Changing the Face of Medicine

Memory Disorders Research Takes a Giant Leap Forward

Also in this issue:

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- Alzheimer's Disease Research Center
- Faculty Growth and Awards
- Residency Program
- Individualized Medicine
- Planned Giving
A Letter From the Chair

I would like to welcome you to the Fall 2008 edition of the Department of Neurology newsletter. I hope that through the newsletter you will get a sense of the exciting happenings taking place in the department and that you get a more in depth look at some of our faculty, divisions and accomplishments. I truly believe that we are on the verge of many great discoveries in the neurological sciences, and I am excited that our department is at the heart of this explosion of knowledge and growth. In the following paragraphs I would like to share with you my vision for the department, our accomplishments to date, and why we are excited about the future.

In 2004 we began implementing a five-to-six year goal of becoming a top ten neurology department in the country. We plan to accomplish this ambitious goal by maintaining our status as a regional leader in all areas while growing strategically selected areas within the department to become leaders nationally and internationally. We are actively growing our faculty by recruiting leading physicians and scientists in their specialty. This growth in faculty increases our research and clinical productivity and increases funding levels for clinical and laboratory science research. Additionally this growth allows us to expand our fellowship programs to ensure that we are training and educating the next generation of clinicians and scientists.

We have made great strides toward accomplishing these goals. One major milestone met was reaching 50 faculty members this year, and we have several additional recruitments pending. Through construction and renovation we have made operational over 10,000 square feet of state-of-the-art labs, core facilities, and administrative space for our scientists to conduct world-class research. Many of our researchers have already produced valuable results and garnered prestigious awards. This expansion has allowed us to recruit some of the best and brightest physicians and scientists in the world. During this period of growth the department has increased federal and non-federal grant funding of clinical and basic science research by over 50%. This has allowed us to expand our research efforts and offer care to a greater number of patients. Our plan now is to continue growing the faculty by an additional 20 members over the next few years. We have available approximately 5,000 square feet of additional lab space for new recruitments.

The dedication and hard work of our faculty and staff have positioned the UAB Department of Neurology to be a leader nationally in the search to find new treatments and cures for the various neurological disorders. Through this effort we are better able to accomplish our three-part mission of performing cutting edge research, providing the highest quality clinical care, and educating future scientists and physicians. As much as I am encouraged by our accomplishments to date, I am equally excited about the future and the opportunities that lie before us. I look forward in the days ahead to providing you with many encouraging reports regarding our progress.

Sincerely,

Ray L. Watts, M.D.
John N. Whitaker Professor and Chairman
Department of Neurology

Department Highlights

- Top 25 National Ranking in NIH Funding Among Neurology Departments
- 24,000 Outpatients Seen Annually
- 50 Faculty Members
- Over 2,000 Annual Admissions to UAB Hospital
- $8 Million in Annual Research Funds
- 101 Current Research Projects
- 24 Residents in Training
- 8 Advanced Fellowships
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Giant Leap Forward

UAB Recruits Leading Memory Disorders Researcher

On August 1, 2008 the UAB Department of Neurology took a giant leap forward in memory disorders and Alzheimer’s disease (AD) research efforts with the successful recruitment of Erik D. Roberson, M.D., Ph.D., who is considered a rising star in the field of AD and dementia research. He joins the faculty of UAB as an Assistant Professor of Neurology and the Virginia B. Spencer Scholar in Neuroscience. He is a core faculty member of the UAB Center for Neurodegeneration and Experimental Therapeutics (CNET) and holds a secondary appointment in the Department of Neurobiology.

After graduating summa cum laude from Princeton University, Dr. Roberson earned his M.D. and Ph.D. in the Medical Scientist Training Program at Baylor College of Medicine. At Baylor he studied under Dr. David Sweatt who is currently Professor and Chair of the Department of Neurobiology at UAB. Dr. Roberson then served as Resident and Chief Resident in Neurology at the University of California, San Francisco, followed by a clinical fellowship there in cognitive and behavioral neurology.

