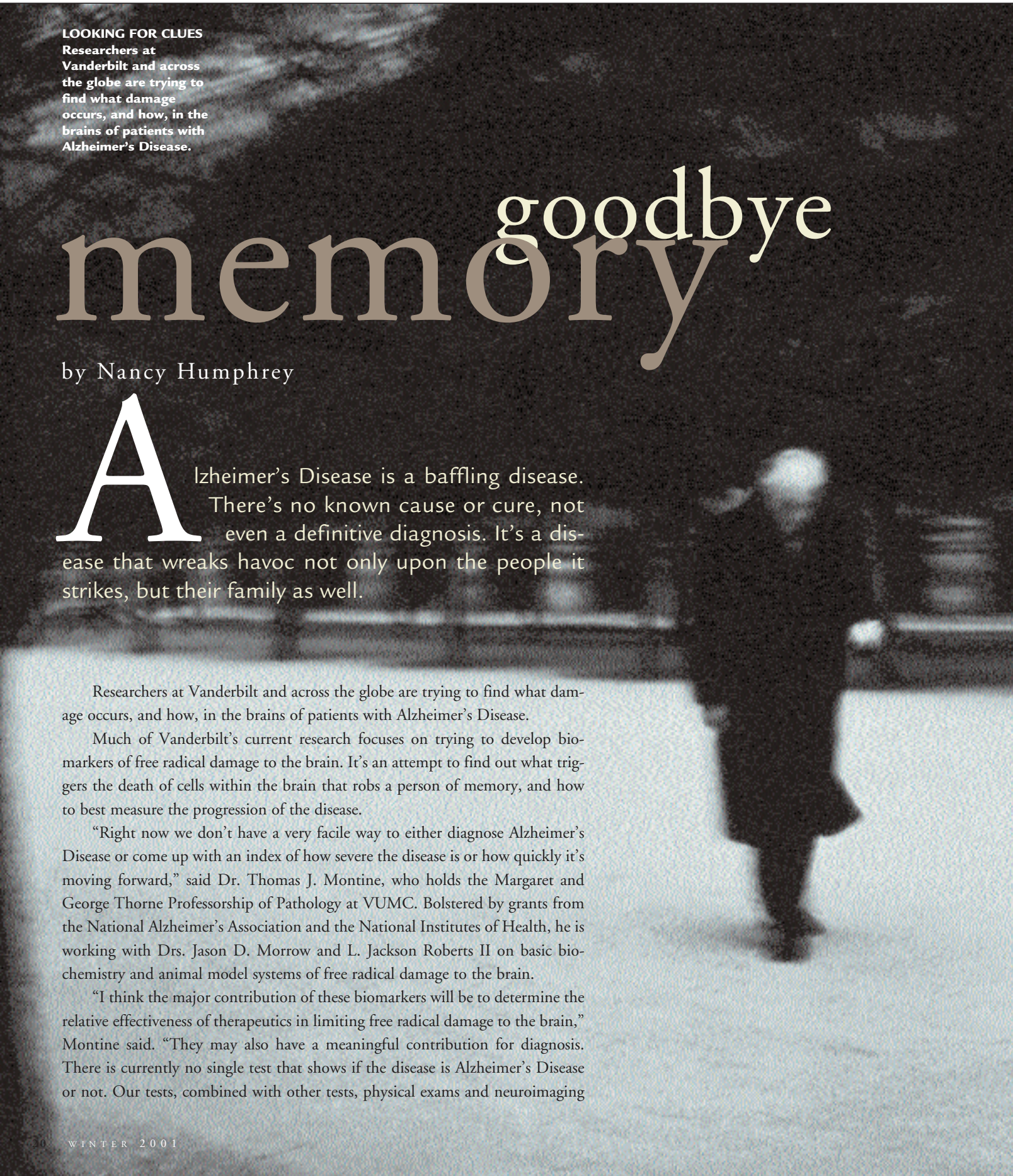
The identified mutations could someday be used as part of a molecular diagnostic test, George said. He and his colleagues are searching for new mutations in sodium channel genes, and they are studying the function of these mutant channels in cells.

"From the functional studies, we plan to develop drug screening methods to identify new anti-convulsant drugs," George said. "It's all about improving diagnosis and therapy."

Dr. Bassel Abou-Khalil, associate professor of Neurology, tracks families with inherited epilepsy and enrolls them for genetic studies. Jonathan L. Haines, Ph.D. and James S. Sutcliffe, Ph.D., Program in Human Genetics and Kennedy Center investigators, screen patient DNA for new regions that may contain epilepsy-causing gene mutations. – LEIGH MACMILLAN



HOW IT WORKS
Are you creative? Emotional? Organized? The answer lies deep within your brain.



LOOKING FOR CLUES
Researchers at Vanderbilt and across the globe are trying to find what damage occurs, and how, in the brains of patients with Alzheimer's Disease.

goodbye memory

by Nancy Humphrey

Alzheimer's Disease is a baffling disease. There's no known cause or cure, not even a definitive diagnosis. It's a disease that wreaks havoc not only upon the people it strikes, but their family as well.

Researchers at Vanderbilt and across the globe are trying to find what damage occurs, and how, in the brains of patients with Alzheimer's Disease.

Much of Vanderbilt's current research focuses on trying to develop biomarkers of free radical damage to the brain. It's an attempt to find out what triggers the death of cells within the brain that robs a person of memory, and how to best measure the progression of the disease.

"Right now we don't have a very facile way to either diagnose Alzheimer's Disease or come up with an index of how severe the disease is or how quickly it's moving forward," said Dr. Thomas J. Montine, who holds the Margaret and George Thorne Professorship of Pathology at VUMC. Bolstered by grants from the National Alzheimer's Association and the National Institutes of Health, he is working with Drs. Jason D. Morrow and L. Jackson Roberts II on basic biochemistry and animal model systems of free radical damage to the brain.

"I think the major contribution of these biomarkers will be to determine the relative effectiveness of therapeutics in limiting free radical damage to the brain," Montine said. "They may also have a meaningful contribution for diagnosis. There is currently no single test that shows if the disease is Alzheimer's Disease or not. Our tests, combined with other tests, physical exams and neuroimaging

studies are going to be the contemporary way that Alzheimer's Disease is diagnosed and that's probably coming in the next five to 10 years."

Other areas of interest at Vanderbilt and other institutions include work by Jonathan Haines, Ph.D., on finding the genes that contribute to Alzheimer's Disease (*see Dementia/ALS story on page 7*); clinical trials by Dr. Richard Margolin, testing the efficacy of different combinations of drugs; and studies here and at other institutions on whether non-steriodal anti-inflammatory drugs, in particular COX-1 and COX-2 inhibitors, reduce the risk of Alzheimer's Disease or halt its progression (*see Proctor & Gamble story on page 22*).

Other processes thought to be involved in Alzheimer's Disease – beta amyloid peptide deposition into senile plaques and abnormal accumulation of tau protein into neurofibrillary tangles – are also being studied.

"There's a big argument as to whether these are simply markers of the disease, just tombstones, or are they marking where the brain has degenerated or are they actually contributing to the brain degenerating?" Montine said.

editor's note: Alzheimer's Disease was the cover story of the summer 1999 Vanderbilt Medicine.

Adding a Human Touch

DONNA JONES BAILEY

When Jeanette J. Norden, Ph.D., teaches medical students about brain tumors, she goes beyond a cellular and anatomic description of the disease. She invites families whose children have died from brain tumors to talk to the students about their experience with the disease and with the medical profession.

This unique approach—bringing the human element into a basic science course—was recently applauded by the Association of American Medical Colleges. The AAMC and the medical honor society Alpha Omega Alpha honored Norden with the Robert J. Glaser Distinguished Teacher Award, the top national award for medical education.

Norden, professor of Cell Biology and director of the Medical Neurosciences course for second-year medical students, is the first Vanderbilt faculty member to receive the award.

"Jeanette is a superb teacher who always—and that's the operative word—has the best interests of the student and the student's education in mind," said Dr. John E. Chapman, dean of the School of Medicine. "She embodies in spirit and action that every student is a teacher, and every teacher is a student."

Norden began to include human stories in the Medical Neurosciences course nearly ten years ago, based on conversations with students about their medical school education.

At Vanderbilt, Norden was the first recipient of the Chair of Teaching Excellence, which she held from 1994 to 1997. This year, she received the first School of Medicine Excellence in Teaching Award, for teaching in the lecture setting.

Since 1991, she has served as director of the Medical Neurosciences course and the Clinical Neurology Elective for second-year medical students. She was named director of Medical Education for the department of Cell Biology in 1999.

– LEIGH MACMILLAN

VAMPIRE super computer rivals others at lower cost

A team of Vanderbilt University and Medical Center scientists has developed a cluster of personal computers, built with off-the-shelf components, that rivals a super computer's computational power at a fraction of the cost.

Dubbed VAMPIRE (VAnderbilt Multi-Processor Integrated Research Engine), the parallel computer will support physics and biology research projects that require huge computational ability. Parallel computers use more than one Central Processing Unit (CPU, the "brain" of the computer) at the same time to solve a single problem.

"It's very inexpensive, especially compared to a comparable super computer, which to do essentially the same thing would cost in the millions of dollars," said Jason Moore, Ph.D., assistant professor of Molecular Physiology and Biophysics and a member of the Vanderbilt-Ingram Cancer Center.

"We literally shopped around on the Internet and found the cheapest prices for each component, which we bought separately. Then we had a two-day get-together where we put it all together by hand. That's how we built it for $100,000 instead of a million dollars."

Moore is co-director of VAMPIRE, along with Paul Sheldon, Ph.D., associate professor of Physics, and Will Johns, Ph.D., assistant professor of Physics. The seed project was funded through a combination of sources, including a Medical Center Discovery Grant and funds from the individual investigators.

Housed in Academic Computing and Information Services (ACIS) in the Hill Center on the Peabody campus, VAMPIRE consists of 54 dual-processor "nodes" connected through a high-speed network. The parts are standard, so upgrades or replacements can be made easily and inexpensively, the scientists say.

The group ultimately hopes to leverage this seed project into a larger, regional system, with thousands of nodes, that will help university and medical center investigators attract additional funding from the National Science Foundation and the National Institutes of Health to carry out computationally intensive research.

VAMPIRE will be used for data-intensive research projects ranging from understanding the genetic complexity of cancer and other diseases to unraveling the mysteries behind the beginnings of the universe. - CYNTHIA MANLEY

DANA JOHNSON

The VAMPIRE crew: Will Johns, Ph.D., Jason Moore, Ph.D., and Paul Sheldon, Ph.D.

DANA JOHNSON

Chancellor E. Gordon Gee

P & G patents to spark new drug discovery

A new "super aspirin" that heals ulcers while it relieves pain could be among a collection of chemical compounds given in November by Procter & Gamble to Vanderbilt University.

Procter & Gamble donated its proprietary "COX-2 Inhibitor Technology"—196 patents and all associated intellectual property for compounds that block the action of the enzyme cyclooxygenase-2.

Two prescription COX-2 inhibitors, Celebrex and Vioxx, have already generated excitement as stomach-friendly treatments for arthritis. COX-2 inhibitors may also find use in the prevention and treatment of cancer and Alzheimer's disease.

"I feel a little bit like a kid on Christmas morning, waiting to open up what may be one of the biggest gifts one could have a chance to open," Dr. Harry R. Jacobson, vice chancellor for Health Affairs, told the crowd gathered for the donation announcement.

"Celebrex and Vioxx are already household names," Jacobson said. "We hope to add a third COX-2 inhibitor to this list."

The global market for Celebrex and Vioxx is approximately three billion dollars annually. If Vanderbilt succeeds in developing and commercializing a new "super aspirin" drug, future royalties could reach one billion dollars a year.

The gift of patent rights to the COX-2 inhibitors is the sixth in a series of Procter & Gamble technology donations to leading universities and research institutions.

"This gift is an enormously important affirmation of the fact that we do world class work here," said Chancellor E. Gordon Gee.

- LEIGH MACMILLAN

the preventable cancer

BY CYNTHIA MANLEY

Hey, Baby Boomer, have you had your screening for colorectal cancer yet?

NBC newswoman Katie Couric did it – on TV. You can certainly do it more discreetly than Katie, but if you're over age 50, you should do it, too.

Colorectal cancer remains the second leading cancer killer in the United States, but as many as two-thirds of the 57,000 colorectal cancer deaths might be prevented with proper screening.

"This is a cancer we can often prevent from developing if it is caught early enough," said Dr. Raymond N. DuBois, associate director of Cancer Prevention in the Vanderbilt-Ingram Cancer Center.

"Unfortunately, most Americans who should be regularly screened are not."

Most colon cancers begin as benign polyps, and their removal can prevent cancer. And colon cancer is very curable if caught before the tumor spreads beyond the colon.

For most Americans, standard screening through testing the stool for blood and sigmoidoscopy or colonoscopy should begin at age 50. Colonoscopy, which views the entire colon, is the more thorough test, though not all insurance plans cover it for screening. Sigmoidoscopy views the lower half of the colon only and fails to detect polyps higher in the colon. "It's kind of like doing screening mammography of only one breast. You are really only getting one half of the picture," DuBois said.

Anyone over 50 or anyone who has had precancerous polyps or colorectal cancer in the past, has a family history of colorectal cancer, or has a personal history of ulcerative colitis or Crohn's disease should discuss screening with their physician.

Symptoms of colorectal cancer include a persistent change in bowel habits, blood in the stool or rectal bleeding, abdominal pain, weight loss or fatigue. Any of these should not be ignored because early cancers are much more easily cured.

While spreading the early detection message through community forums and news media interviews, DuBois is also researching how the disease might be prevented with chemopreventive agents such as COX2 inhibitors. DuBois and his colleagues are testing these aspirin-like drugs, initially developed and marketed for arthritis pain relief, for their potential to prevent polyps.

Much of the research foundation for this advance was laid at Vanderbilt-Ingram, where scientists are studying the important role of the COX2 enzyme in cancer development, prevention and possibly treatment.

"This disease affects nearly 160,000 Americans every year, and risk rises as people age," DuBois said. "As the large Baby Boomer generation ages, and as Americans live longer, the need for an effective prevention grows even greater." Ⓥ

Stead elected to Institute of Medicine

Dr. William W. Stead has become the sixth Vanderbilt University faculty member elected into the National Institute of Medicine of the National Academy of Sciences.

Stead, associate vice-chancellor for health affairs, professor of medicine and of biomedical informatics, assistant to the chancellor for informatics and chief information architect for Vanderbilt University, joins the elite list of 613 active members of the Institute. His father, Dr. Eugene A. Stead Jr., is a charter member of the organization.

"My election represents what Vanderbilt and I have been able to accomplish together," Stead says. "The strengths of our institution are greater than any of our current rankings," he says. "This is another chance to reflect on our strengths."

Dr. Harry R. Jacobson, vice chancellor for Health Affairs, said Stead is deserving of the honor.

"Bill Stead is an excellent thinker," he said. "He is committed to improving the missions of academic medicine --- teaching, research and patient care -- through the most practical and innovative applications of information technology."

Under Stead's leadership, the division of Biomedical Informatics has linked the Eskind Biomedical Library with Information Management under one unit managed at the level of the Medical Center.

"By creating a biomedical information program that is both broad and deep in expertise, and one that is a two-way conduit for informatics research and practice feedback, Dr. Stead has created a program at Vanderbilt that is unmatched in the nation," Jacobson says.