“\textit{It was discovered that reducing expression of the protein ‘tau’ makes the brain resistant to Alzheimer related impairments.”}

Roberson’s research findings have been published in \textit{Science, Journal of Neuroscience, Journal of Biological Chemistry, Journal of Neurochemistry, Neuron, and Neurology.}

As a physician-scientist, Dr. Roberson’s primary interest is uncovering the causes of age-related memory disorders. His goal at UAB is to develop appropriate therapeutic interventions to aid patients and families afflicted with this constellation of diseases. Dr. Roberson’s time is split between an active clinical schedule and disease-related laboratory research. His lab researches the neurobiological basis of Alzheimer’s disease and frontotemporal dementia, with a focus on understanding the underlying cellular and molecular mechanisms that will lead to better treatments.

As Dr. Roberson explains, “In my research, I apply the techniques of modern neuroscience to study animal and cellular models of Alzheimer’s disease. It was discovered that reducing expression of the protein ‘tau’ makes the brain resistant to Alzheimer-related impairments.” He is using a variety of behavioral, electrophysiological, and biochemical techniques to better understand this protective effect. Additionally, his lab is testing new animal models of frontotemporal dementia to understand how mutations in certain proteins cause the social and behavioral dysfunction seen in patients with Alzheimer’s disease.

The Department of Neurology is pleased to have recruited such a talented young neuroscientist and anticipates ground-breaking developments in neurodegenerative treatment to hail from Dr. Roberson’s research.

www.uab.edu/neurology
Building Research Partnerships
UAB Builds Ties Across the State to Seek Parkinson’s Cure

Partnerships lead to progress, and the Center for Neurodegeneration and Experimental Therapeutics (CNET) is working to collaborate with other scientists across the state. CNET has become a hub of neurodegenerative research over the past two years with five operating labs and additional labs currently under construction. It is led by David G. Standaert, M.D., Ph.D., the John and Juanelle Strain Professor and Vice Chair of Neurology at UAB. With a strong core to build upon, Dr. Standaert has widened CNET’s reach by actively seeking to establish collaborative research efforts with other scientists across the state of Alabama. His hope is to build a stronger and more dynamic synergy among scientists conducting research on neurodegenerative diseases.

A first step toward building collaborative relationships was the creation of the Parkinson’s Disease Scientific Working Group at UAB. For this group Dr. Standaert has assembled a team of over 40 scientists from UAB and The University of Alabama (UA) who meet monthly to discuss their research and opportunities they see for future collaborations. Stronger communication among scientists is leading to new research initiatives, taking new findings and translating them more quickly, as well as offering additional opportunities to secure vital funding for future research.

This sharing of knowledge has already led to valuable collaborations such as one currently taking place between Dr. Standaert’s lab and Drs. Guy and Kim Caldwell’s lab at UA. The Caldwells’ research into neuroprotective strategies on Parkinson’s disease using the C. elegans worm model led to the discovery of a protein called VPS41. This protein in worm models was shown to prevent the death of dopamine-producing neurons. The death of dopamine neurons is linked to the cause of many of the signature symptoms in Parkinson’s patients such as tremor, slowness of movement, and rigidity.

Dr. Standaert will test these important findings made by the Caldwells to see if they translate to human cell lines and mammalian animal models. This collaborative project was recently funded through the highly competitive “Target Validation” program of the Michael J. Fox Foundation.

In addition to on-going collaborations, CNET continues to build partnerships for the future. A recent relationship was created between UAB and the HudsonAlpha Institute for Biotechnology in Huntsville, AL, a unique not-for-profit organization formed as a result of a partnership between individuals and the state of Alabama. HudsonAlpha seeks to conduct genomics-based research to improve human health and well being, spark economic development, and provide educational outreach. This organization is directed by Richard M. Myers, Ph.D., recruited from the Stanford Human Genome Center in Palo Alto, CA. He is renowned for his work on human genetics and genomics and has conducted extensive research in Parkinson’s disease. Facilities include the HudsonAlpha Genome Sequencing Center, recently relocated from Stanford University, which provides extraordinary capabilities to analyze human genes. At their opening in April, the Caldwells were awarded the first ever HudsonAlpha Prize for Outstanding Innovation in Life Sciences for their groundbreaking research in Parkinson’s disease.

Having such a strong genome sequencing center in our own backyard offers great opportunities. In the near future, CNET hopes to foster growth of these collaborative interactions and make the best use of the resources available at each of the institutions.
Alzheimer’s Disease Research Center
UAB Emerges as a Leader in AD Research

As the only center of clinical and research excellence for Alzheimer’s disease (AD) and other dementias in the state of Alabama, the Alzheimer’s Disease Research Center (ADRC) at UAB represents one of only two National Institute on Aging (NIA) funded Alzheimer Disease Centers currently in the historical “deep south.” Directed by Daniel C. Marson, J.D., Ph.D., the ADRC links the citizens of Alabama to the high standards of clinical dementia care and research excellence mandated by NIA and the National Institutes of Health. The ADRC currently provides over 550 active participants with comprehensive diagnostic services and suggests treatment options for participants to discuss with their primary care physicians. With such a large and diverse participant population, the center is able to conduct innovative research on risk factors based on ethnicity differences in dementia, cerebrovascular contributions to AD, mild cognitive impairment, transitions to dementia, and comparative studies of AD and Parkinson’s disease.

Promoting cutting-edge clinical research for the prevention and cure of AD and related disorders is a primary pursuit of the ADRC. Currently the ADRC has several active clinical research trials. One area of interest is the build up of plaques and neurofibrillary tangles in the brain tissue, which are considered the hallmark signs of AD. In the past, it was not possible to see plaques in the brain. New technology and newly created chemical compounds that are able to stain plaques in the living brain have given researchers the unprecedented ability to look at these plaques and tangles to better understand the pathology of AD. The ADRC is taking a lead in this research by participating in the Alzheimer’s Disease Neuroimaging Initiative, which is a national study collaboratively funded by the NIA and industry with over 800 patients. This study incorporates MRI scans, PET scans, and lumbar punctures to look at the different parts of the disease that create the AD puzzle. Researchers hope that the information derived from this study will provide innovative ways to measure AD, reveal the hidden processes of the disease, and answer the question of who will develop dementia.

ADRC faculty researchers are also conducting state-of-the-art research in basic science, such as looking at the proteins “tau” and beta-amyloid, which are both considered key contributors to the build up of plaques and neurofibrillary tangles in the brain. In addition, researchers are studying AD-related damage to the brain and are conducting cognitive research to identify the causes of AD and to better understand the consequences of the disease process both pathologically and physically. A study conducted by Dr. Marson that was featured in USA Today revealed a substantial decline in financial abilities of those patients affected by mild AD. These findings illuminate the importance for those diagnosed with AD to get their finances in order as early as possible, allowing them to avoid the fraud schemes and exploitation that often target the elderly and individuals with dementia.

The goal of the clinical, basic science, and cognitive research of the ADRC is to improve lives through the development of new treatments that will protect brain cells while also giving patients with AD and their caregivers the ability to better plan for the future.

The ADRC is also strongly committed to promoting community and minority education and serving those that can not afford the testing and care they need, as evidenced by its many outreach efforts. These efforts include participating in health fairs and seminars and working with Alzheimer’s of Central Alabama. In January 2008 the ADRC started a no-cost Dementia Assessment Clinic at Cooper Green Mercy Hospital in Birmingham. This hospital, which provides diagnostic work-up and treatment to an otherwise under-served population, lacked dementia assessment services until the ADRC became involved.