Stead sees his election as the opportunity to further Vanderbilt's efforts to shape health care policy.

"I believe very strongly that the proper role for academic medicine is to provide the tools that empower individual physicians and patients to improve the quality of their health and their health care," he says. "At Vanderbilt our focus is on improving the quality of the system to reduce health care costs."

Other Vanderbilt faculty members elected to the Institute are: James Blumstein, professor of law and director of the Center for Health Policy Studies; Dr. John A. Oates, Thomas F. Frist Professor of Medicine; Dr. Mildred T. Stahlman, professor of pediatrics and pathology; Brigid L. M. Hogan, Ph.D., Hortense B. Ingram Professor of Molecular Oncology; and Colleen Conway-Welch, Ph.D., dean of the School of Nursing.

- CLINTON COLMENARES

Star Wars laser used in eye surgery for first time

DANA JOHNSON

A successful ophthalmic surgery performed with a special kind of laser is a major step toward giving doctors access to one of the last "invisible spaces" in the body: the area behind the eye.

In the operation performed at the W.M. Keck Foundation Free-Electron Laser Center at Vanderbilt University in September, an infrared beam of laser light was used to cut a two-millimeter flap in the sheath surrounding the optic nerve without damaging the nerve itself. Because it is an experimental procedure, the operation was first performed on a patient with end-stage traumatic glaucoma who was having the eye removed. The patient prefers to remain anonymous.

Vanderbilt's free-electron laser (FEL) is a powerful type of laser that was adopted by the Defense Department as part of the "Star Wars" missile defense program. The FEL works by passing a stream of electrons traveling at nearly the speed of light through a wiggler, a device that produces alternating magnetic fields. These fields cause the electrons to "vibrate" at a specific frequency that stimulates them to emit pulses of laser light.

This was only the third operation performed on a human patient using the FEL. The first occurred last December, when the laser was successfully used to remove part of a benign tumor from the brain of Virginia Whitaker, 78, from Kansas City, Missouri. A similar neurosurgery was performed on Paula Parrish, 41, from Springfield, Tennessee in September.

The first ophthalmic operation was performed using the well-established procedure of detaching a muscle on one side of the eye and carefully "rotating" it in the socket to expose the optic nerve. Currently, the only alternative is to cut an opening in the facial bones surrounding the eye, which causes permanent scaring or disfigurement.

Drs. Louise Mawn and Karen Joos, both assistant professors of ophthalmology, performed the operation.

- DAVID F. SALISBURY

CRS

THE CANBY ROBINSON SOCIETY

SPECIAL SECTION

President's Corner

ANNE RAYNER

The Canby Robinson Society is dedicated to providing financial assistance to Vanderbilt Medical students in the form of full-tuition scholarships. Over the years members' generosity has enabled the Society to increase these scholarships for deserving students to six each year. This means that 24 students out of our total enrollment of 416 receive full assistance. In addition there are several partial scholarships provided by a few individuals who are designated Canby Robinson Benefactors.

We can be proud of these programs. They have supported Vanderbilt's goal of attracting outstanding candidates, but we must also recognize that most of our graduating senior medical students carry a high five-figure debt (or more in some cases) as they begin their internships.

To meet the challenge of lessening the burden while continuing to attract the brightest and best future physicians, the CRS is joining the leadership of the medical center in a special multi-year campaign to obtain endowment gifts, the income of which will assist all Vanderbilt medical students. The campaign is described in greater detail in the article on page 26.

This is yet one more way that the extraordinary combination of outstanding students and superb faculty can continue the Vanderbilt tradition of excellence. CRS

Robert E. McNeilly Jr.
President,
Canby Robinson Society

More than a mentor

When Dr. Harris Riley Jr. served on the Vanderbilt University School of Medicine admission committee, he was surprised by the number of potential students who wanted to attend Vanderbilt but went elsewhere because of cost considerations.

Four years ago, Riley, MD'48, professor of Pediatrics and Canby Robinson Society member, decided to do something about it. He signed up for the CRS Scholarship Benefactor program, funding a partial scholarship for a deserving medical student.

The benefactor program matched Riley with Dr. Tyson Thomas, now a first-year resident at Vanderbilt University Hospital.

Thomas, who plans to be either a pediatric or trauma surgeon, said he is grateful for the scholarship.

"My parents told me early on that it would not be possible for them to help me out," he said. "I had a full college scholarship, and no debt going into medical school, so I was very much relieved to find out that I was going to get the CRS benefactor scholarship.

"I'm very grateful to Dr. Riley and the Canby Robinson Society. Having the scholarship every year made me feel obligated to somebody other than myself."

Riley, who also funds other partial scholarships at Vanderbilt, has provided more than financial aid for Thomas.

"The mentorship has meant a lot to me," Thomas said. "I see him in the halls and on the wards. I'm getting a lot from him in lots of different ways."

Riley said he's proud of Thomas, who published a journal article on periodic fever syndrome while still a medical student.

"It's very gratifying to see a student you've helped and become quite fond of reach graduation."

Thomas said he hopes to return the favor someday to another student. CRS

– NANCY HUMPHREY

DANA JOHNSON

VUMC announces Medical Student Scholarship Program

DANA JOHNSON

Dr. Robert D. Collins, Robert E. McNeilly Jr. and Dr. Judson G. Randolph (with dog, Buck) lead a steering committee to develop the scholarship program.

$93,186 is the average amount of debt that Vanderbilt medical students incurred in 1999 – a debt that ranges from $10,140 to $178,155. It is an amount that is more than double the indebtedness of the graduating class of 1990. It's a debt that affects almost everyone since 82 percent of students at Vanderbilt University School of Medicine receive loans and/or scholarships.

To help ease the financial burden for Vanderbilt medical students, Vanderbilt University Medical Center has embarked on a novel and ambitious approach to financing medical education – a new Vanderbilt Medical Student Scholarship Program, with a goal of $50 million in endowment. The payout from the $50 million in endowment will be distributed to reduce the tuition costs of all students not otherwise supported by scholarships. When activated, such an endowment will provide approximately $2.5 million in tuition reduction per year, amounting to $5,500 per year for around 400 students.

The Canby Robinson Society has a flagship role in this new scholarship program. "The contributors to the Canby Robinson Society from the beginning have been dedicated to providing substantial financial assistance to medical students. It is just a natural extension to sponsor this campaign and to play a part in maintaining the extraordinary achievements of Vanderbilt University Medical Center," said Robert E. McNeilly Jr., president of the Canby Robinson Society. The Canby Robinson will continue its program to fund a minimum of 18 full scholarships.

"This undertaking is all about answering two questions: how does Vanderbilt continue to attract the brightest and best students and how do we minimize the financial burden of attending the Medical School?" McNeilly said.

Recruitment of highly qualified applicants has become increasingly difficult as VUSM is in competition with schools with larger scholarship programs, as well as with good state schools with lower tuition (California, New York, Alabama, Virginia and Florida), he said.

"Many graduates say that their career choices are dictated in part by their level of indebtedness," said Dr. Judson G. Randolph, MD'53, HS'54. "The heavy debt that saddles medical students makes it more difficult for students to practice in specialties and locations that offer lower salaries," he said.

According to the Association of American Colleges, tuition and fees at private medical schools increased at an annual 6.4 percent rate in the last decade. At Vanderbilt, the annual rate of growth was even higher at 7.3 percent, although 36 of 51 private medical schools have tuition equivalent or higher than VUSM. Tuition at Vanderbilt for the Class of 2000 was $26,610, while total annual costs exceeded $37,000.

Other special features of the campaign include:

• The scholarship program will facilitate recruitment of the most qualified applicants and will increase applications from students with limited resources. High tuition costs limit access by students in this region.

• Students choosing scholarship support may repay in kind after medical school. They will also be strongly encouraged to take community service electives that are graduated in time and type with student capabilities.

• Once established, the scholarship program will permanently reduce tuition of all students, hopefully outpacing inflation and tuition costs.

Dr. Harry R. Jacobson, vice-chancellor for Health Affairs, has appointed a steering committee to develop the plans and strategy for the scholarship program. Joining Randolph and McNeilly are Dr. Robert D. Collins, MD'51, HS-51,'52,'53-'55, John L. Shapiro professor of Pathology; Robert P. Feldman, J.D., associate vice chancellor for development; and Missy Eason, director of donor relations, Vanderbilt University Medical Center.

CRS – NANCY HUMPHREY

DONNA JONES BAILEY

Canby Robinson Society members Kitty Murfee (center) and Fran Hardcastle (right) participate in an organ recital, one of two recent CRS outreach tours.

Two CRS scholars admitted to honor society

Achieving admission into Alpha Omega Alpha (AOA), the only national medical honor society in the world, is no simple feat. Although the selection criteria vary from school to school, third year Vanderbilt University School of Medicine students who are invited to join AOA must have all A's for the first two years.

This school year, two of the 11 selected to join are Canby Robinson Scholars. A larger than usual number from the academically strong third year class were eligible for membership this year.

Julie Thwing is a graduate of Harvard University. She was born in Seattle, grew up in Cameroon, Africa until age 11, then spent most of her junior high and all of her high school years in Dallas.

Danny Chang, of Oakland, Calif., is a graduate of the University of California at Berkeley.

There are 124 active chapters of AOA across the country.

As stated in the Society's Constitution, "Alpha Omega Alpha is organized for educational purposes exclusively and not for profit, and its aims shall be the promotion of scholarship and research in medical schools, the encouragement of a high standard of character and conduct among medical students and graduates, and the recognition of high attainment in medical science, practice and related fields."

CRS – NANCY HUMPHREY

MARY DONALDSON

CRS scholars Danny Chang and Julie Thwing (right) are new Alpha Omega Alpha members.

An answer to her prayers

When Kristin Ehst received the Canby Robinson Scholarship to attend Vanderbilt University School of Medicine last year, it was the answer to a prayer. Literally.

As a matter of fact, her entire journey from her small hometown of Bally, Pa. to Vanderbilt University, then to Vanderbilt Medical School has been one big leap of faith.

Kristin grew up on a farm in a Mennonite community in southeastern Pennsylvania. Her family, her community and her church with its 150 members are "a big part of who I am," she said.

Raised in the contemporary Mennonite church, Kristin was taught to "live in the world, not of the world." Therefore, life was simple for the Ehst family. Her grandmother, for example, makes most of her own clothes. Living off the land and preserving the farmland that had been in her family for generations is a heritage that she treasures. Her childhood was filled with family time spent playing games, helping on the farm and reading the Bible together.

Kristin played sports at the local high school and excelled in lacrosse. The former Vanderbilt lacrosse coach Wendy Stevens sent her a letter and asked her to visit the undergraduate school. "I fell in love with Vanderbilt and Nashville," Kristin said. She decided to attend Vanderbilt on a sports scholarship and earned her undergraduate degree in Biology.

"I knew Vanderbilt had a good medical school. It was a leap of faith on my part to go so far from home. My family was very supportive and encouraging."

In her sophomore year, Kristin was accepted to the medical school through its early acceptance program and quickly began applying for scholarships.

"My parents said they really couldn't help me with the cost," she said. "My plans have always been to practice medicine somewhere rural and under-served when I finish medical school, so I really didn't want to go into debt."

> "The Canby Robinson scholarship has been an answer to a prayer and a true gift."

Back home in Bally, Kristin's family and church provided support through prayer. Then the call came.

"I was overcome with joy and thankfulness. The Canby Robinson scholarship has been an answer to a prayer and a true gift," Kristin said. CRS

– KATHLEEN WHITNEY

Ehst, Moore spend summer as Christie Scholars

Kristin Ehst

Allan Moore

The first year of medical school can be quite grueling, so it's no surprise that many medical students want to rest during their summer vacation.

Not so for Canby Robinson scholars Kristin Ehst and Allan Moore. The second-year medical students spent eight weeks of their summer gaining hands-on experience in the field of pediatrics.

Ehst and Moore were two of eight Vanderbilt University Medical students chosen for the Dr. Amos U. Christie Society scholarships last summer. The scholars served two weeks each in the Newborn Nursery, Pediatric Acute Care Clinic, Adolescent Service, and in a pediatric elective.

Ehst and Moore shadowed attending physicians, residents and more senior medical students who routinely provide care. Moore was enthusiastic about the opportunity to interact with patients for the first time.

"It was an invaluable experience," Moore said. We were allowed to do patient histories and preliminary exams and we learned a lot of the basics - how to introduce yourself to patients and families; how to use a stethoscope; how to ask questions and take a history; how to interact with nurses, physicians and staff.

"It really put a human face on a dream," Moore said. "It was all about making kids feel better, and it made all the studying and reading worth it."

Ehst, who plans to practice family medicine in a rural or underserved region, found the experience quite valuable. "It was really good for me to have that clinical experience to remind me why I want to be a doctor," she said.

The Christie Society program, chaired by Dr. Harris D. Riley Jr., professor of Pediatrics, was created in 1990 and honors the late Dr. Amos U. Christie, who was professor and chair of Pediatrics from 1943-1968. CRS

– KATHLEEN WHITNEY

GEORGE W. HOLCOMB JR., M.D.
Executive Director
Medical Alumni Affairs

alumni journal

FOND MEMORIES OF REUNION 2000 –

Medical Alumni Reunion 2000 will be remembered both as a look back and a glance forward. Not only did 750 alumni and guests join to celebrate the 125th anniversary of Vanderbilt graduating its first medical class. Dean John E. Chapman was honored for his 25 years of service to students.

Dr. Harry R. Jacobson welcomed the 20 celebrating classes with a presentation of "Vanderbilt Today and Tomorrow." Later, the Quinq classes of 1950 and 1951 were honored when they were presented 50-year pins and certificates.

Dr. Harold L. Moses, MD'62, and his colleagues at the Vanderbilt-Ingram Cancer Center presented an informative symposium on the fight against cancer. Considerations of cancer causes, clinical management of breast and colorectal malignancies and the future of cancer treatment were all discussed.

At the luncheon, which honored the Quinqs, Robert W. Mahley, Ph.D. '68, M.D. '70 was honored with the Distinguished Alumnus Award. Dr. Mahley is the founding Director of the Gladstone Institute of Cardiovascular Disease in San Francisco. His research has focused on apolipoprotein (apoE) and its effect on development of atherosclerosis. More recent investigation of this protein has led him to question its effect on Alzheimer's Disease. "I was well prepared by Vanderbilt by a commitment to excellence, a dedication to helping mankind and a love of scholarship and science," he told the audience after accepting the award.

Attendees enjoyed numerous social events. Forty-five golfers joined Dr. Jacobson at Opryland's Springhouse Golf Course for a friendly competition. About 350 alumni and their guests attended the 125th gala celebration on Friday night at Loew's Vanderbilt Plaza, featuring Sam Levine's Orchestra and a huge birthday cake. Dean John E. Chapman was appropriately honored for 25 years of service to Vanderbilt.

President Herman J. Kaplan '54 transferred the Alumni Association President's gavel to Joseph F. Arterberry '76 from Louisville. .

On Saturday, in perfect weather, the Commodores lost the homecoming game to South Carolina.

Traditionally, individual class parties are held on Saturday night at various locations. This year, 10 classes joined under a big tent for a buffet/dinner dance. The music was furnished by the Soul Incision band, with C. Wright Pinson, MD'80, Director of Vanderbilt's liver transplant program, as drummer, and Norman Urmy, executive vice- president for Clinical Affairs, playing acoustic guitar. The combined class party was a huge success that will most likely be repeated in the future.