Strong leadership, excellent institutional support, outreach efforts, and a growing neuroscience community at UAB have together transformed the ADRC and given it new direction and energy. The ADRC is now well-positioned to move into new areas of research, such as determining the role epigenetics (changes in gene expression) plays in AD, recognizing the early signs of AD and Parkinson’s Disease Dementia, and identifying vascular/stroke risk factors and their relationship to AD across ethnic groups.
Through the pursuit of new treatments and cures, L. Burt Nabors, M.D., offers hope to patients suffering from the sometimes devastating effects of brain cancer. As a member of a multidisciplinary team of neuro-oncologists, neurosurgeons, radiation oncologists, neuroradiologists, and neuropathologists, Dr. Nabors is devoted to the care and treatment of patients with brain tumors and neurological complications of systemic cancers.

Originally from Columbus, Mississippi, Dr. Nabors received his B.S. in Engineering in 1985 from Mississippi State University followed by his M.D. from the University of Tennessee, School of Medicine in 1991. In 1995, after completing his service in the United States Navy, Dr. Nabors came to the University of Alabama at Birmingham to complete his residency training in Neurology and fellowship in neuro- oncology. Upon completion of his fellowship, Dr. Nabors was offered a faculty position in the Department of Neurology where he now serves as an Associate Professor.

“These discoveries are leading to a better understanding of brain cancer and are offering valuable new treatment opportunities.”

Dr. Nabors’ role includes many responsibilities with the UAB Health System. He is an active member of the medical staff with the Neurology Service for UAB Hospital, an attending physician for the Neurology Service at the Birmingham VA Hospital, and an Associate Scientist in the Neuro-oncology Program at the UAB Comprehensive Cancer Center. In 2005 he was appointed Director of the Division of Neuro-oncology.

UAB has a strong commitment to brain cancer research and patient care. The UAB Neuro-oncology Clinic maintains a high patient volume, with approximately 250 new brain cancer patients and 2000 follow-up visits each year. Dr. Nabors specializes in medical therapy, which includes conventional chemotherapy as well as the use of novel, experimental therapies that are designed to destroy tumors that cannot be removed with surgery or radiation therapy.

In addition to treating patients, Dr. Nabors spends a great amount of time in the laboratory researching brain tumors and their treatment. New advancements in technology have afforded researchers the opportunity to discover innovative treatments and cures for brain tumors. Excited by the opportunities newly available for researchers, Dr. Nabors says, “We are in a period of intense research related to the molecular events that drive glioma behaviors, which are associated with morbidity and mortality for our patients. These discoveries are leading to a better understanding of the disease and are offering valuable new treatment opportunities.”

Dr. Nabors plays an integral role in the Department of Neurology, and he is making great strides towards one day finding a cure for brain cancer. Through research and drug trials, Dr. Nabors is advancing the field of medicine and bringing novel treatments and cures to patients in need. His relentless pursuit of a cure is offering great hope to individuals affected by this disease.

For more information on UAB Brain Cancer Research visit our website at www.uab.edu/neurology
New Faculty  
**UAB Introduces Seven New Faculty Members to Department of Neurology**

We are pleased to announce seven new faculty members to the Department of Neurology. Each member brings new, highly-sought skills to our diverse roster of physicians and scientists. We are excited by the tremendous growth our department has experienced and welcome each of them to UAB.

**DIVISION OF EPILEPSY**

Rotem A. Elgavish M.D., Ph.D., was appointed as an Assistant Professor in Neurology in the Division of Epilepsy on July 1, 2008. After receiving his B.S. in Electrical Engineering at Johns Hopkins University in Baltimore in 1994, Dr. Elgavish came to UAB and joined the Medical Scientist Training Program. He received a Ph.D. in Biomedical Engineering in 2001 and his M.D. in 2003. After finishing his residency training in the Department of Neurology at UAB in 2007, he completed a clinical neurophysiology fellowship (EEG track) and was invited to join the faculty. During his training he was honored with several UAB and national awards for his research, including the UAB Neurology Annual Resident Research Award, National EpiFellows Foundation Research Award, UCB Young Investigator Award, and was a TopScholar EpiFellows Fellow in 2007. His research interests involve neuroengineering applications in the diagnosis and treatment of Epilepsy, specifically neuroimaging and neurostimulation.