MEDICAL ALUMNI DIRECTORY –

For those who have inquired when the new Alumni Directory will be mailed, please be patient. It should soon be delivered.

Very Best Regards,

George W. Holcomb, Jr., M.D.
Executive Director
Medical Alumni Affairs

Faculty News • Alumni News

Faculty News

Dr. R. Daniel Beauchamp,*
John L. Sawyers Professor of Surgery, will become director of the Section of Surgical Sciences, effective June 30, 2001. He succeeds **Dr. James A. O'Neill Jr.,*** John Clinton Foshee Distinguished Professor of Surgery, who is retiring as director of the section.

Dr. Raymond N. DuBois Jr.,
associate director for Cancer Prevention at the Vanderbilt-Ingram Cancer Center, has been selected for membership into the Royal College of Physicians, the oldest medical association in the United Kingdom and one of the oldest in the world. DuBois, Mina Cobb Wallace Professor of Cancer Research, was formally admitted to the College in a ceremony in November in London.

Stephen N. Davis, Ph.D.,
Rudolph Kampmeier Professor of Medicine and Molecular Physiology and Biophysics and chief of the division of Diabetes, Endocrinology and Metabolism, has won the 2000 Novartis Young Investigator Award for patient-oriented research in diabetes mellitus. The award recognizes Davis and his team's discovery that the hormone cortisol blunts the body's natural regulating response during bouts of hypoglycemia.

Heidi E. Hamm, Ph.D.,
formerly professor of Molecular Pharmacology and Biological Chemistry at the Northwestern University Institute for Neuroscience, has been named chair of the Department of Pharmacology at VUMC. She assumed the new position Oct. 1. She received her doctoral degree in Zoology at the University of Texas-Austin in 1980, did her postdoctoral training at the University of Wisconsin-Madison, then joined the faculty at the department of Physiology and Biophysics at the University of Illinois at Chicago College of Medicine. She moved to Northwestern in 1996.

Dr. J. Harold Helderman,*
professor of Medicine, has assumed the role of chair of the admissions committee for Vanderbilt University School of Medicine from **Dr. John N. Lukens Jr.***, professor of pediatrics, who held the position for nearly a decade. **Dr. John A. Zic,*** assistant professor of Medicine, has been named co-chair.

Dr. David T. Karzon, *
professor of Pediatrics Emeritus, has been selected as a 2000 Johns Hopkins University Society of Scholars inductee. Karzon received his medical degree from Johns Hopkins in 1944 and has been a member of the VUMC faculty since 1968. The Society of Scholars inducts former postdoctoral fellows and junior or visiting faculty at Johns Hopkins who have gained marked distinction in their fields. Karzon is one of 14 inductees this year, bringing the total number of society members to 400.

David M. Lovinger, Ph.D.,
professor of Molecular Physiology and Biophysics, Pharmacology, and Anesthesiology, has recently been rewarded with a Method to Extend Research in Time (MERIT) grant from the National Institutes of Health. The MERIT award provides up to 10 years of continuous funding without competitive review. Lovinger will pursue various aspects of his research on how alcohol affects the brain.

Dr. C. Leon Partain, *
Henry P. Pendergrass professor of Radiology, and director of the center for imaging research in the Department of Radiology and Radiological Sciences at VUMC, has been named editor-in-chief of JMRI, the Journal of Magnetic Resonance Imaging. The three-year term began Jan. 1, 2001. Dr. Ronald F. Price, professor of Radiology and Radiological Sciences, will be senior associate editor of the journal.

Dr. Rose Marie Robertson, *
professor of Medicine, has been sworn in as president of the American Heart Association.

Virginia L. Shepherd, Ph.D.,
professor of Pathology and Medicine and Director of Science Education Outreach for VUMC, received the third annual Bruce Alberts Award for Distinguished Contributions to Science Education. The annual award given by the American Society of Cell Biology (ASCB) was presented to Shepherd, who is also a career scientist at the VA Medical Center, in December. Among the programs Shepherd was honored for was the "Girls and Science" summer camp, the design and implementation of a new research-based molecular biology course for Nashville's science magnet school, and the development of a series of educational CDs.

Dr. Corey M. Slovis, *
professor and chair of Emergency Medicine, has been named the new medical director of the Nashville Metropolitan Davidson County Fire Department's Emergency Medical System. The appointment became effective July 1, 2000. In his capacity as EMS medical director, Slovis oversees medical protocol for all of metro's staff of emergency medical technicians and paramedics. His responsibilities include creating and/or revising medical protocols, helping supervise at large multiple casualty incidents where EMS workers require assistance, providing direction for in-service education, and serving as the physician coordinator for the EMS system.

TOMMY LAWSON

Dr. Ian Burr stands with wife Wendy and children Karen Alsheimer and Craig Burr after a portrait was unveiled at a dinner honoring his contributions to VUMC pediatrics.

* Indicates CRS member

Alumni News

'70

Dr. Herman A. Jenkins,
MD'70, has moved to Denver to assume the chair of Otolaryngology at the University of Colorado School of Medicine.

Dr. Robert W. Mahley,
MD'70, was recently elected to the National Academy of Sciences. He was recognized for his contributions in research in lipoprotein metabolism and the structure and function of apolipoproteins (apo), particularly apoE, and for his administrative skills in establishing the J. David Gladstone Institutes. Mahley is UCSF professor of Pathology and medicine and director of the J. David Gladstone Institutes. Mahley, who was also chosen as the 2000 Distinguished Alumnus for Vanderbilt Medical School, is one of 60 new members of the NAS from nine countries. Before founding the Gladstone Institute and joining the UCSF faculty in 1979, Mahley was at the National Heart, Lung and Blood Institute.

'76

Dr. Richard S. Stahl,
MD'76, is now associate chief of staff at Yale-New Haven Hospital. He holds an appointment as clinical professor of Surgery (Plastic Reconstructive) at Yale University School of Medicine.

'81

Dr. Dianne Wol,
F'81, HS'82, is a neurologist at a large HMO in Minneapolis. She reports that her EMG training at Vanderbilt is constantly being used since a good portion of her practice is EMG.

'89

Dr. Kerstin E. Calia,
MD'89, HS'89-92, and her husband, Jonathan Bogan, welcomed their first child, Anthony Jonathan, on June 26,2000. She finished her infectious disease training at Massachusetts General Hospital and stayed there. She is currently practicing primary care, internal medicine, and Travel Medicine/Infectious Diseases.

'90

Dr. Sharon Caldwell, HS, F'90-96,
is a featured soloist on a Christmas CD featuring the Winans Family and some of their closest friends. The CD, Christmas: our gifts to you, is produced by Against the Flow Records.

'91

Dr. Meredith G. Garrett,
MD'91, has joined North Arundel Hospital's medical staff in Annapolis. She practices with Linhardt Surgical Associates. She is board certified in general surgery and is an expert in breast cancer and laparascopic procedures. From 1996 to 1997 she was stationed in Korea where she was a commander of a forward surgical team specializing in battlefield trauma surgery. She was one of three surgeons responsible for medical care of 120,000 U.S. citizens living there.

Dr. Katrina Gwinn-Hardy, *
MD'91, is married to Dr. John Hardy, a neurogeneticist and is the stepmother to three children. She has been working with her husband, as an assistant professor of Neurology at Mayo Clinic in Jacksonville studying the genetics of Parkinson's Disease. In January 2000, she became a medical officer and program director at NIH/NINDS in neurogenetics.

'92

Dr. Sam Chang,
MD'92, HS'92-98, is serving a urologic oncology fellowship at Memorial Sloan-Kettering.

Dr. Mark O'Brien Peeler,
HS, F'92-01, has joined the staff of Anne Arundel Medical Center in Annapolis as a vascular surgeon. He is a member of Chesapeake Vascular.

'93

Dr. John Jay Crawford,
MD'93, received the inaugural "John Harrelson Teaching Chief" award from the Division of Orthopaedics at Duke University Medical Center. The award was accompanied by an all-expense paid trip for his family to the annual Piedmont Orthopaedic Society meeting held at the Ritz-Carlton Hotel on Amelia Island, Florida. Crawford completed his orthopaedic residency at Duke in June and is remaining there for a one-year fellowship in Pediatric Orthopaedics.

'94

Dr. Ben J. Kirbo,
HS'94-'97, has opened a new plastic surgery practice, Southeastern Plastic Surgery, in Tallahassee. He was formerly on the staff at Tallahassee Plastic Surgery Clinic.

'95

Dr. Daniel J. Tierney,
HS, F'95-00, recently moved to Charlotte, N.C., and celebrated the birth of a son, Daniel Joseph Tierney Jr. He is a nephrologist at Metrolina Nephrology and is on staff at Carolinas Medical Center.

Dr. Terri L. Vital,
MD'95, recently completed a fellowship in forensic psychiatry at Rush-Presbyterian-St. Luke's Medical Center in Chicago. She is now stationed with the U.S. AirForce at Wilford Hall Medical Center in San Antonio, practicing general and forensic psychiatry. She has been newly appointed as medical director of the partial hospitalization program.

'97

Dr. Anne-Marie Amies,
MD'97, married Dr. Brant Oelschlager on Oct. 28, 2000 in St. Louis.

Dr. Margaret "Peggy" Cabell Metts,
MD'97, is currently a fourth-year resident in radiation oncology at the Medical University of South Carolina in Charleston. She is married to Dr. Jobe Coy Metts III. Their first child, Carrington Anne Metts, was born Jan. 25, 2000.

'99

Dr. Faisal Siddiqui,
MD'99, is currently in his second year of an orthopaedic residency at the University of Rochester. He was recently awarded the "Resident of the Year" award by the University of Rochester School of Medicine and was given the 2000 Gold Foundation Humanism and Excellence in Teaching Award by the Arnold P. Gold Foundation.

In Memoriam

Dr. Robin A. Byron, MD'39, of Owingsville, Ky., died Aug. 14, 2000 from congestive heart failure. After spending five years in the Army during World War II, he was in solo family practice until January 1995. He was 87 at the time of his death. He is survived by his wife, Elizabeth Hayes Byron; a daughter, Dr. Deborah Byron Stokes; a son, Dr. Robert E. Byron; and four grandchildren.

Mary Phillips Edmond Gray, Ph.D., FA'41-00, died in Nashville on July 10 at age 86. Not only did the Professor of Experimental Pathology, Emerita, study at Vanderbilt, receiving her undergraduate and graduate degrees from Vanderbilt, she spent her entire professional career at Vanderbilt from 1941 until her death. Even after being awarded emerita status, she continued to work four days a week until the spring of 2000. For years, she collaborated with Drs. Virgil S. LeQuire, professor of Experimental Pathology, Emeritus, and Mildred T. Stahlman, professor of Pediatrics, both of whom were among her early students. Survivors include three sons, Harry III of Providence, R.I.; Bill, of Nashville; and Owen, of Goodlettsville.

Dr. William C. Herbert, MD'39, HS'40, died on Aug. 9 at home in Fernwood, S.C. after a nine-year struggle with prostate cancer. He was 86. Herbert, an obstetrician-gynecologist, practiced medicine in Spartanburg for almost four decades. He was 76 when he delivered his last baby, bringing his total to 17,001. Herbert's son, Dr. John Herbert, also an ob/gyn, told the Spartanburg Herald-Journal that 17,001 was a goal that his father had set years earlier. "My grandmother played the organ for funerals at Floyd's Mortuary for years and years," John Herbert said. "She played for 17,000 funerals before she died. Daddy's goal was to birth one more baby than she buried." He is survived by his wife, Kitty, and his children.

Dr. James Kenneth Kaufman Sr., MD'39, died on Aug. 12, 2000 in Murfreesboro. He was 87. The former gynecologist is survived by his wife, Mabel, and children, James Jr. and Carolyn.

Dr. Verne L. McClellan, HS'58-'59, died on Oct. 16 at home in Lufkin, Texas. He was 71. Dr. McClellan was a retired U.S. Air Force physician and Colonel, following 21 years of service. He was then a physician with the Lufkin State School for 20 years. His wife, Evelyn, died in 1994. He is survived by a son Joe, daughter Janet, and five grandchildren.

Dr. Richard Braun Miller, MD'49, died on Oct. 24 in Memphis. The prominent Memphis pediatrician, who cared for thousands of children for more than 40 years, died of pneumonia after a long illness. He was 74. He is survived by his wife of 54 years, Katherine, two daughters, three sons, and 12 grandchildren.

Dr. Thomas F. Parrish,* MD'48, HS'53-'54, CF'63-88, died Aug. 10 at Richland Health Care Center in Nashville. He was 75. He was the first orthopaedic resident at Vanderbilt University Hospital, and was in practice for 32 years with Tennessee Orthopaedics. He is survived by his wife, Roberta, two sons and a daughter.

Dr. Douglas F. Powers, HS'47-'48, died Aug. 21, 2000. After his internship, he returned to Vanderbilt as an assistant professor of Psychiatry from 1960-61. He specialized in child psychiatry and practiced in Charlotte, N.C. at the time of his death.

Dr. James H. Seacat, MD'43, died in Salem, Oregon on Aug. 24. He served in the army during World War II and was in private practice at Salem Hospital's memorial and general units, retiring in 1990. Survivors include his wife, Melba, three daughters, a son and four grandchildren.

Dr. Leonard Seitzman, MD'46, died on Aug. 9 of complications of heart disease in San Antonio. He was an Army physician who treated Presidents Truman, Eisenhower and Johnson and witnessed the world's first atomic explosion in 1945 in New Mexico. Seitzman received the Army Commendation Medal and the Legion of Merit before retiring from the Army in 1967. He later served as chief of radiology at the San Antonio Chest Hospital. He is survived by his wife, Gloria, three sons and a daughter, and seven grandchildren.

Dr. Paul E. Slaton, MD'57, HS'57-'58, FA'69-'88, died Oct. 1 4, 2000. He was 68. Slaton was an endocrinologist at VUMC. He is survived by his wife, Marilyn, three sons, a daughter, and two grandchildren.

Dr. Charles B. Smith, MD'47, CF'56-'88, died on Dec. 13, 1999. He was 76. A psychiatrist for more than 50 years in Nashville, he was named Psychiatrist of the Year in 1995. He founded the Crisis Intervention Center in Nashville and was a co-founder with Dr. Thomas Frist Sr. of the Parthenon Pavilion of Centennial Medical Center. He is survived by his wife, Lavonne, two daughters, a son, and 10 grandchildren.

Dr. Joe Earle Tyler, MD'42, died on Dec. 31, 1999. He was 82. A longtime advocate for improving the status of the mentally ill, he was the first board-certified psychiatrist to open a private practice in Tulsa. He received an Outstanding Service Award from the Oklahoma Psychiatric Association. For the last 10 years of his professional career, Dr. Tyler served as a consultant to the Community Mental Health Clinics. He retired in 1994 when he turned 77. He is survived by his wife, Ann, three daughters and one son.