**DIVISION OF NEURO-ONCOLOGY**

Hassan M. Fathallah-Shaykh, M.D., Ph.D., joined the departments of Neurology and Mathematics as an Associate Professor in the Division of Neuro-oncology on September 1, 2008. A native of Beirut, Lebanon, Dr. Fathallah earned his M.D. from the American University of Beirut in 1985 and Ph.D. in Mathematics from the University of Illinois at Chicago in 2007. He was a resident in Neurology at the University of Chicago Hospitals and Clinics, and he was also a resident in Internal Medicine at Duke University Medical Center. After residency he completed a fellowship in clinical and basic molecular Neuro-oncology at the Memorial Sloan-Kettering Cancer Center in New York. He has served on the faculty of the University of Texas Southwestern Medical Center, Dallas, TX and Rush University Medical Center in Chicago, IL. In 2006 he was named one of America’s Top Physicians. He is interested in studying problems that combine mathematics and biology, in particular the large networks of molecules and interactions that support the development of brain cancer and promote its aggressive behavior.

**DIVISION OF MOVEMENT DISORDERS**

Michelle Gray, Ph.D., joined the UAB Center for Neurodegeneration and Experimental Therapeutics (CNET) on September 1, 2008 as an Instructor in Neurology and the Dixon Scholar in Neuroscience. Dr. Gray has strong ties to Alabama and the UAB community. An Alabama native, she graduated from Alabama State University in Montgomery in 1997 with a B.S. in Biology. She received her Ph.D. from Ohio State University in Molecular, Cellular, and Developmental Biology in 2003. Dr. Gray also served as a postdoctoral fellow in the Semel Institute of Neuroscience and Behavior at the University of California, Los Angeles. Her efforts are focused on Huntington’s disease, a rare and fatal genetic neurodegenerative disorder.

**DIVISION OF CEREBROVASCULAR DISEASE**

Damon E. Patterson, M.D., was appointed as an Instructor and Fellow in Neurology on July 1, 2008 in the Comprehensive Stroke Research Center. He attended the University of Tennessee in Knoxville for his undergraduate studies and the University of Tennessee, College of Medicine in Memphis for his M.D. He completed residency in the Department of Neurology at UAB, and afterwards he completed a Vascular Neurology fellowship at Mount Sinai Hospital in New York, NY. His interests are in stroke and endovascular neurology.
Kristen L. Triebel, Psy.D., was appointed as an Instructor in Neurology in the Division of Memory Disorders / Neuropsychology on September 1, 2008. Dr. Triebel completed her doctoral curriculum and dissertation in July 2005, and in 2006 she graduated *magna cum laude* and received her Psy.D. in Clinical Psychology with an emphasis in Adult Neuropsychology from Forest Institute of Professional Psychology in Springfield, MO. She completed a clinical psychology internship with a specialty track in Neuropsychology at Coatesville Veteran's Affairs Medical Center in Coatesville, PA in 2005-2006. Afterwards she completed a postdoctoral fellowship in Clinical Neuropsychology at UAB from 2006-2008. Dr. Triebel's research focus is in Alzheimer's disease and mild cognitive impairment, cultural diversity issues in neuropsychological evaluation, and Parkinson's disease.

Harrison C. Walker, M.D., was appointed as an Assistant Professor in Neurology to the Division of Movement Disorders on July 1, 2008 after completing a fellowship as the Francis and Ingeborg Heide Schumann Fellow in Parkinson's Disease Research at UAB. A native of Starkville, Mississippi, Dr. Walker attended Birmingham-Southern College where he majored in music and graduated *Phi Beta Kappa*. He subsequently attended UAB School of Medicine from 1997-2002 where he participated in the Howard Hughes Medical Institute / National Institutes of Health Research Scholars Program at the NIH. He completed his medical internship with the Baptist Health System in 2002 and his neurology residency at UAB from 2003-2006. Dr. Walker’s clinical and research interest is in using deep brain stimulation for the treatment of Parkinson’s disease and other movement disorders.

Ryan R. Walsh, M.D., Ph.D., was appointed as an Instructor in Neurology and the Francis and Ingeborg Heide Schumann Fellow in Parkinson’s Disease Research on July 1, 2008 in the Division of Movement Disorders. After graduating *cum laude* from Georgetown University in 1995, Dr. Walsh earned his M.D. and Ph.D. from the University of Cincinnati, College of Medicine. Before joining UAB he completed a residency in the Neurology Department at the University of Chicago in 2008. His research focuses on the diagnosis and treatment of Parkinson’s disease as well as experimental studies using MRI imaging to understand the effect of Parkinson’s on the brain.

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**Department Adds Three More Faculty to Prestigious ANA**

The Department of Neurology is excited to announce that three UAB faculty members were recently elected into the prestigious American Neurological Association (ANA). The 2008 ANA inductees are Robert C. Knowlton, M.D., M.S.P.H., L. Burt Nabors, M.D., and Anthony P. Nicholas, M.D., Ph.D.

The ANA is a professional society of neurologists and neuroscientists whose mission is to advance the goals of academic neurology, train and educate neurologists, and expand the understanding and treatment of neurological diseases. Founded in 1874, the ANA is the oldest neurological society in the world. Election into its membership is a great honor for the selected doctors and scientists who have demonstrated excellence in the scientific community. Each of the inductees has made significant contributions to the field of neurology.

Dr. Knowlton is an Associate Professor of Neurology in the Division of Epilepsy. He also serves as the Director for the UAB-HSF Magnetoencephalography Laboratory at The Kirklin Clinic and the UAB Seizure Monitoring Unit, and he is the Co-Director for the UAB Epilepsy Center. His current research activities are mainly centered in epilepsy imaging and neuroimaging.

Dr. Nabors is an Associate Professor of Neurology in the Departments of Neurology, Biomedical Engineering and Cell Biology, and he also serves as the Director of the Division of Neuro-oncology. His specialty is Neuro-oncology, the main focus of which is the Brain Tumor Treatment & Research Program.

Dr. Nicholas is an Associate Professor of Neurology in the Division of Movement Disorders. His specialty is the treatment of Parkinson's disease. He also pursues laboratory and clinical research related to Parkinson’s disease.

Other faculty members in the Department of Neurology selected for membership in the ANA are Dr. Ray L. Watts, Dr. R. Edward Faught, Jr., Dr. Lindy E. Harrell, Dr. Shin J. Oh, Dr. David G. Standaert, Dr. Peter H. King, Dr. James H. Halsey, Jr., and Dr. John F. Rothrock.
New Chief Resident Dr. Eckstein

Christopher P. Eckstein, M.D., has been selected as Chief Resident for 2008-2009. An Alabama native, Dr. Eckstein attended UAB for both undergraduate studies and medical school. He is an ideal candidate for a career in neurology due to his aptitude for logical problem solving and his passion for discovery. Neurology is a unique field in that much remains unknown about the human brain, and Dr. Eckstein is thrilled by the opportunity to unravel such a vital piece of the human puzzle.

As chief resident, Dr. Eckstein will work as a liaison between the residents and faculty. His many roles include organizing the resident education program, managing the call schedule, and guiding residents through the various day-to-day issues they encounter. Most importantly, Dr. Eckstein is responsible for recruiting new applicants to the Neurology Residency Program. During the applicant interviews, he will spend a great deal of one-on-one time with the many potential residency candidates to help identify the best matches.