Winter and Spring Calendar of Events

Saturday, March 3, 2001	Vanderbilt Orthopaedic Society (Association of American Orthopaedic Surgeons Annual Meeting) Fairmont Hotel San Francisco, Calif.
Tuesday, March 6, 2001	Medical Alumni Regional Dinner New Orleans, La.
Wednesday, March 7, 2001	Medical Alumni Regional Dinner Country Club Jackson, Miss.
Friday, March 30, 2001 6-7:30 p.m.	American College of Physicians Reception Atlanta Hilton Atlanta, Ga.
Tuesday, April 3, 2001	Medical Alumni Regional Dinner Washington, D.C.
Wednesday, April 4, 2001	Medical Alumni Regional Dinner Philadelphia, Pa.
Friday, April 6, 2001	Celebration in honor of Dean Chapman, VUMC, Nashville, Tenn.
Friday, April 20, 2001 1-5 p.m.	H. William Scott, Jr., Surgical Society Meeting - Symposium 208 Light Hall Nashville, Tenn.
Friday, April 20, 2001 7 p.m.	H. William Scott, Jr., Surgical Society - Dinner Reception The new Country Music Hall of Fame Nashville, Tenn.
Thursday, May 3, 2001	Medical Alumni Regional Dinner Jacksonville, Fla.
Friday, May 4, 2001	Medical Alumni Regional Dinner Charleston/Kiawah Island, S.C.
Friday, Sat & Sun May 4-6, 2001	Vanderbilt Medical Alumni Board Meeting Kiawah Island, S.C.
Tuesday, May 8, 2001	American Psychiatric Association Meeting (TBA)
Saturday, May 19, 2001	Canby Robinson Society Reception and Dinner West Lawn Nashville, Tenn.
Friday, June 1, 2001 7:30 a.m. - 5 p.m.	Ophthalmology: Pearls IV Loews Vanderbilt Plaza Hotel Dinner at 5:00 Nashville, Tenn.
Saturday, June 2, 2001 7:30 a.m. – midnight	Ophthalmology: Pearls IV Loews Vanderbilt Plaza Hotel Nashville, Tenn.
Thursday, June 7, 2001	Lonnie Burnett Society Reception Country Music Hall of Fame Nashville, Tenn.
Friday and Sat, June 8-9, 2001 Nashville, Tenn.	Lonnie Burnett Society Meeting, Scientific Sessions Country Music Hall of Fame
Friday, June 8, 2001	Lonnie Burnett Society Dinner Country Music Hall of Fame Nashville, Tenn.

A Special Thanks

Vanderbilt University Medical Center is grateful to all its alumni whose contributions have enhanced the missions of the institution in education, patient care and research. In this issue, we take pride in acknowledging those alumni whose gifts were received during the giving period of July 1, 1999 to October 31, 2000.

M.D. Alumni

1927
Leander C. Bryan +

1931
Vance T. Alexander +

1932
Alex S. Moffett +

1933
Henry M. Carney *+
Benjamin Lipton +
Ewing Seligman *+

1934
Robert N. Buchanan Jr. *+
Ben G. Fruhlinger +D
Henry Lytle Harrell Sr. +
Joe J. Pate Jr. +

1935
Roland D. Lamb *+
Viola Veler Newby +
Frank Alton Wood +

1936
Emma S. Fink +
Richard L. Marks +
Louis Rosenfeld *+D

1937
Claude C. Blackwell *+
Richard R. Crutcher Jr. *+
William W. Davis *+
William M. Stubbins *+
Pearl L. Zink *+

1938
Catherine B. Brummett +
Chester C. Brummett +D
John W. Frazier Jr. +
Jack R. Jarvis +
Joseph H. Patterson
John M. Salyer *+
Ann D. Stuckey *+
Fennell P. Turner II +

1939
Allan D. Bass *+
Harry G. Brown
William C. Herbert Jr. +D

1940
Willard D. Bennett +
James B. Boddie Jr. +
John J. Francis +
Aubrey B. Harwell
Harry C. Helm
Warren M. Lonergan +
Richard Cabot Nailling
Charles C. Randall +

1941
Benjamin F. Byrd Jr. *+
Luke L. Ellenburg Sr. +
Laurence A. Grossman *+
Joe H. Hilsman Jr.
Thomas J. Holbrook Sr.
Robert R. Pierce +
Leonard J. Rabold +
Frank W. Stevens +
Charles F. Wilson +
Frank C. Womack Jr. D
Charles R. Zirkle +

1942
James T. Allen *+
Randolph R. Batson *+
Frederic E. Cowden *+
J. Cullen Hall +
Gameel B. Hodge +
William L. Johnston +
H. Lee Large Jr. *+
Jack C. Sallee +
Robert W. Shirey +
Stewart P. Smith +
Bertram E. Sprofkin *+
David E. Stewart +
Charles L. Suggs Jr.

1943
Otis G. Austin +
Richard O. Cannon II *
Beverly C. Chatham +D
William R. DeLoache *
Samuel Chester Dunn
James W. Ellis *+
Sidney C. Garrison Jr. *+
Richard M. German Jr. *+
Oliver H. Graves *+
Grace H. Guin *+
Howard C. Johnson +
E. Palmer Jones *+
John E. Kesterson *+
Nelson H. Kraeft +
Joseph A. Little *+
Joseph B. Longino +
C. Crittenden Lowry
George M. Phillippi +
John M. Pickett
Harold D. Priddle *+
Dallas B. Reynolds
James Harlan Seacat +D
William E. Weems +
R. Bertram Williams Jr. +
Thomas H. Williams Jr. +
James W. Woods Jr. *D
John R. Woods +
Ernest H. Yount Jr. +

1944
Blair E. Batson *+
Thomas M. Blake *
Robert J. Fleischaker +
Richard F. Grise +
Harry E. Jones
William G. Lyle *+
F. Anthony Marzoni *+D
Roy W. Parker +
DeSaussure F. Philpot +
Frederick W. Smith *+
John B. Thomison *+
Clifford Tillman +
Russell D. Ward *

1945
Edwin B. Anderson Sr. *+
Thomas H. Brown Jr.
Herbert Chessin +
John W. Fristoe Jr. +
John T. Goodgame Sr. +
J. Lynwood Herrington Jr. *+
Charles K. Holland Jr. +
Thomas Manchester Jr.
Raymond S. Martin Jr. *+
Charles S. McCammon *+
Henry S. Nelson +
Howard H. Nichols +
James C. Price
Joel W. Reid +
Robert Derek Williams +

1946
Fred Allison Jr. *+
Luthur A. Beazley Jr. +
Henry C. Blount Jr. *+
George W. Bounds Jr. *+
Eugene M. Brooks +
Charles D. Feuss Jr.
James R. Hamilton +
Milton Lanier Harris *+
George W. Holcomb Jr. *+
Jack S. Kaley +
Virgil S. LeQuire *+
John C. McGill +
Henry C. McGill Jr. *+
Leonard H. Seitzman +D
Harrison H. Shoulders Jr.
Henley J. Smith Jr. *+
Mildred T. Stahlman *+

1947
Stanley Bernard *+
Henry B. Brackin Jr. *+
Roy C. Campbell +
John W. Diehl
Alvin F. Goldfarb *
George A. Gross
Griffith R. Harsh III +
James G. Middleton *+
William T. Price Jr.
M. Houston Sarratt Sr. *
Marvin Silver *+
Robert W. Youngblood Jr. *+

1948
John C. Bondurant *+
Stephen J. Bruny
Richard King Cole Jr.
Josh D. Davis +
Irwin B. Eskind *+
E. William Ewers *+
Herschel A. Graves Jr. *+
William M. Hibbitts +
William O. Inman Jr. *+
Ira T. Johnson Jr. *
Milnor Jones *+
Ira M. Long *+
William Faxon Payne *+
Richard F. Riley +
Harris D. Riley Jr. *+
Sarah H. Sell *+
James G. Seyfried
Leighton H. Smith Jr. +
David G. Stroup +
Thomas W. Wright Sr. *+

1949
Emanuel Abraham +
Ben J. Alper *+
Milton Philip Caster +
Herbert L. Glass +
Richard E. Green *+
Robert M. Hall +
Lloyd L. Hefner +
Richard G. Hofmeister +
Robert H. Hydrick
Richard B. Miller +D
George L. Perler +
Curtis W. Rainy +
William D. Salmon Jr. *+
Norman E. Shumway Jr. *+
Gilbert R. Sugarman
Charles B. Thorne +
Alfred L. Watson +
Charles F. Weiss
Charles F. Wilkins Jr. *+

1950
William J. Cheatham +
William West Cleveland
John P. Glover Jr. +
Halcott T. Haden +
Emily S. Haller *+
Otto Morse Kochtitzky
John C. Lawrence *+
Stewart Lawwill Jr. +
Neville M. Lefcoe *
Archie L. Lester +
Joanne L. Linn *
Mary L. McIlhany *
Carolyn Howard McKinley +
Edwin A. Meeks +
Herbert J. Schulman *+
Margaret P. Veller *+
Robert J. Williamson +
Joseph I. Zuckerman +

1951
Eugene L. Bishop Jr. *+
John Roselius Bowman +
Norman M. Cassell *+
Sidney B. Chenault +
Nancy M. Clish +
John H. Coles III *+
Robert D. Collins Sr. *+
Paul C. Ellzey
Clarence E. Gossett +
David H. James Jr.
Paul Johnson Jr. *+
M. Kenton King *+
Nina Koulischer +
Charles H. Marks *+
Thomas G. Pennington *+
Jefferson C. Pennington Jr. *+
Doris E. Pipkin +
Fawzi A. Pualwan +
Louis E. Speed +
Richard H. Sundermann *+
Nathaniel H. Talley Jr. +
W. Phillips Tinkler *+
David M. Travis
John Thomas West *+
Paul A. Winokur
Gottrell H. Wright +

1952
Jerome H. Abramson *+
Joseph C. Bailey +
Oscar C. Beasley +
Charles C. Brock Jr. +
Arthur L. Brooks +
Louis Bryan *+
Richard Davis Cole +
Royce E. Dawson +
R. James Garrison +
Guy T. Gillespie Jr. *+
Theodore J. Haywood *+
Taz W. Kinney *+
Fred S. Pipkin Jr. +
Gene T. Qualls +
Robert M. Roy *+
George E. Scott +
Robert S. Stempfel Jr. +
John M. Tanner *+
William B. Wadlington *+

1953
Donald M. Bryan *+
William J. Callison +
Bennett W. Caughran +
Oscar Weir Conner III +
Joe G. Cromeans *+
William H. Edwards Sr. *+
J. Edward Fisher +
Paul A. Green Jr. +
Thomas R. Harwood *+
Lester L. Hibbett +
Cecil B. Howard +
Edward E. Kimbrough III
Richard L. Lester Jr. +
James B. Mark *+
Charles B. McCall
Jeff R. Moore +
John Q. Owsley Jr. *+
Milton B. Peeler
Judson G. Randolph *+
John T. Rawlings *+
Alexander S. Townes *+
John Robert Williams Jr. +
Raymond R. Witt

1954
Wyatt Heflin Blake III +
John W. Boldt *+
Swan B. Burrus *+
Henry A. Callaway Jr. *+
Sam W. Carney Jr. *+
Bernard F. Clowdus II *
W. T. Dungan +
R. Glenn Greene *
John H. Griscom +
Valton C. Harwell Jr.
B. Leslie Huffman Jr. *+
John B. Isom +
Joseph E. Johnson III +
Herman J. Kaplan *+
Bernard M. Malloy *+
John H. Marchand Jr. +
George R. Mayfield Jr. +
W. Shands McKeithen Jr. +
Rex McReynolds +
Hoke S. Nash Jr.
Samuel H. Paplanus +
Robert M. Reed *+
Frank A. Riddick Jr. *
Joseph C. Ross *+
Paul W. Scott +
Weldon L. Sportsman *+
William S. Stoney Jr. *+
John T. Sugg III +
David E. Tribble *
Sorrell L. Wolfson +
E. Reynolds Young +

1955
William C. Alford Jr. *+
John Benjamin Bond +
George R. Burrus *
Jean A. Cortner *+
June A. Foley +
Saul S. Haskell
Charlie Joe Hobdy +
Robert G. Long *+
Arthur E. Lyons *+
Robert M. McKey Jr.
Clifton K. Meador *
Richard Benjamin Moore Jr.
Phillip P. Porch Jr. +
Walter C. Puckett III *+
Robert E. Ray +
Eugene M. Regen Jr. +
Vernon H. Reynolds *+
Jack O. Rice +
Robert Smith Sanders +
Marvin H. Schwartz +
Myron R. Stocking
Gerald R. Swafford

1956
Dixon L. Bieri
Raymond Karl Bopp
Hubert B. Bradburn D
Robert B. Couch +
Eugene T. Davidson +
Fay M. Gaskins
John C. Gillen *+
Ruth M. Hagstrom +
Robert A. Hardin
William N. Jernigan *+
A. Garland Jonas Jr.
Russell L. May *+
Robert B. Miller +
Ralph L. Nachman +
William P. Parker Jr.
Alexander W. Pierce Jr. +
Jourdan A. Roane +
Richard O. Russell Jr. *+
Robert T. Spalding *+
Charles R. Thompson Jr.
John S. Warner *+
Thomas L. Wells
Gerald L. Wolf +
W. Murray Yarbrough III +

1957
Talivaldis Berzins
Bob B. Carlisle +
James A. Carratt +
Marshall A. Diamond +
John Donald Gass
Joe Wheeler Grisham +
James W. Hays +
Irvin L. Heimburger +
Robert A. Johnson +
William H. McCreary Jr. +
L. Clifford McKee Jr. *+
Thomas M. Minor +
John J. Sandt
W. Wike Scamman
Samuel E. Scott +D
William B. Snyder *
W. Anderson Spickard Jr. *+
Walter N. Stone +
Gerald E. Stone +

1958
R. Benton Adkins Jr. *+
Paul H. Diamond
Paul J. Fatum +
William F. Fleet Jr. +
James H. Fleming Jr.
Robert C. Franks *+
Paul U. Gerber Jr.
John L. Glover *+
David W. Gray *+
Walter P. Griffey Jr. +
Robert G. Kiger +
Kent Kyger *+
W. Gardner Rhea Jr. +
Burton Silbert *+
James D. Snell Jr. *+
Charles W. Taylor +
Thomas A. Waltz Jr. *+

1959
Andrew H. Abernathy III +
Richard C. Adler
Waleed N. Amra +
Gene V. Ball +
Richard E. Bibb
James E. Blackburn II +
Thomas R. Cate *+
Robert T. Cochran Jr. +
Robert K. Dorton *+
George F. Grady +
Murray Heimberg +
Jack A. Jaffe *+
A. Myron Johnson +
Philip C. Jolly +
Erwin A. Jones Jr. +
George A. Luther +
James D. Martin +
Merrill D. Moore Jr. +
Harry L. Page Jr. *+
Robert A. Partain III +
Robert E. Richie *+
Joseph Roy Shackelford III +
F. Michael Shepard +
Alexandre Solomon +
William David Strayhorn III +
E. Dewey Thomas +
Warren A. Weinberg +
Stephen Weitzman

1960
Alan J. Brown *+
Benjamin H. Caldwell Jr. *+
Lawrence S. Cohen +
Ronald R. DiNella +
Robert L. Haley Jr.
Buford T. Harris *+
John D. Hutcherson *+
Frank A. Loda +
Charles W. Logan
Cullen R. Merritt II +
Mary L. Michal +
Robert S. Moorman Jr. *+
George R. Park +
Jonathan O. Partain *+
S. Peter Ravitz +
Julia E. Sawyers *+
Edward M. Schaeffer *
Joe Steranka +
William P. Stone Jr. +
Paul R. Stumb III +
Clarence S. Thomas Jr. *+
Marianne Waelder von Hippel
Andrew William Walker +
Arville V. Wheeler Sr. *+
Lawrence K. Wolfe *+

1961
Lawrence M. Abrahams +
Robert H. Alford +
Bertell C. Bryan
Richard D. Buchanan *+
James R. Cate +
R. Paul Clodfelder +
Norman Fleischer
R. Jack Freeman
Phillip Gorden *+
Cauley W. Hayes *+
Richard A. Heimburger +
Noel C. Hunt III *
Jerry M. Jernigan +
John S. Johnson *+
Robert M. Johnson *+
Richard B. Johnston Jr. *+
James Centre King Jr. +
Richard T. Light *+
Edward E. Litkenhous Jr. *+
John A. Logan III +
Charles T. McCullough Jr.
C. McGavock Porter *+
Sorrel S. Resnik +
Lucian L. Tatum Jr. +
John G. Wierdsma +

1962
William A. Altemeier III +
Oscar B. Carlisle +
Charles Lindsey Cooper +
Warren W. Davis
James W. Green
Harriet M. Harman +
Jerry K. Humphreys *+
Frederick Lasker +
Harold L. Moses *+
John B. Otis
John D. Pike +
Benjamin H. Robbins Jr.
James E. Russell *+
Joseph T. Saiter Jr. +
Thomas K. Sawyer +
Marvin E. Schmidt +
Roger L. Swingle *+
Linton B. West Jr. +
C. Courtney Whitlock Jr. *+
Dale A. Wilson +

1963
G. William Benedict
Chester R. Burns +
Henry K. Butler Jr. *+
William L. Downey +
Daniel C. Geddie *+
Gordon N. Gill +
Murphy H. Green +
C. Armitage Harper Jr. +
Ray W. Hester *
Louis G. Horn III
Robert W. Ikard *+
Robert L. Lawrence
Joseph F. Lentz
H. Newton Lovvorn Jr. *+
Billy Sam Moore *+
Ronald E. Overfield *+
James M. Perry Jr. +
Joe A. Pinkerton Jr. +
Howard E. Rosen +
Rita Siler
Murray W. Smith
Harry C. Stephenson *+
David D. Thombs *
John H. Walsh *+D
Michael B. Wilhoit +
Paul S. York Jr.