This year the Department of Neurology is making big changes to the program’s structure by increasing the amount of time residents spend in the outpatient clinics. Neurology is essentially an outpatient specialty, but the department’s residency consisted of mostly inpatient rotations in the past. Through small adjustments in staffing, some of the services will be more efficient. These changes allow residents to spend more time learning how to work in clinic, which better prepares them for their careers following residency.

After graduation, Dr. Eckstein will begin a two year Neuro-immunology and Multiple Sclerosis clinical research fellowship at Johns Hopkins University in Baltimore, Maryland. His long-term plan is to have an academic career specializing in multiple sclerosis and teaching future professionals in the field of neurology.

Residency Match Process

The ambitious goal of the Neurology Residency Program is to provide the best, most comprehensive training available to new scientists and doctors and to mold the next generation of leaders in the field of neurology. Each year, medical school graduates from across the world compete for one of only a few places available in UAB’s Neurology Residency Program. The program received 408 applications last year from medical students vying for the opportunity to study neurology in UAB’s four-year program. The top 34 potential residents were interviewed, and only six applicants were invited to join the program.

The UAB Department of Neurology uses a series of measurements to determine the best applicants for the program, called the “match process.” In addition to outstanding academic achievement, applicants undergo a two-day interview process during which they meet with all the residents in the program for an extended period of time. The applicants and the current residents are able to evaluate each other so that the best possible match is made. Every aspect of an applicant is weighed to ensure they will fit comfortably with the close-knit team of residents in the program. Residents are selected in part for their background, interest in various specialties, and future career plans.

One of the unique characteristics of the program is the remarkable diversity within the group. Diversity is a key differentiator of UAB that attracts applicants from around the world and enriches the program with a wide array of culture and ideas.

After four years of rigorous training and research, the highly-sought graduates from UAB’s Neurology Residency Program take positions at top hospitals and clinics around the world. Current graduates are competing for fellowships at Duke, MD Anderson, and Mount Sinai. Since residents are exposed to almost every subspecialty within neurology and trained in widely-used equipment such as EMGs and EEGs, graduates also have the option to go into private practice without the need for additional medical training or fellowships. Residents usually make final career plans by their third year. Past graduates have split evenly, with half taking fellowships and the rest going into private practice.

This year’s new residents hail from the country’s top medical schools and have competed against hundreds of applicants to train under UAB’s world-renown faculty. Please join us in welcoming the class of 2013: Dr. Michael Lyerly, University of Alabama at Birmingham; Dr. Brian Peterson, Tulane University; Dr. Krystyna Kolaczynski, University of South Florida; Dr. Kara Sands, University of Chicago; Dr. Ashley Thomas, University of Alabama at Birmingham; Dr. Timothy Prestley, University of Alabama at Birmingham. Congratulations are due to these new residents for their accomplishments. The department has high hopes for each of them and their futures in neurology.
Individualized Medicine
An Innovative Approach to Treating Patients

UAB is at the forefront of a ground-breaking approach to providing the best possible medical care to patients. Until recently, doctors have had a difficult time predicting a patient’s response to various medications because of the genetic and environmental factors that influence treatment outcomes. UAB is striving to develop unique treatment plans for each patient to combat the sometimes unpredictable outcomes patients may have to medications. This practice, commonly referred to as “individualized medicine,” will soon replace conventional methods of one-size-fits-all treatments.

With individualized medicine, many variables are considered before treatment plans are administered so that the best possible outcome is achieved. Individual differences that may affect treatment outcomes include a patient’s genetics, other medications, diet, and lifestyle. Researchers are working to uncover the extent to which these factors affect a patient’s response to medications with the goal of developing a highly individualized treatment plan, customized to the patient’s needs. Ultimately, such treatment plans will be as unique as the patients themselves. UAB hopes to offer individualized medicine to patients in as early as five years.