1964
Joseph A. Cook *+
Charles K. Davis Jr. *+
Wallace B. Duffin +
James T. Farrar
Theodore A. Feintuch +
Abe R. Fosson Jr. +
Raymond M. Fox Jr. *+
Ralph C. Gordon
Stanley E. Graber +
Erich B. Groos +
Jack D. Hagewood
Larry J. Hall *
John T. Jones
Robert E. Lawler +
Alexander R. Lawton III *+
Lewis Dubard Lipscomb
Robert W. Lowe Sr.
Phillip L. Parr *
Alan S. Rosenthal +
Elliott G. Segal
Charles Richard Treadway *
William L. Underwood *+

1965
Walter F. Barnes +
H. Verdain Barnes +
Frank H. Boehm *+
John C. Brothers *+
Robert M. Carey
Charles M. Carr +
W. Carl Dyer Jr. *
William S. Elias +
James Owen Finney Jr. *+
John W. Frost Jr.
Richard M. Helman +
Harold Lasker
Charles E. Mayes *+
Alfred Wayne Meikle +
Lee J. Silver
Walter Smithwick III *
Charles E. Terry +
Barry H. Thompson *+
Robert H. Thompson *+

1966
Kenneth L. Brigham *+
Raymond R. Crowe *+
Philip H. Davis *+
Gerald Domescik *+
Gary W. Duncan *
R. Kent Farris *+
Jimmy G. Finley *+
Howard H. Frankel
Robert H. Franklin *+
Marvin G. Gregory +
Felix A. Hughes III +
Verne C. Lanier Jr.
Gerald P. Martin *
Richard H. Mathews *+
Alvin I. Mushlin +
John B. Neeld Jr. *+
T. Joseph Pond Jr. +
A. Preston Russell
John S. Sergent *+
William J. Shasteen *+
William Earl Thornton
Walker M. Turner Jr. +
Robert F. Wiley Jr. +

1967
Oren W. Babb +
Robert H. Carnighan +
H. Austin Carr
John L. Christensen +
Brevator J. Creech +
Samuel H. Dillard Jr. +
John Herman Dixon Jr. +
John W. Dorman
Arthur M. Freeman III *+
Alan H. Fruin *+
David W. Gregory
Henry L. Harrell Jr. +
Samuel P. Hawes III
Inpow David Hong +
Antoinette Foote Hood
David L. Hudson *+
William D. Johnston *+
Allen B. Kaiser *+
John A. Kiely
Robert H. Kremers *
John M. Leonard *+
Henry R. Lesesne
Michael S. Matteson +
T. Alan Ramsey +
Robert E. Scott +
Charles Sidney Settle
Herman D. Sorensen *+
William R. Welborn Jr. *+
Thomas Allen Woodward +

1968
Howard M. Alig +
Ronald L. Alt +
Joseph S. Atkinson +
R. Stewart Bauknight
George Carter Bell +
Ponce D. Bullard Jr. *+
Thomas Way Campbell
Carolyn M. Chesney *+
Leonidas W. Dowlen Jr. +
Robert C. Dunkerley Jr. *+
James R. Dzur +
David Rex Hunter *+
Godela Reisig Iverson
James G. Killebrew Jr. *+
Charles E. Martin *
John R. Mather Jr.
Jerry R. Mitchell *+
Sally Zieverink Monroe +
Stephen P. Mowry *+
Rebekah Ann Naylor +
J. William Nuckolls +
Soja Park-Bennett *+
Allen L. Schlamp *+
Robert L. Schweitzer
James A. Settle Jr. *+
Robert A. Sewell *
Hugh N. Smith
Stewart P. Smith Jr.
Peter J. Townes +
Marvin H. Vickers Jr. *+
Nicholas A. Viner *+

1969
James A. Bentley Jr. *+
Thomas M. Brown Jr. +
Thomas M. Chesney *+
Cully Alton Cobb III
Richard E. Dixon
John W. Garrott +
N. Don Hasty *+
Bruce E. Herron *+
Robert W. Higginbotham
Ellen E. Hrabovsky *+
John C. Johnson Jr. +
Douglas P. Mitchell *+
M. Kent Moore *+
Wyatt E. Rousseau *+
Larry D. Scott +
Robert T. Snowden +
Rodger T. Swanson
David H. Walker +
Ronald B. Workman +
Vernon T. Worrall III +

1970
William C. Alder +
Paul S. Ambrose +
Howard J. Aylward Jr.
William B. Baine +
Thomas W. Bennett *+
Charles R. Bentz *+
Judy F. Burroughs +
S. Frank Carter III +
Glenn R. Carwell
Clark R. Cobble +
Frederick B. Emerson Jr. +
Robert B. Faber *+
John O. Fitts *+
David E. Fleischer *+
Steven A. Goldstein +
Harold A. Hatcher Jr. +
Robert L. Hendley +
Herman A. Jenkins +
Douglas L. Jones +
Conn M. McConnell *+
Thomas A. McKenzie III *+
James T. Rhea *+
Phillip M. Rosenbloom *+
Stephen E. Rostan *+
Foster J. Sanders Jr.
William J. Schneider +
Stephan J. Sweitzer +
John L. Tarpley *+
Robert H. Walkup Jr. +
David H. Waller
Kenneth R. Wasson
Levi Watkins Jr. *+
Daniel K. Winstead +
Robert S. Young Jr. +

1971
Kendall T. Blake +
Sidney W. Bondurant +
Glenn H. Booth Jr. *+
Arthur E. Broadus +
Daniel D. Canale Jr. *+
Thomas S. Claiborne Jr. *+
J. Lucian Davis *+
Emanuel O. Doyne +
Frank M. Eggers II *
David M. Gershenson +
Edward M. Gotlieb +
Roland E. Gower *+
Cheryl Greene +
Edwin L. Grogan +
Peter L. Grossman *+
J. Chris Hawk III *+

A Special Thanks

Warren A. Hiatt Jr. +
Joseph W. Huston III +
Raymond P. Kloepper II +
Rodney A. Lorenz
Kenneth Margolis +
James W. Mathewson
Jane A. Mays *+
Wallace W. Neblett III *+
Richard R. Oldham *+
Richard D. Olson
Jon B. Olson +
Lathan Edwards Settle *+
George M. Shore *+
John G. Slater Jr. +
Carol A. Tamminga
William W. Tomford +
Robert J. Trace Jr. +
Harrison D. Turner *+
Stanley E. Von Hofe *+

1972

Ralph I. Barr +
Frederic T. Billings III *+
Neil A. Breslau +
Steven J. Burnham +
Richard A. Davidson +
Robert C. Erickson II *+
Marjorie Fowlkes +
Thomas R. Fuller Jr. *+
James H. Gilfoil +
Edward R. Green +
J. Brevard Haynes Jr. +
Elizabeth W. Hill +
Louis J. Katzman *+
W. Ben Kibler *+
Carl A. Levy
Kenneth F. Luckmann +
Sally S. Mattingly +
G. Patrick Maxwell *
Albert W. Morriss III *+
Gary E. Penner *+
William M. Petrie *+
Ron N. Rice +
William W. Robertson Jr. *+
William L. Smead *+
Frank W. Stevens Jr.
Robert J. Stine +
Ervin M. Thompson +
Ralph E. Wesley *
James H. Whiteside *
Robert E. Winton +

1973

Edwin B. Anderson Jr. +
Gustav A. Blomquist Jr. *+
L. Ward Close +
John H. Dixon Jr. *+
Owen Beverly Evans Jr. *
William E. Harston
Richard T. Hoos *+
Randolph G. Hunter
Jonathan S. Jacobs
Vincent L. Keipper +
William T. Mattingly Jr. +
T. Dwight McKinney *+
F. Raymond Porter *+
Thomas A. Powers *+
Winchell W. Quock *+
James A. Ramsey +
Jesse H. Rigsby III *+
David Robertson *+
Michael B. Schwartz +
Robert F. Stonerock Jr. +
Michael C. Trueblood *+
Thomas E. Wex +

1974

James E. Alexander Jr.
Victor C. Baum +
Stephen Mayes Becker
Clem H. Block Jr. +
Cynthia L. Bowman +
Teresa Sue Bratton *+
John Bruno III +
Brian R. Carlson *+
James L. Connolly +
Michael Critchlow +
Michael L. Crowley +
Van Fletcher Jr.
William A. Growdon *
Robert L. Harbin +
William P. Harbin II +
James W. Hoback Jr. +
Jack T. Hopkins Jr. *+
Marcus C. Houston *
Elaine Kennedy
J. Thomas Latham Jr. *
Robert E. Mallard +
Thomas L. McCurley III *+
Gary E. Meredith
Joseph M. Plunkett
Richard J. Plunkett +
Wilson G. Russell +
Ernest L. Schiller +
Stephen P. Simmons *+
James Nelson Sullivan
John E. Sutphin Jr. +
David D. Tanner
John B. Thomison Jr. *+
James L. Tompkins Jr.
Philip C. Van Hale *+
Thomas V. Vandergast +
John W. Welch Jr.
Walter W. Wheelhouse Jr.
R. Henry Williams +

1975

Frank M. Balis +
J. Michael Conoyer *
Charles E. Dyer +
Luke L. Ellenburg Jr. +
Harold G. Erath Jr. *+
Barbara A. Fitzgerald +
Edward P. Fody Jr.
Caroline LeConte Gibbes
D. Bruce Glover *+
Zachary D. Goodman
Michael G. Gutknecht *+
Charles Russell Harris Jr. *+
Robert C. Hartmann Jr. +
Laykoon Huang +
Walter W. King
Suzanne S. Love +
Duncan B. McRae Jr.
Steven A. Meixel +
Robert M. Moore +
David H. Niver *+
Robert S. Quinn +
W. James Robbins +
Richard M. Silver +
A. David Slater
Charles A. Stilwell Jr. +
Gary D. Swanson +
William D. Tench *+
Anthony E. Trabue
Todd S. Wilkinson *+
R. Bruce Williams +
Susan M. Wodicka +
C. Michael Wolff

1976

Dave A. Alexander Jr. *+
Joe Franklin Arterberry *
Thomas William Ballard *+
Robert R. Bendt +
Betsy D. Bennett +
H. Ward Brooks Jr.
Jeffrey H. Brown +
Richard O. Cannon III *+
Carla Bloedel Clark +
Dan Ellis Connor +
David E. Dugger
Charles W. Eckstein *+
L. Franklyn Elliott II
Thomas S. Evans +
John P. Greer *+
John D. Hainsworth
Stephen G. Hendrix *+
Dan A. Henry *+
James M. Hinson Jr. +
H. Douglas Holliday *+
Fred M. Howard Jr. +
John W. Interlandi +
Mark M. Kramer +
Philip K. Lichtenstein *+
Michael A. Lojek *+
James True Martin *+
Daniel E. Martin +
R. Parker McRae Jr. +
James W. Menzie +
Michael S. Rees +
Adam A. Rosenberg +
William J. Sanders IV *
George B. Schimmel +
L. Reed Shirley
Bryan P. Simmons *
Richard S. Stahl +
Jerome S. Tannenbaum *+
Robert E. Taylor
Clifford R. Tillman *+
Karl Steven Wagner +
Robert A. Warriner III
David C. Wymer +

1977

Salim S. Akrabawi +
Ronald W. Bronitsky +
David L. Buch +
Benjamin F. Byrd III *+
Henry F. Chambers III +
Douglas Allen Clark +
Debra Atkinson Cutler +
Jerald S. Dudney +
James W. Felch +
Scott R. Harriage +
John M. Herre
Peter O. Holliday III
John G. Huff +
Henry S. Jennings III *+
Lawrence A. Judy +
Robert H. Latham
John Willis Lea IV *+
Marilyn B. Lemos
Edward H. Lipford III
Joseph A. Little III *+
Linda S. Lundin +
Sidney D. Machefsky +
Stewart C. Mann
Joseph R. McMullen +
John H. Nading +
Timothy F. Nolan Jr. +
Edwin W. Nunnery Jr.
Stephen W. Reuben +
George M. Reynolds Jr.
Paul A. Rosenblatt +
Calvin R. Shaffer *+
Jerry L. Shenep +
Brian A. Truxal +
Kevin S. Woolley +

1978

Susan Toy Andrews +
Curtis L. Baysinger +
Christopher J. Begley
Daniel H. Belcher +
Michael E. Brown +
Jeffrey B. Carter *+
John T. Cobb *+
James R. Cooley +
Darlene Dailey Eason +
Taylor G. Fletcher
John A. Grimaldi Jr. +
Ronald W. Hamner *+
Sandra G. Hassink +
C. Bomar Herrin *+
Gary H. Hoffman *
Charles B. Huddleston *+
Stinson E. Humphrey *+
Patrick T. Hunter II
Carl M. Johnson +
K. Bruce Jones *+
Janis A. Jones +
John R. Jones *+
Stephen L. Jones *+
Russell B. Leftwich *
Rodger A. Liddle +
Michael A. Malpass +
Roy Douglass Markham +
Richard D. Moore
Thomas W. Nygaard *+
Pamela Joan Parker
Robert B. Parker +
Edson O. Parker III *+
Neil Hamilton Parnes +
Steven F. Podgorski +
Ann Hutcheson Price *+
Donna Jacobi Pruett +
Michael E. Richards
Dan S. Sanders III
Timothy P. Schoettle *+
Deborah Smith *
Gary B. Strong *+
Ramona Walsh Trabue
William Vernon Whitaker
Michael S. Wolfe *
Mary Ella Zelenik *
P. Kevin Zirkle *+

1979

Jean Rene Anderson
James R. Cato
Robert L. Chess +
Laura Nelle Connor +
Linda Ann Danieu +
James Phillip Davis Jr. +
M. Catherine Dundon
William Craig Eason +
Kathleen F. Fischer +
Bonnie Friehling
William Funkhouser Jr. *
Susan Brittingham Gregg +
Richard Major Hilborn +
Randal F. Hundley *
William Thomas Johanson +
James Buckner Jones +
Royce E. Joyner *+
Ronald Jay Kanter +
James Michael Kleinert +
Barbara Ann Konkle
Joel Ardell Lees +
J. Scott Millikan +
Robert C. Murphy Jr. +
John J. Murray
Susan Niermeyer *+
Thomas Operchal +
Cary W. Pulliam
Kristen B. Raines *+
Albert Augustus Ramage III +
Peter Carey Rawlings
Thomas Arthur Richey
Thomas W. Rigsby Sr. +
Randy Dale Roberts
Samuel A. Santoro +
Larry M. Saripkin
Preston Riordan Simpson +
Michael Joseph Sineway +
Timothy D. Stryker
Thomas E. Tompkins
Denise Kay Van Horn
Kenneth Raye Washington +
James William Young +

1980

Anthony N. Brannan +
Donna Leslie Bratton +
Deborah M. Bryant *+
Deland D. Burks *+
David J. Bylund *+
W. Winn Chatham +
David John Clymer +
Jeffrey Paul Cooper +
Steven Harris Dowlen +
Raymond George Dufresne Jr. +
Theodore E. Eastburn III
Katherine C. Edwards *+
Lee Wayne Erlendson
Jeffrey C. Fosnes
Andrew Joseph Friedman +
Lawrence English Gage +
Mark A. Greenberg +
Steven R. Hanor
James Taylor Hays +
Dean Alan Healy +
Halden Wayne Hooper Jr. +
Charles E. Hornaday Jr.
Steve Houston +
Karla J. Johns *+
James A. Johns *+
James Edward Johnson
Thomas Keith Jones +
Marc Andrew Judson
Audrey J. Kline-Bylund +
R. Craig Kuykendall *
Deborah Lightner *+
John Garth Long +
Rex Monroe McCallum +
Robert H. Miller III +
Jeffrey S. Morgan
C. Wright Pinson *+
David Bruce Ross +
Gregory William Shields +
Bruce William Stavens +
David Michael Stoll
Robert Victor Tauxe
Darrell Peter Williams
Mark Richard Winters +
Robert Harold Wise Jr. +
John L. Wolford Jr. +

1981

Howard C. Alexander *
James B. Atkinson III
Adam Scott Bennion +
Erol Martin Beytas +
Linda M. Bound +
Margaret Mary Brennan *+
Joel Raymond Buchanan Jr.
Thomas Frederick Byrd III
Edward Russo Carter
Dana John Christianson
Daniel Lawrence Dale +
Charles Stoddard Eby +
James Mark Edwards
William H. Edwards Jr. *+
Steven D. Fayne +
Agnes Borge Fogo +
Howard Adam Fuchs +
Walter B. Gibler *+
Mark E. Gillespie +
James Robert Glassner
Stuart H. Gold +
James Foster Graumlich +
William Julian Gregory +
Marta Leona Gwinn +
Blaine Lawrence Hart
Daniel Payson Hunt +
Donald Melvin Jacobson
Peter Charles Jacobson +
Peter Edward Jensen
Lee W. Jordan +
Peter B. Lambert
Christopher D. Lind *+
A. Brant Lipscomb Jr.
Martha Hempfling Lund *
Gregory B. McCoy
F. Bradford Meyers +
L. P. Moore III
Steven F. O'Sheal *+
James O. Palmer +
Mark K. Parsons *+

Susan Lynn Pfleger +
Valerie Jean Rappaport
Robert Allen Rogers +
Robert C. Rollings
Alan S. Routman *+
Randy C. Saliares *
Lewis Karl Schrager +
William C. Sippo
Paul H. Smith Jr.
Albert T. Spaw D
Mary Conti Swiontoniowski
Joseph Allan Tucker Jr. +
Ellen Payne Wright
George D. Wright III
Mary I. Yarbrough *+

1982

Eloise L. Alexander *
William Mark Baker +
Russell Thomas Barr +
Douglas Donald Brunette +
Michael A. Czorniak *+
David Gordon Daniel
Michael Vancleef Delahunt +
Samuel Houston deMent
Karen Carlson Des Prez +
Roger D. Des Prez +
Cynthia Ann Donnell +
Barbara J. Earnest *+
Webb Johnston Earthman +
Wayne LaMarne Easter
Eric Friedenberg
D. Catherine Fuchs +
Carl Richard Hampf +
Robert Greg Harris +
Lisa Anne Hendrickson +
Melanie Voncile Hinson +
Alice A. Hinton *+
William Savage Hutchings II +
Mary Dimock Lupinetti +
Dorcas Lynne Mansell
Steven M. Marsocci *
Kevin D. Martin +
Michael E. McCadden +
William Davis McConnell +
Scott Wallace McMurray +
Ted Jonathan Miller +
Robert F. Miller *+
William Robertson Moore +
Walter M. Morgan III *+
Eric Morgan Peck +
Joe Beeler Pevahouse +
Douglas Brian Pritchett +
James A. Reynolds *
Bruce Earle Richards +
Robert Alan Sahl +
Courtney Shands III *+
Richard Glen Stiles +
Bradford Waters
Henry Geoffrey Watson *+
Michael Bruce Wert +
Patrick E. Wright Jr. +

1983

Mark Charles Adams +
Jack William Aland Jr. +
John Alan Andrew +
Lori Rothstein Andrew +
Richard Ralph Boesel
Lauren Virginia Bower
David Allan Burack +
James Timmons Callis +
John Robert Coggins Jr.
Jeffrey Lynn Deaton +
Robert Paul Dolan
Jonathan Charles Dunn
Janice Elizabeth Evans
Ira Kenneth Evans III
Ann Regina Falsey +
Jeremy Mark Geiduschek +
James Harry Guildford
David William Haas
James R. Hart
John Lowell Holbrook +
Russell Mars Howerton
William T. Klope Jr. +
David Nathan Korones +
James Michael Krafcik
Eric R. Kreutzer +
Laurie M. Lawrence +
Patrick Joseph Lowry
Gary Scott Marshall
Samuel Jay McKenna *+
Wayne Murphy +
Constantine William Palaskas
Lee Edward Payne
Stephen Michael Pratt
Mark John Price +
David Paul Robinson +
Steve Gary Salyers +
Todd Alan Shuman
Linda Lou Smith +
Robert George Stewart +
Barbara Stocking
Michael Carmine Tigani +
William Joseph Travis
Jennifer Craig Wiebke +
Eric Alan Wiebke +
Ronald Ray Winek +
Hunter Earl Woodall +

1984

Mark Donald Anderson
Robert Michael Aris +
Patricia L. Barnwell +
Harry Howard Brown +
Daniel J. Burch *
Robert Douglas Cebul +
Kathleen Ruth Cho
Peter Gerald D'Amour +
Carlos R. Dalence *
Barbara Theresa Dubiel +
Caren Elizabeth Gaines
Sherry J. Galloway *+
Russell E. Galloway *+
Douglas Howard Hamilton
Bradley Glenn Jacoby
Jonathan David Kirsch +
Steven Lewis Klein
Gerald Paul Konrad +
Kris Elisabeth Kuhn
Robert William Kurrle
Nancy Broady Lataitis +
Richard Louis Maas +
Morgan Lawrence Magid
Loren Hess Marshall *+
William Henry Matthai Jr. +
Jack Bass McCallie +
Benjamin Dee McCallister Jr. +
Thomas C. Naslund *+
Philip E. Neely *+
Catherine C. Ohsiek +
Mark Taffel Pollock +
Charles Gene Pribble +
Denise Raynor
Thomas M. Roesch +
Frank John Schlehr Jr.
Lenita Helen Thibault
Sara M. Tonsing *+
Robert E. Tonsing *+
John West Van Wert +
Randall Paul Wagner +
James A. Whitlock *
David Mark Wolf +

1985

Beth Abels +
Tim Eugene Adamson +
Jeffrey Peter Alpert +
Steven Allen Barrington +
Kenneth E. Berkovitz *+
Laura Boehlke Bray
Timothy A. Burke *+
Michael Glenn Carlson
Jeffrey C. Carlton *+
Karen Alice Clemency +
Susan Patricia Davis +
Louis George Dusseault Jr. +
Mark William Elliott
Tahsin M. Ergin *+
Robert V. Farese Jr. *+
Francis Miller Fesmire Jr. +
Gregory Earl Ginn
Robert Frederick Glenn +
W. Quinton Gurley Jr. *+
Ray Hargreaves
Richard James Hempel +
Linda Isaacs +
John Edwin Jayne
Donald Wayne Jenkins Jr.
Richard Johnston Jr. *+
Nancy Allen Klein
Gregory M. Lewis *+
Laura McAlpin Martin +
Neal Jay Meropol +
Sharon Bloom Meropol +
David Wayne Patterson
Dennis Pearman +
Michael Pietro
William Howard Polk Jr.
George Daniel Rath
Edmund William Raycraft +
David Franklin Rhodes +
Matthew Brandl Rossi +
Jon Leonard Schram
Mark Edward Shogry +
Elizabeth Barlow Simpson +
Wayne Thomas Spears +
Sonya Mariam Vaziri
Phillip Ashley Wackym +
David Marvin Wheeler +
Kevin D. Whitelaw
Robert Christopher Wille +
Alan Thorne Williams
Laura E. Witherspoon *+
Michael Rodger Wootten
Sharon M. Wyatt Moore +

1986

Newton P. Allen Jr. *+
Douglas C. Altenbern Jr. *+
John Eugene Anderson +
Thomas Charles Andrews +
J. Valerie Andrews +
Jeffrey Lawrence Ballard +
Beth J. Benson +
Katherine A. Bertram *+
Michael Stephen Citak
Claudia L. Clopton *
Janelle L. Cooper
Douglas Wayne Dothager *+
Marcia J. Egles
Mary Ann Foster +
David W. Grambow *+
Richard M. Gray
Roland Arthur Hester IV *+
Stuart Mark Jacobson +
John Amis Jernigan +
Joyce Evelyn Johnson *+
Amy Meredith Joseph +
Paul D. Kountz Jr. *+
Julie Robin Lange +
Kristin M. Levitan +
Craig Harrison Linger +
Whitson Lowe
John W. Macey Jr. +
Bess Adkins Marshall *+
Daniel Charles Mayes +
Robert Wallace McClure +
Edward James McPherson
Daniel Richard Mitchell
Diane Elizabeth Oliver +
Christopher K. Payne *+
R. Stokes Peebles Jr. *+
Mark Puder
Richard Epes Rainey +
Neal Edward Ready +
James Bruce Redmon
Mayme Richie-Gillespie
Sandra Gustad Rooks
Roger Lynn Swingle Jr.
Sally Thomas Wareing +
Jory David Williams *
Joseph J. Wujek *+
Lucy L.H. Yang *+

1987

Clinton Mark Anderson +
Gregg Anthony Baran +
Gregory E. Blackman
Stephen Paul Bradley +
Steven Edward Braverman +
Anthony Joseph Burden +
William Carroll Burnette Jr. +
Martha Jean Butterfield
Anne Winifred Camp +
David B. Chalpin +
David Allen Cook
Robert Douglas Cullom Jr. +
Gregory George Davis +
Bart Joseph DeBrock +
Michael Thomas Del Vecchio
Russ David Erman +
Jenny Jo Franke
Roy Tyler Frizzell *+
Timothy Gerard Givens +
Christopher Walker Graham
Erich Bryan Groos Jr. +
Mark Charles Haigney
John Caldwell Harrison +
Richard Lloyd Hock
Sally H. Houston *+
Dan Todd Johnston +
Laura Lynn Layer +
Douglas W. Lowery III *
Carol Jean Martin
Cullen Ashley McAllen
Theodore Tillman Miller
Eugene Harris Nelson
Paul Daniel Pearigen +
Barbara A. Pockaj +
Paul Matthew Radosevich
Laura Jean Rames
Ross Alan Rames
Neil Mark Richtand +
Mark Warren Russo +
Theodore John Sawchuk
Robert A. Sciortino *+
Daniel Edward Smith Jr. *
Troy F. Storey *+
Van Russell Wadlington *
Malcolm Houston Weathers III
Douglas Ray Weikert +
Thomas Alexander Wilson Jr.

1988

Adam C. Abram *+
Darrington Phillip Altenbern +
Debra Marie Auble +
Brett Ronald Bartlett *+
Raymond F. Bluth Jr. *+
John P. DeVincenzo III +
Erin S. Fogel +
Charles Henry Griffith III +
Paul Jacob Heil +
Christopher C. Hill
Robert E. Ivy II *
Thomas Stevan Johnston +
Michael Robert Jordan +
Mark Randall Kaplan *+
Gregory Cole Keller
Susan Goldman Kim
Jarratt David Lark
James Thomas McClure
Gary R. McDonald *
Jane Siegel McSharry +
Jamie Maria Monroe
Thomas Kelly Moore +
John Arthur Nash Jr. +
Bryan Dewey Oslin
Michael Joshua Ostacher +
Stephanie Otis Petersen +
Mark Frederick Rich +
Ming Hsu Robinson *+
Sarah Ann Samaan
John Glenn Schulte +
Eric Randall Senn
Sanford C. Sharp *+
Robbin B. Sinatra *
Janet Timmerman-Lark
Cornelia Liu Trimble +
John Anderson Waites +
John Sloan Warner Jr. +
John Herbert Wehner
David Alden Wood +
Claire Cheng Yang +

1989

James Charles Anderson +
Mark Eric Bigler +
Robert Maynard Bradley
Jan Lewis Brandes *+
Paul Henry Castello
John Calvin Channell
Michael Lee Cheatham
Susan Jane Cheatham
Benjamin Souther Citrin +
Robert Jeffrey Cole
Thomas Edward Conturo
Daniel James Diekema +
Mark Allen Dosmann
James George Drougas +
Scott Brian Dubit +
Dean Alan Edwards
Randall Edward Ellis +
Jennifer Lowe Ellis +
Roy Ellsworth Erb *+
John Patrick Furia +
Elizabeth Ann Griffith +
Gwenda Jeanne Grubber
Richard James Harding +
Connor Joseph Haugh
Gregory William Hendey +
Michael Sean Higgins +
Richard Boles Johnston III
Beth Carol Kaplan +
Alexis Hangin Kim +
Landon Stuart King +
John Richard Lane +
John F. Laurenzo +
Gregory Paul LeMense +
Steven Marc Lopatine
Susan Eades Mackey +
Edward Scudder Mackey III +
Mark Tabin McBride
Holly Campbell Mitchell
Willis Gilman Parsons III +
Tim David Robarts
Mark Matheson Scheffer
Patricia Lee Schirmer +
Marcy Lynn Schwartz
Laura L. Shower +
Jeffrey M. Sippel *+
William Anderson Spickard III
David Thomas Stern +
Dawn Suzette Sutherland +
Cooper L. Terry
Anthony J. Vine +
Jonathan Michael Woolfson
Stephen J. Yallourakis *+