In the Department of Neurology, Nita A. Limdi, Pharm.D., Ph.D., M.S.P.H., has emerged as a national leader in researching individualized medicine and the hope it offers for the future. Dr. Limdi is a Clinical Pharmacist and Epidemiologist who recently received a 3.6 million dollar grant from the National Heart Lung and Blood Institute for her work with the drug warfarin, the most widely used anticoagulant in the world. Anticoagulants play an important role in the prevention of thromboembolic disorders, including strokes, heart attacks, and pulmonary and venous clots. Currently Dr. Limdi’s research efforts focus on understanding the genetic and environmental regulation of warfarin response. Her plan is to use this information to individualize drug therapy and reduce the risk of hemorrhagic complications. Health outcomes are the heart of Dr. Limdi’s research. She stresses, “as in the case of warfarin, our goal is not just to produce personalized anticoagulation treatment plans but to understand the interplay between genes and environment that regulate outcomes and how this information can be used to improve those outcomes.”

Dr. Limdi’s project, entitled “Genetic and Environmental Determinants of Warfarin Response,” broadens previous research findings by studying the effects of warfarin in both African American and European American patients. Past efforts were focused almost exclusively on the influence of just two genes, and studies on warfarin dosing were mainly done using Caucasian patients. “Our diverse population of African American patients at UAB provides a unique opportunity to understand the role of these genes in this ethnic group, which has previously been under-represented in studies. It also allows us to understand the differences in genetic influences by ethnicity,” Limdi explains. With this additional funding Dr. Limdi proposes to expand the research effort to include 50 candidate genes. The research aims to identify genetic and environmental factors that influence warfarin dose, anticoagulation control, and risk of hemorrhagic complications.

This effort will set the stage for identifying predictors of response to other widely used drugs. The long-term effects of Dr. Limdi’s research and the work of other dedicated scientists and doctors at UAB will be far-reaching in improving the quality of life and health outcomes.
Supporting Neurology Through Planned Giving

We have been blessed in the Department of Neurology by the encouragement and vital financial support that we receive from individuals, family members, and friends affected by neurological disorders. This support plays a significant role in our mission to accelerate our search for new treatments and cures for these disorders. There are many ways that one can support our research efforts and partner with the department to reach our goal. One such way is through our Planned Giving Program.

UAB is very fortunate to have a strong Planned Giving Program that provides a variety of options for donors seeking to make a lasting impact on the university. The program allows you to achieve your charitable goals through long-term planning while providing valuable financial resources to the department. Planned giving can be done through the use of a variety of vehicles such as bequests, trusts (both Charitable Remainder Unitrust and Charitable Remainder Annuity Trust), charitable gift annuities, charitable lead trusts, insurance, retirement plans, and tangible personal property.

It is our goal to provide individuals considering a planned gift the information needed to make an informed decision regarding their individual estate planning needs and philanthropic goals. To help donors make an informed decision we ask you to thoughtfully consider what you would like to accomplish both personally and philanthropically through your estate plan. There are many practical and financial reasons why you might choose to make a planned gift, including life income arrangements for the donor or a beneficiary, elimination or reduction of estate taxes, capital gains and fees, maximization of your charitable gift deduction, and achievement of your charitable giving goals and priorities. This is also a great opportunity to consider how you wish to provide for your heirs and loved ones in the future. We gladly work with your accountant, attorney and financial planners to explore these various options and help accomplish your planned giving goals.

By including the Department of Neurology in your estate plan you will be recognized as a lifetime member of the UAB Torchlighters Society. If you have already included UAB in your estate plans, we would like to thank you and make sure that you are included as a member in this society.

If you have questions regarding planned giving, or if you simply would like to know how to make an outright gift to the department, please contact Tom Brannan by phone at 205-975-7240 or by email at tbrannan@uab.edu. We appreciate your valuable support and look forward to hearing from you in the future.

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To learn more about the UAB Department of Neurology, visit us online at www.uab.edu/neurology