1990

Christen Aristide Alevizatos +
Janet I. Andrews +
Jordan Ross Asher
Jeffrey R. Balser *
Louise McGavic Box +
Donald Wayne Brady +
Barbara Ann Chini
Mark A. Cobb *+

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Jill DeBona
Jonathan Dreifus *+
Mark Allen Earnest +
Lauren Gayle Ficks +
Clifford L. Garrard III *
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William David Hardie
Tina Vivienne Hartert *+
Bruce Fredric Haupt +
Elizabeth Hartley Johnson +
Louis C. Johnson III *+
Kimberly A. Klippenstein *+
George Stanford Law +
Bruce Walter Lindgren
Mark James Maffett +
Annyce Stokes Mayer
John David McCaffery
Mark R. McIlwain *+
David Scott Morgan +
Stuart C. Ray
Theodore Allen Ruff +
Anthony Andres Sanchez
Nicole L. Schlechter *+
Harry Lowell Schroeder
Forrest Franklin Schrum III
Stephen William Smith
Gray Clark Stahlman *
Mary Warner Stewart +
William Buckley Sutter
Lisa Testa-Dahlstedt *+
Laura Rogers Towne +
David Scott Turner
Lisa Clare Verderber +
Karen J. Wells
Robert Bradley Wyrsch
Phillip Gregory Zentner +

1991
William Peter Adams Jr. +
Deborah Lee Beyer +
Jon Marc Brandt
Michael Alan Burke
William O. Cooper *+
David Alan Deneka
Jeffrey Todd Denton +
Frederick Thane DeWeese
Jeff Ernest Flickinger
Katrina A. Gwinn-Hardy *+
Eric David Harding
Caroline R. Heise *+
Julie Lynn Kennon
Gilbert Russell Ladd IV
J. Rebecca Liu
Brian Anthony Macaulay
Robert Joseph Mangialardi
Douglas Charles Mathews
Kenneth David Moore
Jill Moses +
J. Philip Moyers
Lee Anne O'Brien +
Gregory James Perry +
Molly Ann Petroni
Kenneth Charles Petroni
Patrick Shawn Reynolds
Eric Charles Ringwalt +
John David Rosdeutscher +
Alan Furhung Shikoh
Bennett M. Spetalnick *+
David Jonathan Stallard Jr. +
James Charles Wheeler
John Alan Zic *+

1992
William Arthur Altemeier IV
David G. Boland *+
Linda Diane Brady
John Scott Broderick
Chace T. Carpenter
Kenneth Joseph Carpenter
Sam Sungsoo Chang
Christian Paul Christensen
Sanjay Kumar Gandhi
Lauren Brooke Gandhi
Gail Laurie Ganser
Scott Robert Gibbs
Michael Terrance Havig
Marc W. Hungerford *
Elizabeth Matilda Jones D
Robert Steven Kahn
Jessica Emma Klekamp
Serena Winglin Lau *+
Juliet Marie Liposky
Mark Brooks Logan
Michelle Campbell Luschen
Ahad Mahootchi *+
Scott Alan Murkin *+
Melinda L. O'Leary +
Holly L. Olson *
Allegra Patten +
Albert Lynn Ridgeway
W. Edward Robinson *+
Mell Burress Welborn III +
Todd Randall Wilcox
Louis Joseph Wojcik

1993
Felice Cara Adler-Shohet
Rasheed Irshad Ahmad +
Angelina Gladys Ausban
Andrew Mark Barnstein +
Kathleen Ann Crews +
Trace William Curry
Anthony David Dake +
Ann L. Failinger +
Carolyn Marie Fruci
Timothy John Gensler +
Amy Joyce Gensler +
Barbara Lynne Hipp +
David Randall Hudson +
Astrid Genda Jain
James Norris Johnson
Erik James Kilgore +
Stephen Andrew Lawson
Eric Stratman Manske
Laura L. Meyers
Andrew Gibbs Moore +
Alvin Lester Moyer +
Nicole B. Mulder +
Steven Roland Norris +
James Allen O'Leary +
George Gaylord Robinson II +
Christopher Paul Smeltzer
Robert Wesley Steele +
Patrick Sewell Vidaver
Margaret B. Wright *+
HoDon Kendle Yates
Elizabeth Boettcher Yerkes +

1994
Neal David Abdullah
Cheryl D. Archbald
Alexander David Borowsky
Todd D. Brandt
Gregory James Cannon
James Andrew Conrad +
Tamara Manoji Dassanayake +
Lisa M. Farnham
J. David Gipson
Matthew F. Halsey +
Amy Winterbotham Hardman +
Courtney Louise Hopkins
Kathleen Stewart Hunt +
Patricia Elise Krabbendam
Rebecca Long Lark +
Kurt Karl Lark +
Daniel W. Lin +
Taja Anastasia Manuselis +
Scott A. Moore +
Wynne Ellen Morrison +
Chetan Ravindra Mukundan
Nicolette Myers +
Christopher Baylis Nester
James Herman Pogue +
Thomas E. Quinn Jr.
Scott M. Rodgers +
Robert L. Rosenfeld *+
Steven D. Shotts +
Jennifer Simpson-Manske
James Earle Sinex
Thomas Anthony Tesauro +
Stephen Mark Watson *+
Sally Elizabeth Watson *+
Nelar Wine
Michael Joseph Yarborough +

1995
Maria Elizabeth Aaron
Connie Louise Allen +
Janet Kay Boyles
Judson M. Brandeis +
Thanh Chi Cheng
Eric Colgrove
Teresa Marie Esterle +
Michael Joseph Feldman
Albert James Fessler III
John Thomas Fitch +
Julia Ann Gaw
R. Alan Goins +
Carin Vera Hopps
Wan Joon Kim +
Douglas Allen Lipperd +
Megan Mlinac Loffredo +
Siobhan Mara Mannion +
Katherine Marshall Moore +
Sarah K. Parker +
Kim Marie Schlechter
Christine Stoffel Sharis +
Peter John Sharis +
John Douglas Shields +
Peter Edward Silas +
Stephanie Diane Silas +
Leslie Sue Stark +
Colleen Fretz Swayze +
Terri L. Vital +
Mark Robert Winkle +

1996
Jennifer Lynn Beachey
Craig Benoit +
Gabrielle Levine Blackman +
Paul F. Currier
David Paul Douglass
Michelle Aileen Ghert *+
Amy Renee Guillet
David Henry Haase
Jeff B. Hales +
Laura C. Hales +
Katherine Stokes Hamilton
John Michael Heusinkveld
George J. Hutton
Jill Christensen Hutton
Robert Matthew Jotte
James Chaiho Kim
Marie Christine Lawson
Jacqueline Y. Le
Linda Marie McAllister-Lucas
Lee Montgomery +
Maura Kathleen O'Shea
David Poon
R. Richard Ramnath
S. Trent Rosenbloom +
Bartosz Z. Rydzewski
Neil E. Seethaler
Laura L. Sessums
Patrick R. Showalter
Arjun Srinivasan
S. Tyler Staelin
Thomas R. Talbot III +
Rene' George VanDeVoorde III +
Morgan J. Wills +
Patrick Yeakey +

1997
Joseph V. Agostini Jr.
Ann-Marie Elizabeth Amies
Stephen H. Bailey
Michael Lee Bobo +
Richard Kirven Brantley Jr.
Margaret F. Cabell
Cliff Cho
Jo Ann Cook
Karen Cooper
Keri Herskind DeSoto
Cynthia Downard
Michelle Bass Goldin
Mary J. Gootjes
David S. Gordon
Veronica L. Gunn
Jay S. Harms
Mary deRaismes Hinckley
Richard H. Ho
Carol Jean Hook
Matthew Alan Hook
John L. Howard II
Walter Grear Hurt
Kristina Ishihara
Elizabeth E. Kau
Alexy Kochowiec
Jennifer M. Lyman
Pierre Manfroy
Susan Chang Massick
Heidi Meinz +
Craig H. Morris
Susan J. Pearce
Neeraja B. Peterson
Josh Peterson
William J. Rutledge
Anne Sarbinowski
Annette E. Sessions
Brian Shay
Beth Small
Stephen Stanziale
Marya Lee Strand
Kathryn Teng
Michael C. Thigpen
Gurpreet K. Thind +
Elizabeth C. Tyler-Kabara
Daniel D. Viner
Carolynn Young
Patrick Young

1998
Sheela V. Arakali
Paul Biddinger
Tedric Dale Boyse
Andrew Trueman Brockenbrough
Traci Lynne Buxton
Gregory Matthew Buxton
Christopher Scott Calhoun
Jillian Hurley Call
Jason T. Call
Michael Scott Champney
Ankush Kumar Chhabra
Ru-Chien Chi
Anderson Burton Collier III
Joel Samson Corvera
Patrick Cooksey Crowe
Timothy Alan Deering
Natalie Depcik-Smith
Frank Russell Drowota
Christopher Craig Dvorak
Evander Fletcher Fogle
Clark H. Galbraith
Anna Marie Garcia
Sarah Justine Gladstone
Richard Carl Gustafson Jr.
Christopher M. Hudson
Tamara Stone Iorio
Christopher Kevin Iorio Jr.
Roxanne M. Jamshidi
Laura Louise Lawson
Steven Mark Lilly
Dawn Marie Manfroy
Alexander C. Minella
Joseph Joe Naoum
Kevin Dean Niswender
Tamara Nix
Sylvia Lucia Parra
Sharon E. Peach
Kelly Rowden Richardson
Kara Lee Riedinger
Steven C. Robinson
Roanne Rachel Selinger
Taras Michael Semchyshyn
Omer Lee Shedd
Jonathan Cope Smith
Ryan W. Stewart
Dennis Clements Szurkus Jr.
Reena Roshan Talreja
Chandler Fleming Todd
Richard Morris Todd
Gale Timothy Tuper Jr.
Richard Tyson
Vaew Jon Wongsurawat

1999
Richard Dwayne Archuleta
Megan Elizabeth Bowles
Craig Edward Brener
Elizabeth P. Cartwright
Brendan J. Collins
Dominic Connolly
Michele Lynn Etterbeek
Jeremy Harmon Freeman
Judd Lawrence Glasser
Rebecca Gould
Mark Fischer Harper
Kenneth Matthew Heym
Roger Kenji Long
Derek Edd Moore
James Anthony Muldowney III
Angela Jean Peck
Sara Jane Pieper
Michael Alan Proffitt
Chasidy Dionne Singleton
April Athena Truett
Travis Thomas Walters

2000
Derek Wesley Abbott
Bond Almand III
Mary Thomas Austin
Geoffrey Scott Baer
Niranjan Bhat
Scott M. Blackman
David Elliott Brumbaugh
Jennifer Joy Casaletto
Melissa Chen
Patricia Shih-Ann Chu
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Eileen Hoff Dauer
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Jeffrey Michael Dendy
Kathryn W. Dixon
Jenniferr A. Domm
Robert Lafitte Eller
Truitt Clayton Ellis
Nitin J. Engineer
Robin Hickman Fogle
Austin Edward Garza
Brian David Gelbman
Lisa Marie Goetz
Ricardo Andes Gonzales
Amy Denise Groteluesche
Rosemary Guerguerian
Scott Alan Hande
David Hardman Harley
Julie Cleek Hibbard
Melissa A. Hilmes
Tonya Hollinger
Rachel Joy Jankolovits
Brett Lee Johnson
Jesse Paul Jorgensen
Marwan Riad Khalifeh
Varsha Venilal Khatri
Pamela Beth Kingma
Paul Scot Kingma
Anne Meredith Knudsen

Michael Ross Konikoff
Timothy Kuo
Kane Sam Lai
Karen Smoller Leonard
Jason Talmadge Lewis
Martha Katherine Linker
Judy Chii-Wen Liu
Brian Robert Long
Noble M. Maleque
Robert Charles Matthias Jr.
Sarah Elizabeth McAchran
John Walter Millstine
Kelly Lynn Moore
Tracy Marie Motyka
Frank E. Mullens
Adam Paul Myhre
Michael M. Nelson
Daniel Edmond Otten
Asit Parikh
Ellen Elizabeth Parker
John Flick Parrott Jr.
Brent Edward Pennington
Jeffrey Dierker Pollard
Carolyn Denise Quinn
David Lawrence Sanders
Selina Shah
Dana Sainsbury Smith
Brent Michael Snader
Shannon Bishop Snyder
Usharbudh Sohur
Joseph Carlyle Soto
Jesse Adam Taylor
Kenneth Tyson Thomas
Albert James Tricomi
Andrea Lynn Utz
Robert Christophe Van Winkle
Christine De-ting Wang
Derek Christopher Welch
Ronald Scott Wells
John Jason West
Elizabeth Collens Wick
Matthew Clayton Wiggins
Charles Jackson Wray

House Officer Alumni

1939
F. Tremaine Billings Jr. *+

1941
Joseph K. David Jr. +

1942
J. Harry Duncan

1943
John David Harrison

1944
Solon Palmer

1945
William R. Nelson +

1946
Robert A. Goodwin Jr. +
Bruce A. Harris Jr.
Henry H. Tift +

1947
C. Whitney Caulkins Jr. +
Malcolm A. Holliday
George H. Taft

1948
Robert H. Furman +
Wood S. Herren III
Elisabeth K. Hoyt

1949
William Carl Ebeling III
Andrew W. Townes Jr.
Ellis J. VanSlyck +
John A. Yarborough +

1950
John L. Sawyers *+

1951
Ambrose M. Langa
G. Tom Proctor +
Marvin J. Rosenblum *

1952
Arthur Lee Humphries Jr.
Philip S. Norman +
John G. Wells *+

1953
William C. Hartley
Konrad Kircher *+
Innes Armistead Nelson +
Edwin Ide Smith

1954
Joseph H. Allen Jr. *+
John M. Flexner *+
Lloyd H. Ramsey *+
Stephen Schillig Jr. *+

1955
Dewey G. Nemec +
Rodney D. Orth +
James A. Pitcock
Harold R. Roberts

1956
Albert F. Dingley
Sigrid J. Nelius
Evangelos B. Polakis +
Panagioits N. Symbas

1957
Eric M. Chazen *+
Claude C. Cowan Jr. +
Donald A. Taylor

1958
Catherine Coolidge Lastavica *+

1959
Stanley K. Brockman
Samuel T. Haddock
James A. O'Neill Jr. *+
Robert J. Smith
Robert H. Tosh Sr.
Philip L. Williams

1960
Abba J. Kastin +
Samuel R. Marney Jr. *+
Larry H. Parrott

1961
Leonard Berg
Richard L. Doyle +
Thomas R. Duncan *+
Alan L. Graber
Gloria F. Graham +
George F. Gray Jr. *+
Oliver L. Jones Jr.
Heun Y. Yune

1962
Gordon K. Farley +
Jeanne M. Hanchett +
James E. Hanchett +
William H. Preston Jr.
Elizabeth H. Rhea
Richard M. Sallick
William Schaffner II *+
Glyndon B. Shaver Jr. +
Timothy W. Stevens *+
William J. Stone *+

1963
Garrett Adams +
David W. Bentley
Clifford Allen Birge +
Ronald D. Blackston
Charles G. Cannon Jr.
Franklin G. Dill
David J. Drutz
Stuart S. Fleming Jr.
John E. Heumann
Myron Lewis
Timothy A. Miller
Steven C. Scherping +
William M. Schreiber
Richard D. Sweet +

1964
Lee T. Allen
Harry Denniston Crews
John P. Matthews Jr.
Alexander C. McLeod +

1965
Bruce L. Bolasny
Robert B. Cotton *+
Thomas F. Frist Jr. *+
Donald L. Gaines
Francis W. Gluck Jr. +
Charles P. Graham Jr.
Karl H. Hellinger +
Thomas B. Price
Joseph A. Pryor
Edwin D. Vaughan Jr.
Ralph D. Woodruff

1966
Collins Dale Brown +
Robert L. Davies
John R. Graybill
Gustavo E. Hernandez
Stephen C. Lowder
Zell A. McGee
David R. McNutt
H. Bryan Noah
David L. Page
Rodney D. Skoglund
Michael J. Spalding *
Clarence A. Temple
Robert H. Threlkel
Thomas L. Tiller Jr.
Jan van Eys *+
James P. Wilson *+
Taylor M. Wray *+

1967
George R. Avant *+
Angus S. Baker
Pong M. Chang
M. Richard Cross
John D. Franklin *+
Howard D. Homesley
Wm. David Jack II +
R. Winston Lutz
Robert P. Myers
Issam John Shaker
David S. Whittaker
Frank S. Wood

1968
Andres S. Alisago Jr.
Gary H. Cramer
Armando C. Foronda
Robert R. Henderson
John Allen McCutchan
Dennis H. Murphree
James A. Parrott +
Pedro J. Perales
Donald R. Pettit
Geeta P. Wasudev
Thomas H. Whitley Jr. +

1969
William J. Bremner
Robert A. Buchanan Jr. +
Michael S. Clarke *+
Mark A. Doyne
Joe Michael Edwards
Lewis D. Elliston Jr.
Erol Genca
J. Thomas John Jr.
Harold B. Kernodle Jr.
Anthony W. Kilroy *
Robert H. Laird
Thomas C. McNamara
Jerry O. Penix
Lonnie N. Shull
Brent A. Soper
Richard J. Wells

1970
Steven Jerry Culbert +
John C. Dormois *
David S. Jones
Frederick K. Kirchner Jr. *+
John A. Mihalevich Jr. *
R. Kirby Primm +
Stanley C. Roddy Jr. *+
David A. Rueff
Harrison Johnston Shull Jr.
B. Preston Thomas
Cesar Umezaki

1971
Ronald Alessio Allison
Richard A. Blath +
Alan G. Cohen +
R. Seth Cooper
Jonathan C. Goldsmith
Davis M. Hahn
Jack C. Halter
Bruce H. Hamory
Dennis A. Higdon
Douglas U. Hong
Andrew D. Kranik D
Michael D. Laseter
James O. Miller Jr.
Mona K. Mishu
William J. Morrison
Judith A. Operchal
Stots B. Reele +
Frank J. Scarpa +
K. Byron Skubi *+
David S. Stephens
William E. Walker
Edward H. Welles III *+
S. Kenneth Wolfe
Mario K. Yu +
David S. Zamierowski

1972
Clark R. Gregg +
Gerard L. Helinek +
James O. Herbert
Ewin B. Jenkins +
Houston M. Kimbrough Jr. +
William D. Norris *+
William W. Prine Jr.
Katherine A. Witherington +

1973
David B. Acker
Mark S. Averbuch *+
Richard H. Christenson
Wesley L. Coker
Frederick L. Finke
John W. Greene +
Henry C. Howerton +
Michael N. Linver +
William R. Long *+
James E. Loyd +
Raymond L. Meneely
Robert C. Ripley *
Michael H. Rubin
Eric B. Scowden +
R. Bruce Shack *+
John L. Skudlarick +
Leon F. Woodruff Jr.

1974
Michael B. Bottomy *+
Glenn S. Buckspan *+
Robert F. Colyer Jr. +
Charles W. Daniels
Stephen H. Falwell
John W. Kraus
Edward E. Lucas +
John T. Matthews *+
Richard E. Michalik +
Terry W. Poole
Douglas D. Ross
Paul D. Schneider
Robert C. Snip
Robert B. Snyder
John Paul Vansant +
Victoria L. Vetter
Jesse Wallace
Roger W. Wilson
Steven N. Wolff
Carl Wayne Zimmerman *+
Samuel H. Zimmern +

1975
Duncan R. Campbell
Jill F. Chambers
Bernard J. Feinberg
Leland J. Foshag
William C. Hall
William Davis Kenner +
A. Reif Kessler
Jane McDowell +
William Ronald Neal
Richard E. Presley
Douglas K. Turnbull +
Harold F. Vann +
Eugene A. Woltering
John C. York II *+

1976
Hoi Jine Bang
Jeffrey M. Barrett *+
Patrick G. Beatty +
Phillip P. Brown
Linda G. Carr
Mary Ellen Clinton +
Judith J. Fischer +
Francis H. Fischer +
Arthur C. Fleischer *+
Robert E. Gentry
Vinod K. Koduri
Guat-Siew Lee *+
Bruce A. Lowe
Stuart Hall Manning
Barbara J. Olson
Earl Q. Parrott
Joseph M. Perlman
Ross E. Pettit
Lester L. Porter III
Lloyd Douglas Richardson
James D. Schlenker
Nayantara S. Shah
David S. St Clair +
Sushaila N. Tejani +
Margaret Wood *+

1977
Michael E. Ashley
Jeanne F. Ballinger +
Racker Racke Costello
Mark R. Crowell
Robert M. Donnell +
Steven J. Eskind *+
Robert L. Estes +
Thomas C. Farrar
William J. Fulkerson Jr.
Philip L. Kelton Jr. *
Sarma R. Kunda
Kenneth H. Laws
Alice I. Lawver +
Stephen S. Lexow +

A Special Thanks

Paul R. McCombs III *
Ronald V. Miller +
Jennifer L. Najjar
John Rush Pierce Jr. +
Vaughn A. Starnes *
Theresa M. Tilton
William G. Woolery +

1978
Lori M. Adelson
Mark R. Christofersen +
John E. Costello Jr.
Phyllis J. Frostenson
James C. Gay *+
Arthur Grimball +
Clarke L. Henry Jr. *+
Gerald B. Hickson *+
Robert M. Hunter *+
Thomas B. Jones
Linza T. Killion
Michael Lichtenstein
F. Mark Lupinetti +
Ellen C. McCormick
Andrew J. Padgug
Elizabeth Pierce *+
Noreen F. Rossi
Rena M. Thomison *+
David H. Wuellner +

1979
Peter A. Accetta
Glenn E. Allen
Alan N. Baer
Maria R. Baer
Daniel C. Booker Jr.
Brenda J. Butka
Julia Thompson Christman *
Daniel M. Foley
Barney Scott Graham +
James R. Haltom
Bruce M. Kauder +
Wilder Glover Little Jr.
Richard A. Orland +
Mark S. Rosenthal
Thomas H. Wareing +
Fred A. Weaver
Rosalyn Reilley Zakem
James F. Zakem

1980
Dennis R. Banducci *
John A. Barnard III *+
Preston W. Campbell III +
Jeffrey B. Eskind *+
George E. Fischmann +
Richard W. Garman Jr. *+
Steven P. Hadesman +
Thomas J. Halloin
M. Bruce Hirsch
John E. Keyser III
Bonnie M. Miller *+
Steve W. Morgan
Katherine A. Murray
R. Michael Rodriguez
Glynis A. Sacks *+
John Spiegel *
Stephen M. Staggs +
Jeffrey Sussman
Bryan Hadley Wilson +
Karen S. Woncik *

1981
James P. Bolling
Brian W. Christman *
Lisa Thompson Craft +
John R. Dein
Robert J. Dray +
William J. Dreyer
Thomas W. Ertzner
Arturo F. Espinola
Randall M. Falk
David K. Falk
Benjamin P. Folk III *
Thomas J. Holbrook Jr.
James Q. Jardine
Douglas S. Kernodle *+
Marsha Chattin Kinney
Connie L. Manske
Susan G. McGrew
Allen S. Morris +
Jonathan C. Nesbitt +
Stephanie Mouton Reed *+
William A. Shell Jr. +
Thomas C. Smith +
Jane Leslie Tyler
Bradley V. Williams +
Sally J. Winek +

1982
Graham A. Barden III
Joseph B. DeLozier III *+
Philip E. Fleming
Alfred L. George Jr.
Mary L. Henry +
Ronald W. Luethke
Margaret S. Norris
Ronald J. Orrell +
Jan Evans Patterson *+
Keith A. Phillips *
Mace L. Rothenberg *+
Ronald F. Taylor +

1983
Jan S. DeLozier *+
Meredith A. Ezell *+
Cheryl Ann Fassler +
Daniel R. Garst
Richard J. Geer *+
James Leo Gildner +
Mary Louise Guerry-Force
Charles H. Holloway
Ellen B. Hunter +
Mary E. Keown +
Stephen H. Landy
Dolleen Mary Licciardi
Barry W. Morgan
Jason Drew Morrow +
Elizabeth L. Oldfield
Thomas F. Patterson *+
Gary T. Podgorski +
Claudia K. Preuschoff
Ann Ford Reilley +
Sherrie A. Richards +
Steven A. Schmidt
Simpson Bobo Tanner IV *+
John E. Wofford
Elizabeth D. Wofford
Diane C. Young

1984
Henry Wesley Baggett
Debra A. Benator +
Barrett D. Brantley +
Raoul S. Concepcion *+
Paul R. Fassler
Randy C. Fullerton
David S. Gorstein
Elliot B. Greenberg
Mary Patrice Hancock +
Roger A. Hodge
Jeffrey P. Holmgren
Jeffrey A. Keenan
Michael A. King
Michael D. Langford +
Thomas C. Lewis +
George H. Lien
Walter H. Merrill *+
Susan L. Neary
Larry E. Reaves *+
Charles B. Ross *+
Margaret Rush *+
Charles B. Rush *+
James H. Segars Jr.
Edward L. Trimble +
Albert L. Ungricht +
Mitchell J. Wolin

1985
Ellen Andrews
Calvin A. Bell *+
Francis J. Block III +
Leslie Baker Breiten
Jay C. Butler
Joseph W. Chance
Tracey E. Doering
Mark Dudley Flora
Maria R. Garber
Gary Michael Goldstein
Andrew Gottehrer
Daniel A. Green
John W. Henson
Gregory B. Lanford *+
MacRae F. Linton *
Rudra Prakash
Kaylen M. Silverberg
David W. Smith
Marshall L. Summar *
Noel Tulipan *+
Cynthia Turner-Graham +
Samuel R. Watkins Jr.
David C. Wilson +
David M. Zientek *+

1986
Alan F. Bachrach *+
Nancy J. Brown *+
Kastytis L. Buitkus
Anne Carol Byars
Kathryn E. Cramer
Stephen M. Dahlstedt +
Thomas L. Davis
Karen F. Davis
Michael E. Guerra
Laurie Hicks +
Larry R. Holder
Kenneth H. Joel
Melissa L. Langley
James J. Link +
John A. Mitchell
David Elden Moore +
J. Andrew Morrow Jr. *
Ann B. Owen
Donald F. Pierce Jr.
James E. Salter Jr.
Mark D. Shepherd *
Geoffrey Holt Smallwood +
Richard M. Sneeringer
David C. Tanner +
Joan Weber White +
Therese L. Whitten

1987
Robert Benjamin Ash
Charles E. Bea
Jim C. Chow +
Karsten Gammeltoft
Cornelia R. Graves *+
Christopher Endom Harris
David S. Haynes
James T. Holbrook
David L. Jolgren +
Robert J. Lanoue Jr.
Wayne J. Lennington
Sheng K. Lin +
Daniel Kevin McCammon
Molly Patricia O'Toole
Sharon M. Piper
Ryan M. Roberts
Timothy L. Sell
Sidney P. Smith III +
Raymond F. Stainback III *
James H. Wudel

1988
John C. Austin
Nancy G. Beveridge
Laurence C. Carmichael +
Nicola Antonio Francalancia +
Sarah E. Hassell
Robert A. Hollis
Kenneth W. Johnstone
Jane Kienle
Janice F. Lalikos +
G. Keith Lovelady
Mark A. Mozer
Yvonne W. Pawlowski
Charles W. Randall
Andrew H. Sonin
Stefan Tigges +
Houston W. White
Brett L. Wilson +
Rick W. Wright

1989
Robert Brodsky
Theresa Carducci-Whitehurst
Sean P. Groark
Philip A. Karpos
Thomas J. Lewis Jr.
Robert L. Neidich +
John C. Pope IV
Tom Coleman Rushton
Scott Standard
Douglas W. Stokes
Sandra Tomita
Mark Zenker

1990
Yolanda Tai Becker +
Nicholas Gerard
Steven B. Glassman
Elizabeth Hoover
Robert Hoover Jr.
Julie Garner Horton
Jeffrey Kehler
Gardner Kenny +
Richard S. Miller
Gregory P. Richardson +
Ira Rosenshein
William Craig Sanford IV
Amy Young Shumaker
Ira Siegman
Mark Teague
Garry Walker
Ruth A. Yates

1991
Carrie D. Alspaugh +
J. Andrew Alspaugh II +
Ray Alvarez
Eswara Botta
Min Chang
Mary Ellen Dees
Tracy Earl Hunley *
Manju Kandula
W. Evans Kemp Jr. *
Kenneth A. Selzer
Jack A. Shohet

1992
Vincent A. Cantone
Julia Terrell Gaines
Christopher S. Greeley
Christine W. Hunley *
Mark M. Kirkham
Robert J. Knowling
Daniel B. Murrey
Susan Todd Peeler
Gregory S. Plemmons
Robert J. Singer
Bonnie S. Slovis *+
Shannon D. Smith
Audrey H. Tesauro +

1993
Matthew J. Beuter
Anna H. Bradham
Michael J. Drewek
Kurt B. Hodges
Ian D. Jones *
Sonia Alves Jotte
William R. Little
Wendy Jones Mangialardi
Christina L. Mayville *
William S. Miles
David W. Miller *
Charles J. Mullett
Richard W. Rieck
Rebecca J. Roberts +
Dusan Sima Teodorovic

1994
Geoffrey Chidsey
Jeffrey Maxwel Holzbeierlein +
David W. Lawhorn
Michael J. MacDougall
Julie Anne Riddle *
Jack M. Rowland
Robert C. Sjursen
Tad Yoneyama +

1995
Suhail H. Allos
Seth M. Barnes
John A. Clough
Thomas J. Gallaher
Christopher S. MacCord
Laine J. Murphey
Gregory M. Purvis
Eric Andrew Strand

1996
Kimberly Gnau Lomis
John Ray Pinkston III

1997
Ivan M. Robbins

* Indicates CRS member
\+ Indicates 5 consecutive year donor
D Indicates deceased donor

Every effort was made to ensure the accuracy of this list. Please send any corrections or additions to the Annual Fund Office, (615)343-4373, CCC-5326 Medical Center North, Nashville, TN, 37232

Dr. Robert Mahley, second from right, receives the Distinguished Alumnus Award from Dr. Harry Jacobson, far left, and Dean John E. Chapman. Mahley's wife, Linda, was on hand for the award presentation.

Dr. Benjamin F. Byrd Sr., MD'41, and his wife, Allison (right) chat with Elizabeth Craig Proctor.

Vanderbilt Medical Alumni Reunion 2000

The Classes of 1950 (middle left) and 1951 (below) are the newest members of the Medical Quinq Society. Dean John E. Chapman (middle right) congratulates Dr Arthur R. Anderson Jr., MD'50, on his induction to the Quinq Society.

PHOTOS BY TOMMY LAWSON

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